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The deadline to submit abstract submissions for AGU25 has passed. Abstract acceptance notifications will be emailed, and the final scientific program will be published in early October. Please utilize this document to view and search for sessions and submitted abstracts. Please refer to the Annual Meeting website for updated information.

Please email the Scientific program Team with any questions about abstracts or the scientific program.

ATMOSPHERIC AND SPACE ELECTRICITY

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Advancements in Lightning Meteorology, Climatology, and Remote Sensing *(joint with A, NH)*

Conveners: **Kelcy Brunner**, Texas Tech University; **Sarah Stough**, Cooperative Institute for Severe and High-Impact Weather Research and Operations; **Sarah Bang**, NASA Marshall Space Flight Center; **Timothy Lang**, Osaka University; **Sarah Stough**, Cooperative Institute for Severe and High-Impact Weather Research and Operations

1923728 *Variations in Lightning Regimes during the 17-20 November 2022 Event of the Lake-Effect Electrification Project:* **B Lamsma**, S M Steiger, Y Wang, V Chmielewski

1924179 *Spectral Signatures of Convection: Linking Lightning Activity to Kinetic Energy Slopes and Vertical Motion in HRRR:* **M Dubey**, M A Taylor, M Taylor

1926077 *Self-Action in Waveguide Excitation by VLF Sources:* **J Santos**, R C Moore

1926584 *Cloud and Convective Characterization of Lightning Measurements from the 2017 GOES-R Post Launch Test Field Campaign:* **S M Stough**, K Wheeler, T D D Walker, M Quick

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1939255 *Lightning Characteristics within Intense Tropical Cyclones over the Indian Ocean:* **M H Rafi**, M G Mostafa

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1942584 *Evaluation of the Meteosat-12 Lightning Imager diurnal flash detection efficiency with the Ebro Lightning Mapping Array:* **J Montanya**, O Van Der Velde, J A López Trujillo, N Pineda, D Romero, G Sola, M Arcanjo, E Defer, S Soula, B Viticchiè, S E Enno, J Grandell

1944486 *Global Regimes of Predictability for Lightning:* **K Lahiri**, A Nikumbh, R S

1948314 *Evolution of Thunderstorm Charge Structure over the Central Tibetan Plateau:* **D Liu**, F Li, X Qie

1948394 *IONOSPHERIC CHARACTERIZATION FROM SATELLITE RECORDINGS OF LIGHTNING INDUCED WHISTLERS:* **E R Worthington**, M Cohen

1950045 *Why LEE2: Why do we need a second LEE field campaign?:* **S M Steiger**, E C Bruning, V Chmielewski, M Peterson, M Stock, S A Weiss, Y Wang, T White, E Caldon, B Lamsma

1952801 *Analyzing Electrified and Non-Electrified Clouds During the Lake-Effect Electrification (LEE) Project 18-19 November 2022 Event using the WRF-ELEC model:* **T White**, Y Wang, S M Steiger

1953089 *An Analysis of Multi-Radar Multi-Sensor (MRMS) Variables with Respect to Thundersnow during the Lake-Effect Electrification (LEE) Campaign:* **E Caldon**, B Lamsma, S M Steiger, Y Wang

1980803 *Preliminary Analysis of the Impact of DoD Chaff Releases on Thunderstorm Lightning Activity:* **J Moura**, A Leal, P Stepanian, E R Williams

1981826 *Insights on Compact Intracloud Discharges based on multi-frequency measurements from space and ground:* **L K Tarnecki**, A Nag, E H Lay, R A Haaser, T Neubert, O Chanrion, F Christiansen

1992317 *Rising Trend of Positive Cloud-to-Ground Lightning Activity in Monsoon Thunderclouds Over Western India: Role of Dust Aerosols:* **A Gangane**, S Pawar, H Varikoden, V Gopalakrishnan, D M Lal

1993228 *A Spatiotemporal Dataset for Lightning Prediction Using TRMM LIS Flash Observations and ERA5 Reanalysis Data:* **A Shelke**, R Sivaramakrishnan, A Nikumbh, A Patil

1995137 *Spatio-Temporal Evolution and Meteorological Controls of Lightning Activity over the Indian Subcontinent:* **A Patil**, R S, A Nikumbh, K Lahiri

1997378 *Comparison and Diagnosis of Underpredicted WRF-ELEC Flash Rates During the Lake Effect Electrification Field Campaign:* **Z McDaniel**, E C Bruning, Y Wang, T White

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1896494 *Analysis of Optical Pulse Characteristics from the Fly's Eye GLM Simulator during the GOES-R Post Launch Test:* **T D D Walker**, S M Stough, K Wheeler, M Quick

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Conveners: **Yunjiao Pu**, Electrical and Computer Engineering Department, Duke University, Durham, NC, USA; **Michael Stock**, Cooperative Institute for Severe and High-Impact Weather Research and Operations; **Elizabeth DiGangi**, Earth Networks Inc.

1914658 *A Novel Framework for Whistler Wave Characterization Using Joint Electric and Magnetic Field Data from CSES mission:* **D Recchiuti**, G D'Angelo, E Papini, R Battiston, M Piersanti

1904103 *A study on the return strokes observed in the Chinese inland regions:* **P Gao**, J Yang, D Shi, N Dong

1969572 *AEM Total Lightning Network Performance Prediction Using Supervised Machine Learning:* **A Harris**, J Lapierre, E DiGangi, Y Zhu, J Ringhausen

1856261 *Analysis of Charge Structure and Lightning Activity in a Severe Beijing Thunderstorm using an Innovative Balloon-borne 3D Electric Field Observation System:* **Y Tian**

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1962021 *Broadband RF Spectra of Lightning Processes from 10 MHz to 5 GHz:* **S A Cummer**, Y Jia, Y Pu, M T Passia, B Hare, O Scholten

1950073 *Determining Storm Charge Structure from Simulated Balloon Observations:* **M Holder**, E Mansell, M Stock, V Chmielewski

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1962668 *Development and Characterization of a Magnetic Network for Charge Moment Change Estimation and Long-Range Detection:* **J L Lapierre**, Y Zhu, E DiGangi, J Ringhausen, A Leal, S Lanucara, B Jepson-LaTurner, S Cummer

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1999022 *Hyperspectral Imaging System for Investigating Plasma Properties in Transient Luminous Events:* **L Boggs**, P Smith, J Burke, M Peterson, J Losego

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1979325 *Use of Single Focal Plane Stereo Vision for Lightning Ranging and Reconstruction:* **Z Wilcox**, J Stauffer, G Cohen, N Krueger, M McHarg, A Marcireau, S Afshar

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Conveners: **Michael Peterson**, Georgia Tech Research Institute; **Jacquelyn Ringhausen**, University of Alabama in Huntsville; **Patrick Gatlin**, NASA Marshall Space Flight Center

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1961543 *Examining the Impact of Wind Turbines on Lightning and Storm Patterns:* **E DiGangi**, J Ringhausen, C E Phillips, J Lapierre, Y Zhu

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Conveners: **Ivana Kolmasova**, `Faculty of Mathematics and Physics, Charles University; **Eric Bruning**, Texas Tech University; **Sonja Behnke**, Los Alamos National Laboratory; **David Smith**, University of California Santa Cruz; **Jeffrey Chaffin**, University of California Santa Cruz

1939033 *Advancing the EGATEC Model: Improving Generator Schemes and Validation with Ground-Based Electric Field Observations:* **R M Romero Ramírez**, A Odzimek, J C Tacza Anaya, S Szpigel, J P Raulin

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Conveners: **Eric Bruning**, Texas Tech University; **Eric Bruning**, Texas Tech University; **Sonja Behnke**, Los Alamos National Laboratory

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1846591 *Data Reduction for Lightning Generated Acoustic Signatures:* **R Arechiga**, S Yadav, S W Teare

1947052 *Investigating the relationship between wildfires, human activity, and lightning:* **M Stock**, J Berry, J Tilles, V Chmielewski

1983775 *Locating and Identifying Lightning-Caused Disturbance on Barro Colorado Island:* **J C Burchfield**, E Gora, S Yanoviak, P M Bitzer, H C Muller-Landau, C Gutierrez, I McGregor

1967351 *Parameterization of Lightning Waveforms for Space Weather Remote Sensing:* **B Smith**, H Burch, M Matrazzo, S Plep

1983812 *Seasonal Wind Turbine-Associated Lightning (SWAL): Cold-Season Discharges Driven by Anthropogenic Structures:* **M Kákona**, R Duspara, J Šlegl, Z Sokol, J Popova, J Chum, M Sommer, J Kakona, A J Kostinskiy, I Ambrožová, M Luzova, R Dvorak, V Hanousek, O Ploc

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1897648 *Volcanic Ash Exposed to Lightning-Generated Magnetic Fields During the Hunga 2022 Eruption:* **K D Genareau**, J Paredes-Marino, S J Cronin, K Murphy, C J Schultz, S Harkema, A R Naeger

1961073 *Assessment and Modeling of Intense Space Weather Events Using Very Low Frequency Signals Observed in May 2024:* **M Paul Ajakaiye**, Y Reuveni

1994349 *Electric field signatures near Panama and the surrounding region:* **P M Bitzer**, J C Burchfield, I McGregor, E Gora, S Yanoviak

1936514 *Exploring Wildfire Smoke Electrification Through Surface Electric Field Observations:* **D Zhang**, S Wagner, T Lavigne, K Cummins, C Liu

1919714 *Introducing poliGraph:* **C L da Silva**

1897866 *Multi-Instrument Analysis of Lightning Stages from Ground and Space-Based Photometric and Electromagnetic Data:* **A Kolinska**, I Kolmasova, O Santolik, O Chanrion, D Li, P Spurny, J Mlynarczyk, J Borovicka, T Farges, T Neubert

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Conveners: **Michael Briggs**, UA Huntsville; **David Sarria**, University Denis Diderot Paris VII; **Brant Carlson**, Carthage College; **Amitabh Nag**, Los Alamos National Laboratory

1874194 *Altitude-Dependent Neutron Fluence and Effective Dose from Terrestrial Gamma-ray Flashes: A MonteCarlo Simulation Study:* **J M Chaffin**, J J Manfredi, V Clagett

1891548 *An Upward Multi-Pulse TGF Observed in Kanazawa City:* **K Nakazawa**, M Oguchi, T Wu, Y Wada, K Okuma, D Wang, T Enoto, M Tsurumi, Y Omiya, J Kataoka, T Shinoda, T Kanda, R Iwashita, N Koshikawa, Y Ikkatai, G Diniz

1985704 *Constraining the Origin of TGFs using Terrestrial Electron Beams (TEBs):* **M S Briggs**, S Lesage, B Mailyan, D Sarria Sr

1951077 *Directional Measurements of On-ground TGFs using Simple Cherenkov Detectors:* **M Baba**, M Oguchi, M Ando, K Nakazawa, K Okuma, Y Wada, T Wu, A Tanaka, Y Omiya, M Saito, D Ito, Y Nishimura, K Sakai, D Wang, Y Ikkatai, T Enoto

1990357 *Distributed Network of Air-Passenger-Wearable Pocket Devices for Detecting and Recording TGFs and Delivering Time-Aligned Gamma and Lightning EM Waveform Data to Local Host PC for Further Uploading to a Global Cloud Server That Aggregates Data From Thousands of Units, Allowing Worldwide Scientific Analysis.:* **J Libove**, D Schriebman, M Ingle

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1889275 *First deployments and recent design development of the IRIS digital dosimeter:* **N Smith**, D M Smith, R E Rodriguez, H Mentzer, A Yegiayan, S M Urizar, M Pichardo, C L da Silva, A Leal, L Contreras Vidal, R Sonnenfeld, S J Celestin, Y Hazem, M Kamogawa, T Suzuki, E Schüler

1891697 *First TGF detected in a winter thunderstorm over Tel-Aviv, Israel:* **Y Yair**, C G Price, D M Smith, J Lapierre, K Pitlik, M Korzets

1914289 *Gamma, Optical and Radio Emissions from Different Electron Acceleration Mechanisms:* **N G Lehtinen**, Ø H Færder, D Sarria, A Mezentsev, M Marisaldi, N Ostgaard

1862717 *Global highlights from the Terrestrial High-energy Observations of Radiation (THOR) arrays:* **D M Smith**, R E Rodriguez, H Mentzer, J Sanchez, J M Chaffin, J Ortberg, M Kamogawa, T Suzuki, J Lapierre, F Rachidi, T Oregel-Chaumont, M Rubinstein, A Sunjerga, D Poljak, V Doric, X M Shao, D Jensen, A Nag, A T Brower, D Goldberg, H K Rassoul, C L da Silva, L Contreras Vidal, A Leal, R Sonnenfeld, J Montanya, B S Ardila Murillo, J A López, S J Celestin, Y Hazem, C Price, Y Yair, A Kopitman, J R Dwyer

1870862 *Observations of High Energy Gamma Rays from Thunderstorms with Directional Detectors:* **K Watanabe**, T Torii, Q Verdeyen

1946327 *On Peak Amplitudes of Radio Frequency Pulses Associated with Terrestrial Gamma-ray Flashes:* **D Davis**, B G Mailyan, A Nag, Y Zhu, R Said, M S Briggs, S Lesage, M Godwin, O J Roberts, H K Rassoul

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1938785 *Simulation Study on Gamma-Ray Glows Induced by Cosmic-Ray Air Showers in Winter Thunderclouds:* **M Tsurumi**, T Enoto, Y Ikkatai, N Tsuji, M Otani, T Shinoda, T Wu, D Wang, S Miyake, K Nakazawa, M Kamogawa, H Tsuchiya

1938657 *Spectral Constraints on X-ray Emission During Lightning Stepping and Attachment at Mt. Fuji:* **R E Rodriguez**, D M Smith, H Mentzer, S M Urizar, M Kamogawa, T Suzuki, T Wu, D Wang, J Lapierre

1913181 *Systematic reproduction of hard radiation from thunderclouds including ALOFT's Flickering Gamma-ray Flashes using an ODE model resembling a Lotka-Volterra predator-prey system:* **Ø H Færder**, N G Lehtinen, D Sarria Sr, M Marisaldi, N Ostgaard, I Bjørge-Engeland, A Mezentsev

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1883473 *Towards the investigation of chemical effects of energetic electrons and photons in the atmosphere:* **C Koehn**, H van Gemert, M Westermann, P Gourbin, E Fangel-Lloyd

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Conveners: **Caitano da Silva**, New Mexico Institute of Mining and Technology; **Julia Tilles**, New Mexico Tech; **Adonis Leal**, New Mexico Institute of Mining and Technology

1887831 *A Comparative Study of Leader Initiation Sequence and Evolution Mechanisms in Positive and Negative Altitude-Triggered Lightning:* **R Chen**, X Qie, R Jiang, Z Sun, H Zhang, M Liu, Z Xia

1952745 *A report on the 2025 Lightning Modeling Grand Challenge Workshop:* **E C Bruning**, A Back, S A Behnke, S J Goodman, C Hogg, T Lang, J Tilles

1921126 *A study of UV luminosity versus time variations at different heights along the fragmented lightning channel:* **S Pan**, Z Ding, V A Rakov, S Chen, Y Zhu, I Kereszy

1930758 *A Survey of Energetic Compact Strokes in Japan:* **T Wu**, Q Yang, D Wang, R H Holzworth II, D M Smith, Y Wada, K Nakazawa, M Kamogawa, T Suzuki

1975747 *Average Electric Fields Inside Thunderclouds Can Be Limited By Electric Fields That Support Positive Streamer Flashes (450-500 kV/(m atm)):* **A J Kostinskiy**

1866271 *Comparison of compact intracloud discharges (CIDs) occurring above and below the main positive charge region:* **S Chen**, V A Rakov, Y Zhu, Z Ding

1890246 *Continental-scale Lightning Observations at High Frequency:* **Y Pu**, S A Cummer, Y Jia

1915771 *Current Characteristics Above Strike Point for Lightning Flashes on the Canton Tower Occurring Below Its Top:* **W Lyu, PhD**, L Chen, Y Ma, Q Qi, B Wu

1953413 *Data-constrained simulations of upward lightning leader ignition criteria:* **J Pantuso**, C L da Silva, R Sonnenfeld, A Leal, J Wemhoner, M Benedict, C Avitia, L Burkett, T Abbey, A Bencomo, B Jepson-LaTurner, S A Bandara, J Moura, D Bennecke, S Lanucara, R S Reger

1872431 *Drone Triggered Lightning - Invited Paper 1872431:* **C Schumann**

1989877 *Very-Near-Field Observations of Natural Lightning at Mt. Fuji: Toward Integrated Studies of Chemistry and Gamma-Ray Emissions:* **M Kamogawa**, T Suzuki, D M Smith, J Ortberg, M Yasumoto, T Enoto, M Tsurumi, K Murata, H Fujiwara, T Wu, D Wang, R Wada Dr, S Kato, H Okochi, K Miura, K Takeshi, K Kawai

1922776 *Early Results from 2025 Lightning Triggering Program at Langmuir Laboratory:* **R Sonnenfeld**, A Leal, C L da Silva, G D Aulich, D Bennecke, S A Bandara, T Abbey, C Avitia, M Benedict, A Bencomo, L Burkett, B Jepson-LaTurner, S Lanucara, J Pantuso, R S Reger, J Moura, J Wemhoner, J Tilles

1850676 *Electrostatic Discharges in Electron-Charged Polymethyl Methacrylate as a Laboratory Proxy for Natural Compact Intracloud Discharges:* **K Sturge**, K Smith, N Hoppis, T Koeth

1870787 *Evolution of First-Stroke Upward Connecting Leader Line Charge Density in Downward Negative Cloud-to-Ground Natural Lightning Flashes:* **M N Plaisir**, A Nag, K L Cummins, D Goldberg, C J Biagi, R G Brown, H K Rassoul

1973244 *Fast-Moving Positive Leaders in Ground-to-Cloud Lightning as Observed During the Lake Effect Electrification (LEE) Field Campaign:* **S A Weiss**, M Stock, J Losego, V Chmielewski, B Lamsma, E C Bruning, S M Steiger, K M Calhoun

1895011 *GHz bandwidth radiofrequency emissions for diagnosing plasma discharge processes in the lab and in lightning:* **J Tilles**, R J Martinez

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1895953 *High Resolution Observations of the Positive Initiation Event in Several Lightning Flashes:* **O Scholten**, J R Dwyer, S Cummer, B Hare, N Liu, M Lourens, C F F Sterpka, P Turekova, S ter Veen, W Bin

1869261 *Lightning leader/streamer dynamics and unexpected channel fragmentation imaged in UV range:* **Z Ding**, V A Rakov, S Chen, S Pan, K Yang, Y Zhu, I Kereszy

1882677 *Measuring Streamer Producing Thundercloud Electric Fields Using Radio Observations of Narrow Bipolar Events:* **Z Pervez**, R Janalizadeh, V P Pasko

1908114 *Modeling of continuing current and related M-components waveforms:* **P Kaspar**, I Kolmasova, O Santolik, P Spurny, J Borovicka

1896587 *Modeling Optical Emission from Lightning:* **D Fisher**, N Bennett, M Hopkins, S Patel, L Wermer, M Peterson

1899099 *Observation of a Downward Terrestrial Gamma-ray Flash During the Dart-Leader Phase of a Return Stroke.:* **R Abbasi**, N Kieu, D Mazzucco, M M Saba, I Toucedo Cruz, D R da Silva, P R Krehbiel, M A Stanley, W Rison, D Rodeheffer

1890109 *Observations on the Propagation Characteristics of Positive Leaders in Natural and Rocket-Triggered Lightning:* **Z Wang**, G Lu, Y Fan, R Jiang, H Zhang, X Qie

2004589 *On the Meteorological Background of TLE-productive Mesoscale Convective Systems in the Plain Area of China:* **G Lu**, H Huang

1865093 *Recent advances in experimental modeling of electrostatic breakdown:* **J A Riousset**, J P Nelson, S Gerow, J Mendez Harper, J Dufek

1878880 *Relationship between channel-base current and luminosity for natural negative cloud-to-ground lightning:* **M Mark**, A Nag, K L Cummins, M N Plaisir, D Goldberg, H K Rassoul

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Conveners: **Victor Pasko**, Pennsylvania State University Main Campus; **Oscar Van Der Velde**, Univ. Politecnica de Catalunya · BarcelonaTech; **Sebastien Celestin**, LPC2E, University of Orleans, CNRS

1936157 *Decoding the Multifractal Spectra of Sprites:* **P Gough**, N Liu, M G McHarg, H Stenbaek-Nielsen

1959592 *Detection of SPRITEs with high efficiency at the Pierre Auger Observatory:* **R Mussa**

1909051 *Investigating Sprite Streamer Dynamics with AMPLIFI:* **N Liu**

1914973 *Investigation of Potential Mechanisms Responsible for Green Emissions Observed at Sprite Tops:* **B Smith**, V P Pasko, R Janalizadeh

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Conveners: **Eric Bruning**, Texas Tech University; **Ivana Kolmasova**, `Faculty of Mathematics and Physics, Charles University

1862679 *Characterizing X-ray Emissions from Lightning Stepped Leaders Using GEANT4:* **H Mentzer**, D M Smith, C Callaghan, J Ortberg, G S Bowers, M Leys

1921205 *Response of Lightning Rods to Rocket-Triggered Lightning:* **C Avitia**, A Leal, R Sonnenfeld, C L da Silva, G D Aulich, T Abbey, M Benedict, B Jepson-LaTurner

1869128 *Signatures of a Negative Cloud-to-Ground First Stroke with Three Ground-Termination Points:* **D Goldberg**, A Nag, K L Cummins, A T Brower, A Tempert, M N Plaisir, H K Rassoul

1981393 *Simulating Lightning Discharges: Environmental Effects on Ionization and Spark Behavior:* **G Steinberg**, N Watanabe

1969731 *Simulating Radiation Waveforms for Fractal Models of Electrical Discharges:* **A Esparza**, J A Riousset

1932576 *Statistical Analysis of Lightning Initiation by Fast Discharges:* **D Jensen**, X M Shao

1931274 *Ultraviolet Radiation from Weak Electrical Discharges within Thunderstorms:* **P McFarland**, W H Brune

1966814 *Multi-instrument Analysis of Transient Luminous Event producing Tropospheric Lightning Flashes on May 26th and 27th, 2025:* **T Logan**, L Boggs, A Clark, S Hummel, P Espinal

1886345 *Optical characteristics of an enhanced green emission following a gigantic jet near Taiwan:* **C L Kuo**, Y Lai, W Chang, J Mlynarczyk, Y Li, T Y huang, J V Urbina

1990477 *The In-Cloud Discharges that Precede Sprite Producing Cloud-to-Ground Strikes:* **J Ortberg**, M G McHarg, H Stenbaek-Nielsen, E C Bruning, S A Weiss

1889856 *The STRATELEC (STRatéole-2 ATmospheric ELECtricity) Project:* **E Defer**, S Soula, S J Celestin, Y Hazem, I Kolmasova, O Santolik, R Lan, J J Berthelier, F Trompier, A Hertzog, V Stephanie

1987282 *"Investigating the effect of gigantic jets and high peak current lightning on the electron density of the D-region of the Ionosphere":* **M Tamhane**, M Cohen, L Boggs

1927823 *Creating a Unified Lightning Product for Operational Use:* **S M Stough**, V Chmielewski, K M Calhoun, K Thiel

1937574 *Estimating the size of individual relatvistic runaway electron avalanches in a gamma-ray glow observed on Mt. Fuji:* **I Kim**, D M Smith, J R Dwyer, M Kamogawa, T Suzuki

1964193 *Using E-field to Estimate Continuing Current Charge as Validated by Triggered Lightning Data:* **B Jepson-LaTurner**, A Leal, S Lanucara, R Sonnenfeld, C L da Silva, J Lapierre

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Advances in numerical modeling and algorithm development of dynamical cores for global and regional weather and climate models. *(joint with P)*

Conveners: **Joseph Mouallem**, Cooperative Institute for Modeling the Earth System, Princeton University; **Cheng Li**, University of Michigan Ann Arbor; **Christopher Vogl**, Lawrence Livermore National Laboratory

1915602 *Achievements in NOAA Research Global-Nest Initiative – model development, application, and beyond:* **J H Chen**

1851221 *Advances in dynamic cores of the next generation LICOM ocean model:* **L Meng**, B An, Z Li, X Chen, Y Yu

1960357 *An Entropy Stable formulation of E3SM's spectral element atmospheric dynamical core:* **M A Taylor**, M Waruszewski, C Eldred, O Guba

1887337 *Consideration on computational advantages of a high-order dynamical core based on the discontinuous Galerkin method in atmospheric turbulent simulations:* **Y Kawai**, X Ren, S Nishizawa, T Katagiri, H Tomita

1928342 *Development of a high resolution coupled SHiELD model for extreme weather prediction:* **J Mouallem**, K Gao, B G Reichl, L Chilutti, L Harris, R Benson, N Zadeh, J Chen, PhD, J H Chen, C Zhang

252484
Mantle Convection on Earth and Other Rocky Planets *(joint with P)*

Conveners: **Diogo Louro Lourenço**, ETH Zurich Swiss Federal Institute of Technology Zurich; **Shi Sim**, Georgia Institute of Technology; **Paul Tackley**, ETH Zurich

1961614 *A Tale of Dual Insulators – Exploring the Effects of Heat-Producing Elements Sequestered in the Continents and LLVPs on Earth's Mantle Dynamics and Thermal Evolution:* **A S Ross-Browning**, E L Mittelstaedt, C M Cooper, A Roy, PhD

1927559 *A Thin Shell's Last Gasp: An Endogenic Origin for Mercury's Northern Smooth Plains:* **A P Green**, S D King, M S Duncan, E Mallick

1895397 *Earth's Shifting Tectonic Modes: The Thermo-Rheological Legacy of a Depleting Mantle:* **F A Capitanio**, O Nebel, P A A Cawood, H Smithies

1871471 *Error Growth Caused by Lateral Boundary Condition in Global Idealized Baroclinic Wave Simulation:* **M Lee**, S H Park

1949113 *Evaluating a Voronoi-based Lagrangian method for solving the spherical shallow water equations:* **S Millay**, P Caplan

1998963 *Examining the Contribution of Deep-Atmosphere Dynamical Cores to Mitigating Double ITCZ Bias in Aquaplanets:* **O Hughes**, H Ong, A R Herrington, P H Lauritzen, O Guba, M A Taylor, C Jablonowski

1877836 *LMARSpy: A GPU-Ready Nonhydrostatic Dynamical Core with a Sharpness-Preserving Monotonicity Limiter and a Conservative Vertical Implicit Solver:* **X Chen**, W Zhang

1932887 *New mountain-generated meso-scale flow test cases for dynamical cores:* **T Andrews**, C Jablonowski

1921061 *Overview for algorithms for Unstructured Grids on the Sphere: Regridding, Averaging and Integration:* **H Chen**, P A Ullrich, J Panetta, D Marsico, M Hanke, R Jain, C Zhang, R L Jacob

1919405 *Picking Up the Pace: Using Domain Specific Languages for Scientific Modeling:* **O Elbert**, F Malatino, J Kim, K Fandrich, C Kropiewnicki, F Deconinck, L Harris, R Benson

1956331 *Scalable and Optimized Terrain Parameter Computation with the GEOtiled-SG Framework:* **J Marquez**, K NG, G Laboy, P Olaya, R Vargas, M Taufer

1971216 *Impact of Heat-Producing Elements in the Core on Super-Earth Evolution and Dynamics:* **D J Louro Lourenço**, P J Tackley

1909859 *Impact-induced core heating has only short-term effects of planetary evolution:* **P J Tackley**

1930716 *Inertia-Corrected Equatorial Core-Mantle-Boundary Heat Flux Heterogeneities are correlated with reversal rates from 200 Ma:* **A Cucchiaro**, N E Flament, C J Davies, A Biggin, J Zhang

1879548 *Investigating the Cessation of Convection in Mercury's Mantle:* **C Jain**, S Solomatov

1858331 *Investigating the Dynamics of Laboratory-Generated Subducting Slabs Using Ludox Colloidal Suspensions:* **V Lherm**, H Remise-Charlot, A Aubertin, L Helfen, C Alba-Simionesco, A Davaille

1915989 *Local patches of negative core-mantle boundary heat flux revealed by simulations of thermo-chemical mantle convection:* **J Guerrero**, F Deschamps, H Amit, F Terra-Nova

1993196 *Modeling Iron Droplets Settling in a Compressible Magma ocean: Core Formation Timescales:* **J Yan**, L Noack

1944875 *Modeling the Lunar Magma Ocean Under Tidal Deformation at Close Proximity of Earth:* **D Astudillo**, P J Tackley, D J Louro Lourenço, A De Montserrat Navarro

1908334 *Modelling of Plate Boundary Dynamics from Earth to Venus:* **M Pons**, S V Sobolev, C Jain

1862940 *Primordial Origin of LLVPs as Continuous Layer Inconsistent with Archean Mantle Melting: Insights from Geodynamic Models:* **A Roy, PhD**, E L Mittelstaedt, C M Cooper

1948023 *Rheological Controls on the Plate-Mantle System: Self-Consistent vs. Kinematically Constrained Models:* **M Metternich**, P J Tackley, M Arnould, A Janin

252277
Rooted in Joy: Centering Belonging, Accessibility, Justice, Equity, Diversity, and Inclusion (B-A-JEDI) in Earth, Planetary, and Space Science (EPSS) Education and Outreach *(joint with SY)*

Conveners: **Regupathi Angappan**, Applied Physics Laboratory Johns Hopkins; **Chanud Yasanayake**, Johns Hopkins University Applied Physics Laboratory; **Christian Lao**, University College London; **Meryem Berrada**, Planetary Science Institute; **Cara Pesciotta**, Johns Hopkins University

1881163 *"We are the land and the land is us": circular mentorship with a Dene community:* **P C Griffith**

1977548 *Building Community and Belonging in Graduate Climate Research: Lessons from the Graduate Climate Conference (GCC):* **S Heflin**, J Rotondo, S Gale, A Chang, C Draeger, F Stemmer, C Dean, A Schefler, Z Meng, A Rajeev

250688
Latest Developments in Planetary Defense *(joint with P, SY)*

Conveners: **Sean Wiggins**, University of California, San Diego; **Jessie Dotson**, Organization Not Listed; **Catherine Plesko**, Los Alamos National Laboratory

2000919 *A Comprehensive Analysis on Global Bolide Infrasound:* **M Ronac Giannone**, E A Silber, V Sawal

1925896 *A Metastatistical Model for Small Asteroid Impacts: Is Less More?:* **M F Caruso**, P Devò, S Andria

1985046 *Rheological feedbacks and plate-like behavior in geodynamic models:* **C R Wilson**, P E van Keken, N Zhao, M Nakajima

1958743 *Structure and Dynamics of the Subcontinental Lithospheric Mantle Over the Central and Eastern American Continent, Constrained by Numerical Modeling Based on Tomography Models:* **M Abeysinghe**, C Adam, B Lacroix

1994506 *Super-heated Core Shaped the Mantle's thermal evolution After Giant Impacts:* **Y Zhou**

1889291 *Tectonic Regimes Shaping the Thermal Evolution of Rocky Planets:* **V Auerbach**, D R Stegman

1978077 *The "Glass-ceiling" Convective Regime and the Plume-Thermal Dichotomy of Venus:* **M Kerr**, D R Stegman, S E Smrekar, A Adams

1979261 *The Distribution of Water in the Mantle and its Effect on Tectonic Transitions:* **M Al Asad**, H C P Lau, G Hirth

1886215 *AbGradCon 2025: Dark Skies, Bright Futures, or: Persevering Despite the Odds:* **S Pryor**, R McClish, Z Haddadin, A Diering

1927731 *Combining Hawaiian Studies and Outdoor Education: Designing Place-based, Experiential, and Culturally Relevant Curriculum:* **S Alvarado**

1979069 *Endarkened Design: Reimagining STEM Learning through Culturally-Rooted Educational Escape Rooms:* **M Washington**

1922132 *From Advisory to Generative: Engaging this Generation's Graduate Students in University Governance:* **S Stanley**

1981807 *Observing Sustainable Practices at the 2025 Chinese Bridge Global Finals:* **P Rao**, J A Flora, C M Zanocco, T Sun

1924189 *PROGRESS: A transferable mentoring program for undergraduate earth science programs:* **S A Schanz**, M A Burt, S Clinton, M Estrada, M Guajardo, P R Hernandez, L Luo, N Maldonado, M Patterson, I B Pollack, Q Zhang, E V Fischer

1904308 *The Long Line of Joy: How Centering Decolonial Voices Transforms Scientific Community:* **L J Graumlich**

1938576 *A novel approach for simulating asteroid airburst events using smooth particle hydrodynamics:* **I Li**, V Korneyeva, E Bjonnes, J Pearl

1870748 *Automated light-curve analysis for bolide fragmentation classification:* **E A Silber**, V Sawal

1901793 *Comparative Assessment of Equations of State for Representing Meteorite ShockPhenomena in Hydrocode Modeling:* **J Vercher**, C S Plesko, J Guzik

1958794 *Comparing strength models in CTH and PAGOSA, including the Rock Model, when simulating planetary defense scenarios.:* **M Harwell**, C S Plesko, W K Caldwell, M Boslough, S A Becker

1960927 *Consequence Assessment of Airburst Capable Asteroids:* **K Romfh**, V Korneyeva, S Stokes, J Pearl

1848604 *Entry-geometry effects on infrasound detection of meteoroids and space debris:* **E A Silber, PhD**

1874613 *Experimental Calibration of X-Ray Energy Deposition Models for Planetary Defense with the OMEGA Laser:* **P King**, A Davis, D Graninger, M Wei, D Burns, H Steven, S Slingluff, M Sakai, M Burkey

1983207 *Hunting for Bolide Clusters in GOES GLM Data:* **K Chen**, J Smith

1999257 *Hydrocode pipeline validation efforts for assessing ground effects of airburst capable asteroids:* **V Korneyeva**, J Pearl, N Arnold-Medabalimi, A Cook

1999926 *Hypervelocity Penetrators for Nuclear Planetary Defense:* **B Bailey**, P Lubin, A N Cohen, M Boslough, S Egan, D Robertson, C S Plesko, G Spriggs

1913351 *Influence of Low-Density Dimorphos on Cratering from DART Impact:* **D Graninger**, K Kumamoto, E Bjonnes, S Wiggins

1869868 *Investigating the Classification of Infrasound Signals Generated by Bright Meteors:* **E Brown**, A Thompson, E A Silber, E A Silber, PhD

1861520 *Keyhole-Aware Target Site Selection for Kinetic Impact Missions to Near-Earth Asteroids:* **R Makadia**, S R Chesley, D Farnocchia, B Barbee, S Eggl

1893771 *Mitigation of Potentially Hazardous Objects (PHOs) by Nuclear Contact Burst, A Fresh Look:* **C S Plesko**, S A Becker, M Boslough, W K Caldwell, M Harwell, J Vercher

247495
Advancing the Search for Exoplanetary and Solar System Technosignatures (cosponsored by AAS: American Astronomical Society)

Conveners: **Jacob Haqq-Misra**, Blue Marble Space Institute of Science; **Ravi Kopparapu**, NASA Goddard Space Flight Center

1845285 *Observational Degeneracies Between Spectral Technosignatures and Biosignatures:* **J D Haqq-Misra**, G Profitiliotis, R Kopparapu

1981596 *Using Information Theory Metrics to Detect Technosignatures in Simulated Exoplanet Spectra:* **C Brown**, A Sheffield

250381
Aerial Exploration of Mars

Conveners: **Brian Jackson**, 1910 UNIVERSITY DR; **Travis Brown**, Jet Propulsion Laboratory, California Institute of Technology, Pasadena, CA 91109, USA; **Samantha Gwizd**, NASA Jet Propulsion Laboratory; **John Moores**, York University

1901466 *Aerial Exploration of Young Volcanic Terrains and Subsurface Volatiles on Mars:* **J R C Voigt**, G Steinbrügge, S T Peters, T Kristinsson, C W Hamilton, S Diniega, A Romero-Wolf

1922299 *Modeling Atmospheric Breakup and Energy Deposition of Incoming Bolides:* **E Bjonnes**, J Pearl, K Kumamoto, J M Owen

1935734 *Multi-parameter infrasound period-yield scaling for bolides:* **E A Silber**, R E Silber, J Trigo-Rodríguez, M Boslough, E Peña-Asensio, C Pilger, P Lubin, R Whitaker, V Sawal, C H Hetzer, P M M Jenniskens, E Mas Sanz, P Hupe, S Egan, M Ronac Giannone, A N Cohen, B Bailey, T Edwards

1875729 *Multiple Kinetic Impactors Perform Better Than a Single Kinetic Impactor for 50-100 Meter Diameter Space Intruders:* **M Hirabayashi**

1876636 *Quantifying Uncertainties in Nuclear Mitigation Design Resulting from Asteroid Composition:* **T Onyango**, M Burkey, N A Gentile

1880258 *Seismoacoustic characterization of a daytime fireball in Southcentral Alaska:* **L Scamfer**, E A Silber, M Fries, D Vida, D Šegon, V Sawal

1870442 *Simulating Asteroid Deflection and Disruption using an X-Ray Energy Deposition Model in SPH:* **I Santistevan**, M Burkey, J M Owen, K Kumamoto, R Managan

1927443 *The Influence of Micro- vs Macroporosity in the Deflection of Rubble-Pile Asteroids:* **S Wiggins**, J M Owen, J Pearl, K Kumamoto, C Raskin

1897968 *Validation of the X-ray driven deflection of Silicon Oxide and insights into momentum transfer for large targets:* **S Stokes**, M Burkey, K Kumamoto

1973337 *Very Low Solar Elongation Observations of Asteroids and Comets with NASA's PUNCH Spacecraft:* **S Porter**, K J Walsh, J M Hughes, R Deienno, C DeForest

1866785 *Condor: A Mars Helicopter Mission Concept to Explore Planetary Formation and Early Evolution in Valles Marineris:* **A A Fraeman**, W Rapin, V Tricaud, J Bapst, J Levy, L Jones-Wilson, R Brockers, B L Ehlmann, K Sneeder, J R Espley, F Jessica, M Golombek, M G A Lapotre, R J Lillis, A Mittelholz, V Payre, C Quantin Nataf, K Siebach, A Udry, B P Weiss, J Boland, T Tzanetos

1976852 *Little Drone, Big Science: Mars Science from Drones with Limited Payload:* **B Jackson**, C Neish, J E Moores, J Rabinovitch

1964646 *Local Scale Magnetic Surveys at Mars via Aerial Vehicles:* **J R Espley**, J Martin de Blas, R Maxwell, Y M Martos, A Mittelholz, J A Richardson, D Sheppard

249909
Atmospheric Escape from Planets *(joint with SM)*

Conveners: **Dave Brain**, LASP, University of Colorado Boulder; **Eryn Cangi**, University of Colorado at Boulder; **Alex Glocer**, NASA Goddard Space Flight Center; **Ryoya Sakata**, University of Tokyo

1975469 *A Statistical Survey of Minor Planetary Ion Species Originating in the Martian Dayside Ionosphere and Corona:* **J Denton**, R Ramstad, Y Dong, D A Brain, K G Hanley, J R Espley, S Curry

1846615 *Direct and Indirect Measurements of Hydrogen in the Atmosphere of Mars:* **M Mayyasi**

1999006 *Earth Exospheric Research with the Carruthers Geocorona Observatory:* **J T Clarke**, L Waldrop, T J Immel, R Kerr, J Mcphate

1944764 *Effects of Crustal Magnetic Fields on Ion Escape from Mars Based on Eleven Ion Multifluid Simulations:* **R Sakata**, K Seki, N Terada, S Sakai, H Shinagawa

1943753 *Effects of Stellar XUV Spectra on Atmospheric Escape from a Mars-like Planet Orbiting Inactive Low-Mass Stars:* **S Sakai**, A Nakayama, K Seki, N Terada, H Shinagawa, R Sakata, F Leblanc, D Brain, T Tanaka

1929986 *How Mars' Magnetic Topology Affects Cold Ion Outflow During a Storm:* **S Byrd**, M Rodgers, S Curry, D Mitchell

1982861 *Hydrodynamic Escape Recorded in the Martian Surface Hydrosphere:* **K Pahlevan**

1949875 *Investigating the Supply for Martian Ion Escape:* **Y Dong**, R Ramstad, P C Hinton, D A Brain, K G Hanley, J P McFadden, J S Halekas, J R Espley, S Curry

2002269 *Mars Analog Field Testing Reveals Key Operational Strategies for Planetary Exploration Using Unoccupied Aircraft Systems (UAS):* **B B Carr**, C W Hamilton, M Varnam, N Hadland, J Shah, J Voigt, S Gwizd, K Stack, F J Calef III, R Francis, U Basu, C Chen, B Björnsson, E Dong, J Moersch, M Phillips, J Springer, C Neish

1875359 *Miniaturized Gamma-Ray and Neutron Spectrometer for Mars Helicopter Science:* **C J Hardgrove**, E B Johnson, I Jun, Y Maruyama, W Kim, X Zhu, J Hunacek, M Klein

1998571 *Skyfall: A Human Precursor Mission Concept for Mars – Prospecting for Water Ice and First Heavy Landing Sites:* **H Grip**, T Tzanetos, N R Williams, J Beckman

1873551 *Martian Discrete Aurora Analysis During MAVEN and EMM Conjunctions:* **E Smith**, K Chirakkil, R J Lillis, S Xu, J Deigan, M Chaffin, Y Harada, S Jain, L Soret, J C M C Gerard, D A Brain, M O Fillingim, G Holsclaw, K G Hanley, J R Espley, L Andersson, N M Schneider, N Alsaeed

1999527 *Modeling Terrestrial Exoplanet Atmospheres with PLANET-ITTR: Investigating Planetary Rotation and Hydrodynamic Escape:* **P C Hinton**, A Glocer, S B Kang, D A Brain

1979523 *Probing the Cosmic Shoreline -- Modeling the Impact of Enhanced Solar EUV and Stellar EUV spectra on Earth-like Ionospheres:* **L Hanson**, O Cohen, A J Ridley, A Glocer, L Schaufenbil

1981118 *Retention of Habitable Atmospheres in Planetary Systems:* **D A Brain**, J D Alvarado Gómez, F Bagheri, Z Berta-Thompson, E M Cangi, M Caradonna, M Chaffin, J Y Chaufray, O Cohen, T Cravens, Y Dong, A Farish, K France, R Frelikh, Y Futaana, K Garcia-Sage, A Glocer, L Hanson, P C Hinton, M Holmström, R Jarvinen, L M Kistler, R Kopparapu, F Leblanc, Y Ma, A W Merkel, A Nakayama, Y Notsu, R Osten, W K Peterson, L M Peticolas, K Putnam, R Ramstad, S Sakai, R Sakata, K Seki, K Stevenson, R J Strangeway, W Sun, N Terada, A Vidotto

1864382 *Saturation of Ionospheric Currents Under Extreme Environments:* **F Bagheri**, A Glocer

1878467 *Solar Wind Deflection Upstream of the Martian Bow Shock: Momentum Conservation Modeling and MAVEN Observation:* **Y Liu**, K Liu, J Zhou, C Kun

2001522 *The dynamics of ion escape from non-magnetized planets:* **M Holmstrom**, Q Zhang, X D Wang

1879595 *What Drives Ion Outflow at Jupiter?:* **E Skinner**, A H Sulaiman, J R Szalay, W S Kurth, Y Sarkango, S J Bolton

252808
Carbon Across the Solar System

Conveners: **Amanda Hendrix**, Space Environment Technologies; **Kelly Miller**, Southwest Research Institute

1975847 *Automating the Spectral Classification of Carbonate Melt Inclusions and Precipitated Carbonates at Barringer Meteor Crater, Arizona:* **I Marrs, MS**, M R Salvatore, A Gullikson

253335
Carl Sagan Lecture

Conveners: **Emily Bernhardt**, Duke University; **Emily Bernhardt**, Duke University; **Rodrigo Vargas**, University of Delaware

248431
Close encounters in the Earth-Moon System: Apophis, 2024 YR4, and the future of Planetary Defense (cosponsored by AAS: American Astronomical Society,GSA: Geological Society of America,JpGU: Japan Geoscience Union) *(joint with SY)*

Conveners: **Ronald-Louis Ballouz**, Johns Hopkins University Applied Physics Laboratory; **Edgard G. Rivera-Valentin**, Johns Hopkins University Applied Physics Laboratory; **Dawn Graninger**, Johns Hopkins University Applied Physics Laboratory; **Andrew Rivkin**, Johns Hopkins University Applied Physics Laboratory

1971755 *A New Method to Determine Mutual Orbit Parameters and Density of Near-Earth Binary Asteroids:* **A Deleon**, C Magri, S Marshall, T M Becker, F Venditti

1898186 *A simulation pipeline for modeling impact processed asteroids during an atmospheric airburst:* **S Stokes**, J Pearl, V Korneyeva, K Kumamoto, J M Owen, C Raskin, J Bayandor

1968078 *A Space Traffic Management (STM) Approach for the (99942) Apophis 2029 Earth flyby.:* **E Bonilla**

1928301 *An OSIRIS-APEX extended mission to 2024 YR4:* **M C Nolan**, D N DellaGiustina, A Polit, A Mudek, K M Getzandanner, S D Guzewich, M C Moreau, A Simon

1912794 *Analyzing Potential Science Return of Both Lunar Collision and Flyby for 2024 YR4 Close Approach in 2032:* **T Joseph**, P do Vale Pereira, O Bury, M Boudreau

1894499 *Capturing a Near-Earth Asteroid for Research, Space Enterprise, and Planetary Defense:* **L Vance**, E Asphaug, J Thangavelautham

1892729 *Extraterrestrial organic carbon in primitive Solar System Objects: Molecular Evolution of IOM in Carbonaceous Chondrites through Oxidation Reactions:* **N Tu**, G D Cody

1975627 *Unraveling Records of Multiple Asteroidal Aqueous Alteration Environments with Bennu Particle OREX-800084-0:* **K Miller**, C Hibbitts, D Takir, R Hanna, D Edey, A G Whittington, C Wagoner, J I Núñez, F P Seelos, A Stevanovic, K Nagashima, G R Huss, C M Phillips-Lander, PhD, K J Domanik

2000515 *Investigating Hypothetical Mitigation of Asteroid 2024 YR4 via Intentional Robust Disruption:* **B Bailey**, A N Cohen, S Egan, P Lubin, R Xu, M Boslough, D Robertson, E A Silber

1929776 *Janus Apophis Pathfinder: Demonstrating Rapid Response and an Innovative Mission Model for Early Planetary Defense and Scientific Characterization of (99942) Apophis:* **J F Bell III, PhD**, D J Scheeres, B Bierhaus, L Champion, M Six, D Thomas, L Levin

1957746 *JWST as a Planetary Defense Asset: The Case of 2024 YR4:* **A Rivkin**, E MacLennan, B Holler, T Müller, J de Wit, A Burdanov, M Devogele, P Pravec, M Micheli, C Thomas, D Farnocchia, A K Glantzberg, L Conversi, J Dotson, L Wheeler, S N Milam, H B Hammel

1866205 *OSIRIS Apophis Explorer STIRring Apophis - Applications to Planetary Defense.:* **M C Nolan**, D N DellaGiustina, A Polit, D R Golish, E G Rivera-Valentin, M C Moreau, B Bierhaus

1989754 *Reconnaissance and Mitigation Mission Options for Asteroid 2024 YR4:* **B Barbee**, J Atchison, R Bull, W K Caldwell, P W Chodas, D Farnocchia, D Graninger, M Harwell, P King, J R Lyzhoft, R Mink, C S Plesko, A Rudolph

1886644 *TERP RAPTOR: A 12U CubeSat Flyby Mission to Asteroid Apophis:* **A Rudolph**, S Philips, C Prasad, K Bhingradiya, C Storey, B Barbee, M Bowden, D Akin, L M Feaga, J Young, P A Bernhardt, Y Chen

1867884 *The Estimated Brightness of a Potential Lunar Impact by 2024 YR4:* **P King**

1992404 *The radio science experiment of the ESA RAMSES proposed mission to the asteroid 99942 Apophis:* **M Zannoni**, R Lasagni Manghi, E Gramigna, F Scalera, S Le Maistre, P Tortora

1859314 *Tidally-driven seismicity as a mechanism for Near-Earth Asteroid Surface Refreshing:* **R L Ballouz**, D N DellaGiustina, K J Walsh, V J Bray, A G Marusiak, I Saedi-Marghmaleki, S Bailey

247729
Concepts for Future Planetary Science Missions

Conveners: **Melissa Trainer**, NASA Goddard Space Flight Center; **Conor Nixon**, NASA Goddard Space Flight Center; **Morgan Cable**, Jet Propulsion Laboratory, California Institute of Technology; **Charles Hibbitts**, Johns Hopkins University Applied Physics Laboratory

1916024 *Lunar-LIBS Elemental Analyses and Detection (2LEAD) Instrument:* **J Gillis**, A Vidwans, N Webb, K Carranza Armenta

1880641 *A Mars planetary boundary layer explorer payload to measure transport fluxes crucial for terraforming research:* **A Dumitrescu**, E S Kite, A Kling, A Braude, T Nakagawa

1930618 *A New Frontiers Class Mission Concept Study to Explore Triton:* **S Miller**, J Christian, C Detelich, O Alian, J P Ferreira, M Borrelli, O Hon, E Jhoti, A Kubas, K Lutz, N B B Pickett, L E Sacks, A Valantinas, I Pamerleau, S Zomerdijk-Russell, R Rountree, B Thakar, J Tuggle, J E C Scully, A E Nash III

1910144 *Acoustic and infrasound sensors for atmospheric science and surface-atmosphere interactions.:* **D Mimoun**, R F Garcia, N Murdoch, A Stott, A Cadu

1950026 *Active Neutron Imaging Techniques for Rover-Borne 3D Exploration of Water Ice in Lunar and Planetary Shallow Subsurfaces:* **D Ölçek**, M Ayllon Unzueta, C J Hardgrove, A Persaud

1904393 *Compact Electrostatic Dust Analyzer (CEDA) for Measuring Dust Transport on Small Airless Bodies:* **X Wang**, M Horanyi, D Hansen, C Fisher, J Drouet, H W Hsu, J Deca

1943259 *Development and Validation of an Advanced Level 2 Processor for the PRISMA Second Generation Mission within the COOL Project:* **F Santini**, A Palombo, S Mirzaei, S Pascucci, S Pignatti

2001716 *Discriminating inorganic from organic luminescence to identify rare earth elements:* **A Zandanel**, P J Gasda, A K Misra, T Acosta-Maeda, R C Wiens

1921467 *ECHO: The Enceladus Chemistry and Habitability Observer Mission Concept from PSSS:* **P K Patel**, L J Gezovich, L Bellino, S N Lamm, M Roth, K Donaldson, E Moreland, A Cushen, E L Cardarelli, A Sengupta, A Vartak, K Broad, M Buys, S Kothapally, S Loughran, J Sheehan, G Steward, A Trussell, J T Keane, T Hudson

1978275 *Turning Rocks into Rockets: Using In-Situ Reaction Mass to Redirect Asteroids:* **D Lantukh**, A Applegate, V Lebedev

1976007 *Enabling Detections of Fatty Acids, a Biosignature for Extraterrestrial Life:* **K L Craft**, J Benzing, D Fernandes, C Fuller, C Person, C Bradburne

1892493 *Exploring the Effects of Contemporary Biotic Contamination on Detecting Agnostic Biosignatures:* **E Dobberfuhl**, M Walters, A Prabhu, G D Cody, G Hystad, H J Cleaves II, R Hazen, M L Wong

1939451 *Future ultraviolet space telescope mission LAPYUTA:* **F Tsuchiya**, G Murakami, A Yamazaki, S Kameda, M Kagitani, K Yoshioka, T Kimura, C Tao, R Koga, J Kimura, K Masunaga, S Sakai, A Nakayama, M Ikoma, N Narita, M Ouchi, M Tanaka, M Kuwabara, S Toriumi, Y Notsu, K Namekata, U Enokidani

1997386 *High-Resolution Detection of Near-Surface Water Vapor on Mars Using Differential Absorption Lidar at 1.83 μm:* **Z Liu**, J Campbell, B Lin, J Yu, J Geng

1887011 *Integrating Mars Sample Return with Human Exploration:* **J L Green**, B Donahue, D Cooke, A Beckman, J Reuter

1957369 *Mini-MARLI: A smaller Mars Lidar for Measuring Wind and Aerosol Profiles from Orbit:* **J B Abshire**, D Cremons, X Sun, K Numata, S D Guzewich, M D Smith

1942736 *Miniaturized Gas Chromatography Based on MEMS Technology for Planetary Environments Exploration and Organic Molecules Analysis:* **C Szopa**, M Bigourd, G Bergerot, P Cardinael, A Buch, A Boco, V Agasse, D Coscia, V Guerrini, F Ferreira, V Tranier

1910284 *Performance Evaluation of TMAH Derivatization Capsules for Organic Compound Analysis with the Dragonfly Mass Spectrometer (DraMS):* **A Buch**, L Chou, C Freissinet, D Boulesteix, C Szopa, J C Stern, O Humeau, C Corbel, D Coscia, E B Jamila, G Masson, M G Trainer

2003017 *Preparing to Analyze Samples from Mars: Report of the Sample Receiving Project Measurement Definition Team (MDT):* **B L Carrier**, E Sefton-Nash, H Graham, C D K Herd, T Haltigin, M Viotti, D Paardekooper

1987469 *Report from the Search for Life Science Analysis Group (SFL-SAG): Developing a Mission Concept to Seek Extant Life in Martian Mid-Latitude Ices:* **B L Carrier**, C Scharf, B Teece

1865005 *Simulating a Combined Active-Passive, Dual-Frequency Radar Reconstruction of Europa's Ionospheric Profile:* **A Sripennem**, S T Peters, R A Marshall

1917367 *Simulating Active Neutron and Gamma-Ray Spectroscopy for Mars Sample Return:* **S Czarnecki**, P J Gasda, K Mesick, C Legett IV, C J Hardgrove

1987603 *Smallsat Innovations for Planetary Science and Exploration:* **R N Schindhelm**, M Veto, R Dissly

248293
Creating sustainable habitats and ecosystems beyond Earth *(joint with GC)*

Conveners: **Edwin Kite**, California Institute of Technology; **Nina Lanza**, Los Alamos National Laboratory; **Robin Wordsworth**, Harvard University; **Chuanfei Dong**, University of Michigan

1882298 *Assessing the impact of engineered aerosols for Mars terraforming with a new open-source 1D convective-radiative equilibrium model, TerraScreen:* **A Kling**, E S Kite, A Braude, A Dumitrescu

1899927 *Building Sustainable Food Systems on the Moon and Mars: The Role of Fungi and Human Waste Fertilizer:* **L Lee**, N C Johnson, A Bass, C S Edwards

1881574 *Downselect of engineered aerosols for warming Mars and deployment roadmapping:* **A Dumitrescu**, E S Kite, A Kling, A Braude, M H Hecht, A Raman

1948541 *Farming Mars from Space: Microgravity Experiments on Regolith Optimization:* **J A Howe**, H R Coker, C Shackelford, A P Smith, L Zea, N Argroves

1984674 *Habitats that grow: Using biomaterials to bootstrap sustainable extraterrestrial ecosystems:* **R Wordsworth**, R Quayum, E Kocharian, A Pearson, C S Cockell, X Portillo, M Yang, G Church, S Nangle

246850
Dynamic Exospheres of Terrestrial Bodies Through the Solar System and Beyond *(joint with NG, SA, SH, SM)*

Conveners: **Gonzalo Cucho-Padin**, NASA GSFC/CUA; **Dolon Bhattacharyya**, Laboratory for Atmospheric and Space Physics; **Edwin Mierkiewicz**, Embry-Riddle Aeronautical University; **Carl Schmidt**, University of Virginia Main Campus; **Gonzalo Cucho-Padin**, NASA GSFC/CUA

1857124 *A Machine Learning-based Model of the Terrestrial Exospheric Emission Using Lyman-Alpha Radiance Data Acquired by NASA's TWINS Mission:* **G Cucho-Padin**, R Akrami, H K Connor, D G Sibeck, Y Phal, D Bhattacharyya, B J Thompson

1961939 *A Multi Line Investigation of the Hydrogen Geocorona:* **S Hoover**, E Mierkiewicz, L Ashworth, S M Nossal, L M Haffner

1909406 *The Radio Crosslink Instrument MaCro Aboard M-MATISSE:* **M Paetzold**, T Andert, S Tellmann, D Plettemeier, T Imamura, J Budroweit, H Ando, A Genova, M Hahn, K Noguchi, J Oschlisniok, K Peter, W Schäfer, B Sanchez-Cano, F Leblanc

1956394 *Ice as a Material for Extraterrestrial Habitat Construction:* **R Quayum**, R Wordsworth

1924559 *Man on Mars – Biological, Physiological, and Psychological Challenges of Human Survival on the Red Planet:* **J Zemło**

1947883 *Mining Heaps and Nickel Mine as Analogs for Martian Colonization Research:* **N Godlewska**, M Zawadzki, N Nieścior, P Lorek, F Kaczorowski, Y Biliak, Ł Kuszyk, J Zemło

1877078 *Possible futures for Mars: the science of the engineered aerosol warming option:* **E S Kite**, A Kling, A Braude, S Ansari, A Bamba, A Dumitrescu, T Nakagawa, H Mohseni

1849801 *The First Tree on Mars:* **A Wendland**, R Olszewski, P Pałka, A F C Bridger, M A Kahre, C Körner, C McKay

1896390 *The Significance of an Artificial Magnetosphere for Mars:* **J L Green**, S A Boardsen, C Dong

1882008 *The water cycle on an artificially warmed Mars – Climate feedbacks and resulting near-surface ice redistribution:* **A Braude**, E S Kite, A Kling, M I Richardson

1854154 *Vast is Not Infinite: Space Expansion Goals and Means - the Social Implications of Physical Limits:* **M Elvis**

1960581 *What to Take and What to Make - Biomanufacturing Strategies and Resource Accounting for Life Beyond Earth:* **N Averesch**

1986998 *An Investigation of the Spatial and Temporal Distributions of Less Abundant and Weakly Emitting Species in Mercury's Exosphere:* **R J Vervack Jr**, R M Killen, C Schmidt, A W Merkel, M H Burger

1996046 *Challenges in Optically Thick Radiative Transfer Retrievals of H Corona Parameters from H Lyman Alpha Emission:* **M Chaffin**, J Deighan, S Jain, G Holsclaw, S Raghuram, H A AlMazmi, K Chirakkil, J Correira, S England, F Eparvier, J S Evans, M O Fillingim, R J Lillis, F H Lootah, E Thiemann, E Quemerais, M Mayyasi, J T Clarke, N M Schneider, S Curry, H R Almatroushi

1981961 *Contribution of multiple scattering to the Lyman alpha radiance distribution in cometary comae:* **Y Suzuki**, K Yoshioka, K Masunaga, G Murakami, H Kawakita, Y Shinnaka, T Kimura, F Tsuchiya, A Yamazaki, I Yoshikawa

1999124 *Design and Performance of the Carruthers Geocoronal Imager:* **T J Immel**, M M Sirk, A Zhang, J Mcphate, W Craig, C Chou, E Wishnow, K Rider, A L Butterworth, L Waldrop, J T Clarke, E Widloski, P Blain, J Brisbois

1897109 *Exospheric Impact on Earth's Magnetosphere-Ionosphere-Thermosphere System:* **S Y Lee**, H K Connor, S B Kang, L Qian

2004479 *Exospheric sensing with the NASA Carruthers Geocorona Observatory:* **L Waldrop**, J T Clarke, T J Immel, H Filippini, A Zhang, P Joshi, E Widloski, M Ondrejcek

1980307 *Fourier-Based Dynamic Filtering in Strofio for Spacecraft Outgassing Suppression at Mercury:* **J Schroeder**, S A Livi, F Allegrini, S Orsini, A Milillo, E De Angelis, A Varsani, S V Barabash, A Aronica

1854211 *Mars' Dynamic Exosphere, and its Unexpected Drivers from Above and Below:* **N M Schneider**, S Gupta, J Deighan, M Chaffin, A C G Hughes, S Jain

1967132 *Measuring Earth's Exosphere Using Solar Irradiance Observations:* **L Wood**, S Schonfeld, G Cucho-Padin

1984848 *Multiple Line-of-Sight Observation of Night-Side Exospheric Emission:* **J Craig**, R Kerr, L Waldrop, M Ondrejcek, A Holl, P Joshi

1922825 *NUV Observations of Mars with the Colorado Ultraviolet Transit Experiment (CUTE) CubeSat:* **D Bhattacharyya**, A Mishra, K France, A Egan, S Escobar, S Jain

1852457 *Observing Planetary Exospheres:* **L J Paxton**

1984455 *Quantifying the impact of exospheric variability on plasmasphere refilling:* **N Maruyama**, K Chatterjee, J Fitzpatrick, G Cucho-Padin

1917652 *Seasonal Comparisons of Observed Geocoronal Balmer-α & Forward Modeled WACCM-X Column Emission Intensities & Line Profiles:* **L Ashworth**, E Mierkiewicz, S M Nossal, L Qian, J M McInerney, L M Haffner, R C Woodward Jr

249971
Enceladus: An Ocean World Odyssey

Conveners: **Christopher Glein**, University of Toronto; **Cynthia Phillips**, JPL/NASA/Caltech; **Fabian Klenner**, University of Washington Seattle; **Fabian Klenner**, University of Washington Seattle

1921346 *A Potential Mushy Source for the Geysers of Enceladus and Other Icy Satellites:* **J Buffo**, C Meyer, F Nimmo, A Wells, S Boury, M Fox-Powell, T Tomlinson, G M Vasil, J Parkinson

1893734 *Abiotic synthesis and hydrothermal circulation: is there more to life than H_2-rich venting?:* **C R German**, J Seewald

1898536 *Characterization of Plume Particles on Enceladus at visible wavelengths:* **F Preeti**, S MacKenzie, M M Hedman

1916691 *Simulated Impacts of NO Cooling on Exospheric Hydrogen Using the Gravity-Only MATE Model:* **J Jung**, H K Connor, L Qian

1988888 *Sputtering contributions to Mercury's exosphere: MESSENGER/UVVS observations during a strong ICME:* **A W Merkel**, R J Vervack Jr, C Schmidt, W Exner

1918163 *The Effects of Charge Exchange on Hydrogen in a Coupled Thermosphere-Exosphere Model:* **S Luettgen**, E K Sutton, J P Thayer, N Maruyama

1988294 *The Hydrogen Emission Line Interferometric eXplorer (HELIX): Suborbital exploration of exospheric hydrogen at high spectral resolving power:* **W Harris**

1965239 *The KInetic-based Terrestrial Exospheric (KITE) model:* **C Ferradas**, G Cucho-Padin, D Bhattacharyya, H K Connor, M C H Fok, S B Kang

1877580 *The observational feasibility of extended atmospheres on terrestrial exoplanets in a runaway greenhouse state by Ultraviolet transit spectroscopy:* **R Kato**, A Nakayama, S Kameda

1885045 *Three-dimensional reconstruction of the terrestrial exospheric H density distributions using images acquired at the Lagrangian point 1 and a statistical approach.:* **G Cucho-Padin**, H K Connor, D G Sibeck, D Bhattacharyya

1871342 *Variability and Escape of the Martian Upper Atmosphere from a Decade of MAVEN/IUVS Observations:* **J Qin**, H Liu, Z Xu, F Yang

1852436 *Composition of Freshly Ejected Enceladean Ice Grains: Molecular Trail from Core to Plume:* **N Khawaja**, F Postberg, T R O'Sullivan, M Napoleoni, S Kempf, F Klenner, Y Sekine, M Craddock, J Hillier, J Simolka, L H Sánchez, R Srama

1929092 *Effects of Ammonia-Bearing Fluids on the Extent and Hydrogen Production Capacity of Ultramafic Rock Alteration: Implications for the Seafloor of Enceladus:* **H Dawson**, E D Flynn, J G Catalano

1942384 *How Hydrogen and Water escape from Enceladus: Insights from gas flow simulations:* **A Mahieux**, D B Goldstein, P L Varghese, L M Trafton

1929679 *Hydrodynamical Simulations of Vapor-Driven Plumes on Enceladus:* **Y Zhang**, Y Zeng, C Li, W Kang

1980959 *Implications of Enceladus Plume Uncertainty on Mission Designs:* **C Gentgen**, D Landau, M DiNicola, M L Cable, C B Phillips, B P Weiss, O L de Weck

1858187 *Inductive Response of Enceladus' Ice Shell and Potentially Stratified Ocean:* **L Wivell**, M K Dougherty, A Masters

1862842 *Ocean chemistry, organic type and concentration all influence the distribution of microhabitable environments in Ocean World ice shells:* **C M Phillips-Lander, PhD**, C P Marshall, T H Vu, N Gonzales, E Czaplinski, M Malaska, S N Lamm

1901426 *Revealing the Spatial and Temporal Variability of Enceladus' Plume Composition with Ultraviolet Stellar Occultations: Investigations of Habitability with a Future Orbiter:* **J Kammer**, K D Retherford, P M Molyneux, T K Greathouse, K L Mitchell, A R Hendrix, M Simons

253340
Eugene Shoemaker Lecture

Conveners: **Ingrid Daubar**, Univ of AZ-Planetary Sciences; **Ingrid Daubar**, Univ of AZ-Planetary Sciences; **Wendy Calvin**, University of Nevada Reno

250483
Exploring Jupiter's Icy Moons with the NASA Europa Clipper mission and the ESA Juice mission *(joint with SM)*

Conveners: **Nuri Park**, Arizona State University; **Carol Paty**, Georgia Institute of Technology; **Hao Cao**, University of California Los Angeles; **Pietro Matteoni**, Freie Universität Berlin

1933098 *An Earth-based Astronomical Support Team for Europa Clipper:* **B J Buratti**, G Orton, R T Pappalardo, H Korth, C B Phillips

1981181 *Argon-40 Production in Europa and MASPEX/Clipper's Ability to Measure It:* **W B McKinnon**, C R Glein, J H Waite, O Mousis, K Miller, M McGrath, J Burch

1965966 *Atmospheric Composition of the Jovian Icy Satellites: Leveraging UV Occultations and In Situ Techniques:* **S M Brooks**, K D Retherford, F Bagenal, T M Becker, M W Davis, R Giles, R Gladstone, T Greathouse, A R Hendrix, V Hue, J Kammer, M A McGrath, P M Molyneux, U Raut, R Nag, L Roth, M A Velez

1984206 *CO_2 vs. Rock on Europa: Which Controls Ocean Chemistry?:* **C R Glein**, K Miller, J H Waite, N Park, A Bouquet

1938153 *Salt diversity in Enceladus' ice grains observed by Cassini CDA from salt segregation in a frozen and fragmented oceanic spray:* **F Postberg**, F Klenner, Y Sekine, M Koga, J Schmidt, M Fox-Powell, J Hillier, N Khawaja, Z Zou

1865500 *Simulating Enceladus Plume Encounters: Laboratory Impact Ionization Mass Spectrometry of Salt-Rich Ice Grains:* **M Seaton**, B L Henderson, S Kempf, P D Asimow, M L Cable

1925439 *Surface Property Comparisons Between Enceladus, Europa, and Iapetus:* **S Grusnis**, E M Royer, C B Phillips

1943041 *The Mission to Enceladus – The ESA L4 mission:* **J Helbert**, T Bruendl, M Haag, B Ordoubadian, S Wittig, M Linder

1974269 *Trace metal availability: a key component of habitability:* **E Edmans**, K Rico, H Rucker, G Evans, B Kacar, A D Anbar

1958533 *CO_2-Driven Enhancement of Radiolytic H_2O_2 on Europa and Other Icy Moons:* **B Mamo**, U Raut, B D Teolis, T Erwin, R J Cartwright, S Protopapa, K D Retherford, T Nordheim

1883946 *Could Current Cratering Explain Europa's Plumes?:* **I Daubar**, J E C Scully, E J Leonard, C M Elder

1964512 *Cracking the Code to Europa's Double Ridges: Building a 3D viscoelastoplastic model of Europa's lithosphere:* **C Detelich**, A Hayes, A J Dombard, P J McGovern Jr, A J Evans, J Jones

1930753 *Effects of Europa's Atmosphere on the Magnetic and Plasma Environment: Multi-fluid MHD Simulations and Applications to Close Spacecraft Flybys:* **M Indek**, X Jia

1850044 *Emission of Energetic Neutral Atoms from Ganymede's Magnetosphere-Atmosphere Interaction:* **C M Haynes**, S Simon, L Liuzzo

1884737 *Europa Clipper Observations and Activities During the Cruise Phase:* **H Korth**, R T Pappalardo, B J Buratti

1848841 *Europa Clipper Science and Mission Update:* **R T Pappalardo**, B J Buratti, H Korth

1969472 *Europa Surface Spectrophotometry – Preparing for MISE Spectral Image Cube Data:* **Z Benton**, F P Seelos, Y Itoh, D Stephens

1947661 *Ice Boulders on Europa's Surface:* **M Will**, E J Leonard, I Daubar

1928181 *Ingredients for Habitability: Constraining Ocean Chemistry from Europa Clipper's Geophysical Measurements Using Realistic Geochemistry in PlanetProfile 3:* **S Vance**, S Chang, M Melwani Daswani, F Petricca, C Cochrane, J C Castillo-Rogez, B Journaux, A Kavner, K Stone, J Weber

1911208 *Initial in-Flight Checkout Performance Results for the Ultraviolet Spectrograph (UVS) on Europa Clipper:* **T K Greathouse**, K D Retherford, T M Becker, R Giles, M W Davis, S A Ferrell, A Richlen, M H Versteeg, P M Molyneux, J Kammer, B J Trantham, R Gladstone, U Raut, E Johnson, M A McGrath, L Roth, J Saur, J R Spencer, A Stern, M A Velez, V Hue, S M Brooks, F Bagenal, K B Persson, M A Freeman

248765
Extremophyte genomes seeding agriculture for extraterrestrial human habitats *(joint with B, IN, PP, SY)*

Conveners: **Maheshi Dassanayake**, Louisiana State University; **David Mendoza Cozatl**, University of Missouri; **Suniti Karunatillake**, Louisiana State University; **Carlos Gary-Bicas**, Stony Brook University

253345
Fred Whipple Lecture

Conveners: **Ingrid Daubar**, Univ of AZ-Planetary Sciences; **Wendy Calvin**, University of Nevada Reno; **Ingrid Daubar**, Univ of AZ-Planetary Sciences

250759
From Impacts to Habitability: Interdisciplinary Perspectives on Planetary Collisions and Prebiotic Chemistry *(joint with EP)*

Conveners: **Amanda Alexander**, Southwest Research Institute Boulder; **Karyn Rogers**, Rensselaer Polytechnic Institute; **Nuri Park**, Arizona State University; **Meri Herrero**, Rensselaer Polytechnic Institute; **Meri Herrero**, Rensselaer Polytechnic Institute

1926235 *Beyond the Catastrophe: Meteorite Impact Cratering and Planetary Habitability:* **H M Sapers**, A Pontefract, G R Osinski, C Cockell

1953603 *Characterizing the Diversity of Carbon in the Sudbury Impact Crater:* **M Herron**, A Srivastava, A Steele

1874831 *Condensation of fine dust enhanced heat and wildfires at the close of the Cretaceous:* **B C Johnson**, A V Johnson, S Wakita, D Robertson

1853795 *Metamorphism May Power Methanogenesis at Europa:* **K T Trinh**, G M Boyer, E Trembath-Reichert, E Shock

1918513 *Radiation Shadowing of Oceanic Materials, Plume Deposits, and Potential Biosignatures by Hemispheric and Topographic Shielding on the Surface of Europa:* **J F Cooper**

1997315 *Solid CO_2 in Briny Ices: Relevance to Europa's Chaos Terrains:* **T Peterson**, U Raut, B Mamo, A Stevanovic, H Jerris, I Karraker, R J Cartwright, S Protopapa, B D Teolis, K D Retherford

1860631 *The ESA's JUpiter ICy moons Explorer (JUICE) mission updates (Invited):* **O G Witasse**, C Vallat, N Altobelli

1991221 *Three-Body Dynamics of Impact Ejecta of Europa:* **G Robbins**, S Hsu, S Kempf

1893712 *A Low-cost Photobioreactor for Culturing a Cyanobacterium Arthrospira platensis: Design, Construction and Production of High-quality Biomass for the Analogue Space Mission:* **P Lorek**

1917693 *Diverse crustal materials preserved in the Western Jezero Crater rim, Mars:* **A Valantinas**, A Rajsic, J F Mustard

1913455 *Early Earth: Maybe not so Hadean:* **N Zellner**

1995937 *Extraterrestrial delivery of bioessential metals as a possible driver of Archean biotic evolution and ecological expansion:* **S Li**, S Marchi, G Chen, T Lyons

1966519 *Hydrothermal transformations of soluble organic compounds delivered through impact events on the early Earth:* **M Herrero**, V S Riggi, A Acharya, S Marchi, J Shelley, K L Rogers

1853848 *Impact Cratering as an Astrobiological Process on Titan:* **C Neish**

1855041 *Investigating the Impact and Aqueous Alteration History of Early Mars Preserved In the Jezero Crater Rim.:* **C C Bedford**, R C Wiens, C Quantin-Nataf, B H N Horgan, E Moreland, A Udry, S Gwizd, A Klidaras, S Holm-Alwmark, G R Osinski, C D K Herd, E M Ravanis, J I Simon, N Mangold, S Sharma, E Dehouck, P Beck, J Hurowitz, A Cousin, J R Johnson, A H Treiman

1945011 *Meteoritic materials on the Moon's far side and their implications for the impact delivery of prebiotic organics to Earth:* **M Lin**

1969159 *Molecular Dynamics Simulations of Prebiotic Phosphate Formation During Giant Impacts:* **K de Villa**, H Pham, R Dettori, B Militzer, N Goldman

254459
General Contribution

Conveners: **Kerri Donaldson Hanna**, University of Central Florida; **Gerald Patterson**, Applied Physics Laboratory Johns Hopkins; **Cesare Grava**, Southwest Research Institute

1901503 *A Biophysical Approach to Cell Stability Under Martian-Like Geophysical Constraints:* **Y Biliak**

1866470 *A Volcanic Interpretation of the Maja Valles Outflow System (Mars):* **D W Leverington**

1979564 *Calibrated Irradiance Transfer Functions for Characterizing Seasonal Thermal Behavior of Lunar Permanently Shadowed Regions:* **P Mahanti**, C Michaud, M R Manheim

1932973 *Charge Transfer Inefficiency in Gaia's Radial Velocity Spectrometer: A Six-Year Analysis of Radiation Effects and Detector Performance:* **A Hummeid**

1972561 *Climate destabilization via CO_2 drawdown: Using the ROCKE-3D GCM to identify the tipping point to a hard snowball state:* **A R Wofford**, N Burls, L E Sohl, S D Domagal-Goldman, E T Wolf

1977933 *Depositional and stratigraphic context of the boxwork horizon, Mount Sharp group, Gale Crater:* **C Mondro**, S P Schwenzer, C Seeger, P J Gasda, K Siebach, C O'Connell-Cooper, L M Thompson, J P Grotzinger, L Scuderi, G Caravaca, A A Fraeman, A R Vasavada

1976286 *Establishing a comprehensive dataset for chondrite identification during robotic planetary exploration.:* **S Ray**, O Duarte, D Das, E Sklute, PhD, P J Gasda, A M Ollila, S M Clegg

1880123 *Geochemical Modeling of Martian Chloride Deposit Forming Brines.:* **E Das**, K Mitra, T D Glotch

1917799 *Graviton-Based Derivation of Relativistic Mass and Mercury's Orbital Precession: An Explanation Without Relativity Postulates:* **A Santa Fe Dueñas**

1925704 *Searching for impact-induced hydrothermal systems on Mars:* **L Zeng**, B H N Horgan, M Deahn

1917179 *Understanding Impact-Induced Hydrothermal Alteration in Rochechouart Impactites: Preliminary Results:* **M Prakash**, S P S Gulick, C Grima, R Milliken, P Lambert

1893673 *In-situ Identification of Hydrated Carbonate in Jezero crater, Mars:* **A Srivastava**, A Steele, L C Kah, R S Jakubek, P G Conrad, S Sharma, Y Y Phua, S Connell, S Bykov, D Buckner, M E Minitti, A Pascuzzo, Y Liu, M Fries, K Uckert, M M Tice, W Abbey, F McCubbin, S Siljeström, T Fornaro, A H Treiman, T Bosak, A Murphy, E Cloutis, O Beyssac, A J Brown, A G Fairen, C Lee, R Bhartia, K P Hand

1968042 *Insights Into the Origin and Evolution of the Medusae Fossae Formation, Mars Using Sedimentary Strata:* **S Khan**, K W Lewis, D Chapline, C S Edwards

1869503 *Polygonal Impact Craters on Pluto: Preliminary Results from New Horizons Images:* **H C J Cheng**

1975058 *Preliminary APXS compositional results from the Mars Science Laboratory "Boxworks" campaign: Evaluating the role of Mg-sulfate in ridge formation:* **C O'Connell-Cooper**, L M Thompson, S P Schwenzer, C Mondro, K Siebach, P J Gasda, C Seeger, A R Vasavada, A Fraeman, R Gellert, J G Spray, J A Berger, N Boyd, J Christian, M McCraig, S VanBommel, A Yen

1911699 *Study of the Holocenic Wet-to-Arid Transition in the Ahnet Basin (Algeria) as an Analog for the Hesperian-Amazonian Climatic Transition in Arabia Terra (Mars).:* **Y Caddeo**, M Pondrelli, F Mancini, A P Rossi, B Cavalazzi

1923965 *The ChemCam Chemistry of the Boxwork Unit in Gale Crater on the Upper Flanks of Aeolis Mons:* **P J Gasda**, F Willcocks, S P Schwenzer, C C Bedford, C Mondro, K Siebach, C Seeger, L A Scuderi, J Bridges, N Lanza, C O'Connell-Cooper, L M Thompson, A Fraeman, A R Vasavada

1864572 *The Formation and Two-Dimensional Structure of Circumplanetary Disks:* **A Taylor**, F Adams

1923883 *The Perseverance rover explores the Jezero crater rim and beyond: New insights into ancient environments, crustal evolution, and cratering processes on Mars:* **B H N Horgan**, K Stack, L E Mayhew, C Quantin-Nataf, E M Ravanis, C D K Herd, K A Farley, N Randazzo, E Dehouck, L C Kah, M Bramble, J I Simon, R C Wiens, F J Calef III

1958595 *Thermophysical Properties of Terrestrial Fluvial Ridges and Applications to Mars:* **M Lawrence**, B T Cardenas

251528
Geology and Geophysics of Active Satellites and Small Bodies

Conveners: **Ashley Davies**, Jet Propulsion Laboratory, California Institute of Technology; **James Keane**, NASA Jet Propulsion Laboratory

1885879 *Could chaos terrain formation generate Europa's water vapor plumes?:* **C C Walker**, B Schmidt, C Chivers

1930802 *Detecting Titan's Tectonic History Using Polygonal Structures:* **E Higgins**, E S Martin, F Nichols-Fleming, E Stofan

1845878 *Does Minimal Reorientation of Herschel Crater Prohibit an Ocean Within Mimas?:* **S Gyalay**, F Nimmo

1924686 *Extensive Surface Changes on Io Seen in High-Resolution LBT/SHARK Visible Wavelength Imagery in Early 2025:* **A G Davies**, G Li Causi, J Perry, S Jefferies, F Pedichini, D Mesa, D A Williams, I De Pater, D M Nelson, F Baron, A Conrad, K de Kleer, S Antoniucci, D Hope, M Bergomi, F D'Alessio, S Filomeno, T Gomes Machado, F Laudisio, L Marafatto, E Marini, R Piazzesi, D Ricci, V Testa, P Vaccari, D Vassallo

247989
Habitability Across the Solar System and Exoplanets (cosponsored by ASM: American Society for Microbiology,EGU: European Geosciences Union,GSA: Geological Society of America) *(joint with A, B, C, EP)*

Conveners: **Suniti Karunatillake**, Louisiana State University; **Scott Perl**, ; **Mohit Melwani Daswani**, NASA Jet Propulsion Laboratory; **Carlos Gary Bicas**, Louisiana State University; **Emmy Hughes**, Georgia Institute of Technology

1954134 *(Exo)Planetary Oceans, Their Basins, and The Fate of Volatiles:* **C R Lithgow-Bertelloni**, M Bogumil, T Mittal

1845603 *Ecodiversity of Amino Acid Assemblages as a Biosignature:* **G Yoffe**, F Klenner, B Sober, Y Kaspi, I Halevy

1969201 *Experimental Exploration of Geochemical Diagenesis on Biogenic Organics under Martian Surficial Conditions:* **D Singh**, T Y Dong, E Camprubi

1982974 *Exploration of Mars' Carbon Cycle Through Laboratory Simulations and Methane Isotopes:* **C Kocian**, C H House, S Bates, J C Stern

1893753 *Geological Mapping of Io in the Juno Era:* **D A Williams**, C Seeger, D M Nelson, A G Davies, J Perry

1944171 *Granular settling in asteroid conditions – Laboratory experiments on regolith in reduced gravity:* **M Keulen**, K Joeris, T Giese, J E Kollmer, J Teiser

1931904 *Interrogating 16 Psyche's interior with its rotational dynamics and gravity field:* **A Ermakov**

1953286 *Investigating the Hydrosphere of Icy Moons through Combined Libration and Gravity Data: A Bayesian Inversion Approach:* **M Ciambellini**, A Genova, A M Gargiulo, G Boccacci

1919205 *Lucy Mission Search Plans for Activity Around Its Jovian Trojan Flyby Targets:* **S A Stern**, C Howett, N Dello Russo, H A Weaver, O S Barnouin, J F Bell III, PhD, D Reuter, A A Simon, H Kaplan, J M Sunshine, K S Noll, J R Spencer, S Marchi, H F Levison

1964719 *Rheological properties of Mars revealed from multiple geophysical measurements and implications for the orbital evolution of Phobos:* **A Bagheri**, B Fernandez, B G Bills, S D Vance

1957023 *Sediment Transport on Ocean Worlds:* **P Johnson**, G Steinbrügge, K M Soderlund

1969646 *Exploring Habitable Icy Worlds Responsibly: Planetary Protection Updates for the Outer Solar System:* **P T Doran**, A Coustenis, A Hayes, O Grasset, O Prieto-Ballesteros, T Haltigin, K Xu, T COSPAR Panel on planetary protection

1936948 *Go Beyond the Limit (GBL) drilling: How, why, and where does life become extinct in deep subseafloor environments, and what lies beyond the limit?:* **Y Morono**, M Kinoshita, M Yamano, J Kuroda, Y Nakamura, V Heuer, F Schubotz, S D'Hondt, R A Pockalny, K Fujishima, T Hatakeyama, S Ono, Y Hamada, M Takada, M Hosokawa

1961178 *Interrogating Life at the Extremes of Low Temperature Hypersalinity at the Basque Lakes, Canada:* **V Nathan**, F Calabrese, C Burns, D Scott, J J Marlow

1923979 *Interstellar Objects as Windows into Planet Formation Across the Galaxy:* **J Wray**, K J Meech, N Thomas, M Almeida, G Cremonese, A Delamere, K Block

1943384 *Magnetite-Rich Serpentinized Environments as Prebiotic Catalytic Hubs: Insights from Terrestrial Analogs to Mars:* **S Hasan Jagmag**, V M Nair, A Basu Sarbadhikari, H Shang

1972288 *Measurements of Lab-Prepared Brines and Hypersaline Lakes from Western Australia, the Antarctic Dry Valleys, and a Southern California Saltern: Implications for Determining Habitability Elsewhere in the Solar System:* **T Bornholdt**, P T Doran, A Odenheimer, M Miller-Soileau, R Archie, M Fox-Powell, B Schmidt, J S Bowman, S M Som, E D Ingall, T Plattner, E Quartini, N M M Fernandez

1940733 *Mercurial Worlds: the Climate Cycles and Habitability of Asynchronously Rotating K-Dwarf Planets :* **A Lobo**, M L Wong, V Kofman, R Kopparapu, J D Haqq-Misra, É A Laflèche, E T Wolf

1995608 *OCEAN-WORLDS IN M-DWARF SYSTEMS:* **L Ojha**

1897290 *Potential Extended Past Habitability of Mars from Recent Mineralogical Measurements in Gale crater:* **E Hausrath**, J Hall, E B Rampe, T Bristow, A McAdam, L Chou, S Chipera, V Tu, B M Tutolo, E Dehouck, D T Vaniman, R V Morris, D F Blake, J Meusburger, T Peretyazhko, D W Ming, P Craig, N Castle, R T Downs, R M Hazen, A H Treiman, S Morrison, A Yen, A Pandey, S Simpson, M Thorpe, D D Marais, R Y Sheppard, B C Clark

1913148 *Preservation of Biosignatures in Sulfate Minerals from Terrestrial Analog Sites:* **K Gill**, Z Williams, E Trembath-Reichert, K Benison, E Jagniecki

246727
Ice and Ocean Worlds: Geology, Oceanography, Chemistry, and Habitability *(joint with C, OS)*

Conveners: **Catherine Walker**, Woods Hole Oceanographic Institution; **Steven D. Vance**, NASA Jet Propulsion Laboratory, California Institute of Technology; **Kevin Trinh**, California Institute of Technology, Division of Geological and Planetary Sciences

1940331 *In operando constraints on the nonlinear viscoelasticity of ice-VI: application to tidal heating and ocean formation in icy satellites:* **A J Cross**, D Hein, D L Goldsby, L N Hansen, H Chen, T Breithaupt, A Nehring, A Osinchuk

1971801 *A Characterization of the Seafloor Tectonic States of Icy Satellites:* **H Dawson**, P K Byrne, C Klimczak, P V Regensburger, S D Vance, M Melwani Daswani, D Hemingway

1972182 *An Alkaline Fluid Chemistry on the Parent Body of Bennu: Evidence from an Early Ocean World?:* **F Klenner**, Y Cai, W Xu, C Glein, D C Catling, I Daniel, J Hao

1930932 *Sri Lankan Paleo-Serpentine Systems as a Habitability Analog to Noachian Mars:* **D Nisson**, M Melwani Daswani, E Hughes, S M Perl, V Nair, S Malaviarachchi, P Dharmapriya, H M T G A Pitawala, A Basu Sarbadhikari, J Wray, F Rivera-Hernandez, PhD, M Vithanage, S Karunatillake

1955128 *Synergistic Effects of Ocean Salinity and Planetary Obliquity Enhance Exo-Earth Habitability:* **K P Batra**, S L Olson, E Schwieterman

1934604 *Thermophiles Along Hydrothermal Gradients at El Tatio, Chile: Implications for Microbial Survival and Biosignature Preservation in Mars Analog Environments:* **M Calderon-Marrero**, C Munoz-Saez, L F Coelho, Z Gold

2002978 *To Breathe or Not to Breathe? Exoplanet Mantles May Answer the Question:* **S Lunetto**, M Li, J G O'Rourke, A D Anbar

1976207 *Transcriptional Metabolic-Hibernation Reprogramming of Human Cells and Tissues for Future Space Travel:* **Z Liu**, J Hou, R Florentino, L Faccioli, Z Hu, A Baratta, B Yang, Y Sun, D Nagrath, S Hainer, H Osmanbeyoglu, A Soto-Gutierrez

1955251 *Transforming Risk into Resilience: A Case Study of Field Safety in a Planetary-Analogue Expedition to Sri Lanka:* **T Edussuriya**, S Karunatillake, M Vithanage, P Dharmapriya, Y Srivastava, N Balasooriya, J Hewavisenthi

1862100 *Assessing Terrestrial Analogue Field Sites for Ocean Worlds:* **J C Stern**, H Graham, B Burcar, E S Martin, A C Noell, K P Hand, J S Bowman, P T Doran, V P Edgcomb, J F Holden, A E Howells, M Malaska, J Mikucki, B L Nunn, J Radebaugh, L E Rodriguez, S Borges, D M Bower, S W Courville, M Diaz, B J Hockman, J A Huber, J Lawrence, T Vick-Majors, C A Nixon, J R Spear, A Steckel, A Solomonidou, N C Schmerr, B Schmidt, M O Schrenk, L M Seyler, A R Smith, C C Walker, P Whelley, N S Wolfenbarger, S D Vance

1882513 *Churning Europa's Ice: Assessing Convection-Induced Melt Lens Formation in Europa's Ice Shell:* **A Mills**, J H Roberts

1929741 *Combined Effects of Coupled Thermal- and Chemical-Buoyancy Driven Flows on Europa's Ocean Circulation:* **S Miller**, H Hay, B Schmidt, K M Soderlund

1857353 *Cometary impact-generated fractures as potential pathways for surface-to-ocean exchange of organics on Titan:* **J P Ortiz**, E Rougier, A Pujari, B Euser, J Hyman, P H Stauffer

1899148 *Compaction of Partially Molten Saline Ice and the Dynamics of Melt Migration on Icy Satellites:* **M Zaman**, C McCarthy, M A Hesse

1953784 *Cracking the Ice: Fracture Behavior and Microstructural Analysis of Europa-Relevant Icy Analogs:* **N Morgan-Witts**, M Trzeciak, L Zoet, C E Bonamici, H Sone, B Schneider, W O Nachlas, P E Sobol, N LeBrun

1953055 *Do Microbial Biofilms Expand the Habitability Limits of High-Pressure Ocean Worlds?:* **E Cardoza**, A Picard, M O Schrenk

1953622 *Dynamic Tidal Heating as a Key to Europa's Habitability: How Variable Basal Ice Melt Rates Affect Europa's Ocean Composition, Redox State, and Metabolic Potential:* **E M Spiers**, K Robinson, B Schmidt

1984643 *Experimental determination of the liquidus in H_2O - salt solutions at pressures relevant to the icy worlds:* **H C Watson**, G H Shaw, E Fuqua, M Magno, T Zaledonis

1885324 *Exploration of Ocean World Activity and Habitability with HWO:* **R J Cartwright**, L C Quick, M Neveu, K L Craft, J C Castillo, T M Becker, U Raut, S Kameda, K France, G N Arney, A Roberge, M McElwain, G Villanueva, B Holler, R Juanola-Parramon

1933809 *Habitability Does Not Require Active Water-Rock Interaction: Radiogenic Salt-Driven Radiolysis as a Metabolic Energy Source on Europa:* **N T Truong**, C Glein, K Miller, K Mandt

1928094 *Ice shell motion and shape as a window to understand subsurface ocean dynamics:* **W Kang**, Y Zhang, J C Marshall

1945338 *Infiltration Instabilities in Partially Molten Ice:* **C Li**, C QI, M Fleming, Q Wang, M Palmer, D J Prior

1951847 *Investigating the Effect of Latitudinally Varying Tidal Heating on the Surface-Interior Dynamics in Europa's Icy Shell:* **H Kim**, A G Grima, L Daly

1988226 *Limited direct fluid exchange between the deep subsurface ocean and the shallow subsurface environment of Europa:* **L Ojha**, J Buffo, A Barik

1896088 *Lineament Azimuths and Europa's Tidal Stress Field - A Correlation Study:* **C Haslebacher**, L Duembgen, A Rhoden, E J Leonard, L M Prockter, N Thomas

1970751 *Long Transit Time from the Seafloor to the Ice Shell on Enceladus:* **Y Zhang**, S Bire, S Wang, A Ramadhan, A Nath, W Kang, J C Marshall

1995299 *Low-ambiguity, High-throughput Particle Characterization on Ocean Worlds from in situ Measurements of Polarized Light Scattering and Hyperspectral Absorption:* **P C Gray**, S O'Neill, M Estapa

1961455 *Making Subsurface Connections on Europa - Enabling Habitability?:* **K Shearl**, K L Craft, M Kinczyk

1904081 *Numerical Determination of the Nonlinear Convection Threshold in a Nitrogen-Ice Layer With Application to Sputnik Planitia:* **C Jain**, S Solomatov, W B McKinnon

1898328 *O_2 Absorption on the Icy Jovian Satellites:* **C Schmidt**, J R Spencer, W M Calvin, R J Cartwright, R E Johnson, A Oza, E Lovett, P R Lierle

1923998 *Potential for porous and discrete-fracture hydrothermal circulation below the seafloor of Europa, given low gravity and modest internal heating:* **K Dickerson**, A T Fisher, J Hyman, J P Ortiz, P H Stauffer, D K Blackman

1893925 *Slantwise convection and heat transport in the icy moon oceans:* **Y Zeng**, M Jansen

1926703 *Strong Tidal Dissipation in the Interior of Titan Revealed by Cassini Data Indicates Absence of a Subsurface Ocean:* **F Petricca**, S Vance, M Parisi, D Buccino, G Cascioli, J C Castillo-Rogez, B G Downey, F Nimmo, G Tobie, B Journaux, A Magnanini, U Jones, M P Panning, A Bagheri, G Antonio, J I Lunine

1957767 *Systematic changes in energy and nutrient fluxes from seafloor hydrothermal discharge on Enceladus and Europa:* **N G Randolph-Flagg**, T M Hoehler, A T Fisher, C R German

1890315 *Tectonic breathing of Europa: Geological processes supporting subsurface ocean habitability:* **M Kihoulou**, L Lebec, G Choblet, G Tobie, K Kalousova, O Čadek

1955542 *The Role of Orbital Parameters on the Simulated Sea Surface Temperature of the Earth-like Aquaplanet:* **O Erokhina**, K Rehfeld

1922836 *Transport of Sulfur Species and Isotopes Through the Water Column and Ice of an Ocean Worlds Analog:* **D J Yousavich**, J C Priscu, A E Murray, M G Trainer, K Farnsworth, D A Fike, K P Hand, M Diaz

1998803 *Using Magnetic Signatures to Investigate the Internal Dynamics of Icy Moons:* **S Biassey-Bogart**, C Borlina, M L Rudolph

2001781 *Waves Excited by Topography at the Ice-Ocean Boundary:* **D Abdulah**, W Kang

1865086 *What is the probability that Eris is an ocean world?:* **R Akiba**, F Nimmo

248626

Ices and Volatiles on Solid Bodies: Implications for Planetary Evolution and In Situ Resources

(cosponsored by AAS: American Astronomical Society) *(joint with EP)*

Conveners: **Nathaniel Putzig**, Planetary Science Institute; **Wendy Calvin**, University of Nevada Reno

1930359 *Resolving Surface Heterogeneity in Olympia Undae Using New Multi-Temporal THEMIS ROTO Data:* **B McKeeby**, C S Edwards, M S Ramsey

1844981 *Ages of Mars' Mid-Latitude Ice Exposing Scarps and Relating Ridge Morphology to Climate Cycles:* **A M Bramson**, L S Pérez Mancipe, K L Laferriere, D M H Baker

1938525 *Boulders on icy satellites:* **R Ikeya**, N Hirata

1887237 *Constraining Surface Velocity Estimations of Debris-Covered Glaciers in Eastern Hellas, Mars, with a New 3D SHARAD Radargram:* **R Aguilar**, J W Holt, M Perry, F Foss, G A Morgan, A T Russell, P C Sava, M B Russell, F Chuang, M Christoffersen, B A Campbell, N E Putzig, T Meng, S Nerozzi

1950748 *Constraints on past Obliquity-Driven Climate Scenarios on Mars by Comparing Ice Flow Modeling with Observed Glacial Moraines using GIS:* **E Chaco**, R Parsons

1969836 *Eight Martian Winters: Decadal CO_2 Mass Balance in Polar Cap Cores (MY 28-35):* **S Pal**

1980852 *General Approach to Water Abundance with Application to Ceres. Best Practices Using Infrared Data:* **V Kachmar**, B L Ehlmann

1945487 *Investigation of Water Ice Sublimation and Vapor Transport in Lunar Highland Simulant under Ultra-Low Pressure:* **B Anderson**, S Xiao

1925683 *Let's Get Ceres-ous: Simulations of Ice Aggradation in Impact Melts on the Floor of Occator Crater, Ceres.:* **A Kubas**, H G Sizemore, B Schmidt

248354

Io, Europa and Ganymede in the Eyes of Juno

(joint with SM)

Conveners: **Hao Cao**, University of California Los Angeles; **Paul Schenk**, Lunar and Planetary Institute; **Dustin Buccino**, Jet Propulsion Laboratory, California Institute of Technology; **Ali Sulaiman**, University of Minnesota; **Natalie Wolfenbarger**, University of Texas at Austin

1849590 *Local and Regional Shallow Water Ice Mapping on Mars using MCS and THEMIS temperature observations:* **S Piqueux**, X Zhao, A Kleinboehl, L Lucas, C S Edwards

1873755 *Martian Equatorial Ice Sheets: Mass balance constraints from ice flow modeling under different martian obliquity scenarios:* **R Parsons**

1915861 *Morphology of Antarctic Polygons and Implications for Polygon Evolution and Subsurface Ice Dynamics:* **R Hoover**, R E Grimm, D E Kowalewski, A Wilcoski, D E Stillman

2001381 *New True-Color MARCI Workflow Maps of Southern Seasonal Polar Cap Dynamics in Mars Years 29–35.:* **P Acharya**, W M Calvin

1930573 *SHARAD 3D Radargram Mapping of Unconformities within the Martian North Polar Layered Deposits:* **M B Russell**, M Perry, A T Russell, I Mueller, I B Smith, N E Putzig

1971885 *The Impact of Dry Snow Metamorphism on Effective Thermal Conductivity of Porous Ice:* **J J Baglino**, A Moure, X Fu

1956767 *The Lunar Capillary Absorption Spectrometer (LuCAS) for Isotopic and Abundance Analysis of Lunar Volatiles:* **I King**, F Sheeran, J Kriesel, A Fahrland, J C Stern

1907713 *The Visible-NIR albedo of seasonal CO_2 ice as observed by the Mars Climate Sounder:* **E David**, P O Hayne, O Aharonson

1970663 *Thermal and Radiolytic Reddening of Solid Ethane with Relevance to Charon's Mordor Macula:* **C Gimar**, U Raut, B D Teolis, J Kammer, S Protopapa, W M Grundy, D Qasim, B Mamo

1900358 *Unraveling Infrared Spectral Signatures of Ice-Cemented Ground and Water Ice Aerosols Over the Martian Polar Layered Deposits:* **W M Calvin**

1960841 *Volatile-Driven Collapsed Feature Evolution in the Medusae Fossae Formation:* **R Manogaran**, K Mandt, G Poh

1954956 *Earth-Based Monitoring of the Io Plasma Torus to complement Juno mission findings: a proposition for a community project:* **G Vinci**, M F Blanc, N André, A Caruso, J Rabia, M Devinat, M Zannoni, P Tortora, V Hue

1963717 *Evaluating for True Polar Wander on Ganymede from Split Comet Crater Chain Distribution:* **P Schenk**, W B McKinnon

1989135 *Exploring the Variability of Io and its Torus via Observations and Modelling -Towards an International Effort:* **M F Blanc**, N Andre, F Bagenal, S J Bolton

1913939 *HST+JWST - Juno Io Campaign 2024-2025: Connecting Volcanos to the Plasma Environment:* **K D Retherford**, F Bagenal, T M Becker, M H Burger, N Cunningham, V J Dols, L M Feaga, A R Hendrix, V Hue, K L Jessup, J Kammer, K de Kleer, E Lellouch, M A McGrath, Z Milby, P M Molyneux, E G Nerney, PhD, J D Nichols, L Roth, J Saur, C Schmidt, H T Smith, J R Spencer, S Trumbo, M A Velez, S Brueshaber, S Mendenhall, R Gladstone, T K Greathouse, T Momary, G Orton, A Mura, J Mukherjee, S Ybarra, U Salman

1866157 *Impact-induced contamination of Ganymede's deep ice shell:* **Y Y Phua**, D J Stevenson

1978301 *Improved Constraints on Icy-Satellite Shell Structure Through Joint Retrieval of Microwave Radiometry and Radar Sounding Measurements:* **I Fu**, A Ermakov, N S Wolfenbarger, R Akiba, Z Zhang, D M Schroeder, S J Bolton, S Levin

1889457 *Juno Microwave Radiometer Observations into the Subsurface of the Ice Shell of Ganymede:* **S J Bolton**, Z Zhang, S T Brown, S Levin, A Ermakov, R Akiba, J I Lunine, K P Hand, J T Keane, S Misra, D J Stevenson, M A Siegler, W B McKinnon, P Hartogh

1915889 *Juno Microwave Radiometer Observations of Europa's Sub-Surface Ice:* **S Levin**, Z Zhang, S J Bolton, S T Brown, A Ermakov, J Feng, K P Hand, S Misra, M A Siegler, D J Stevenson, W B McKinnon, R Akiba

1902474 *Juno Observations of Particle and Plasma Wave Dynamics Along Jupiter - Galilean Moons Flux Tubes:* **Q Ma**, L Le, W Li, X Shen

1959709 *Juno Radio Science Observations of the Galilean Moons and Benefits to Europa Clipper:* **D Buccino**, R S Park, P Tortora, P Withers, M Parisi, P H Phipps

1866415 *Juno rules out a shallow magma ocean at Io:* **F Nimmo**, R S Park, R Jacobson, L Gomez Casajus, A Ermakov, J T Keane, W B McKinnon, D J Stevenson, R Akiba, B Idini, D Buccino, A Magnanini, M Parisi, P Tortora, M Zannoni, A Mura, D Durante, L Iess, J E P Connerney, S Levin, S J Bolton

1850396 *JWST Observes Europa's Evolving Surface Composition:* **R J Cartwright**, C Hibbitts, B Holler, U Raut, T A Nordheim, M Neveu, S Protopapa, C Glein, E J Leonard, L Roth, C Beddingfield, G Villanueva

1970761 *Laboratory Measurements of the Microwave Absorption and Refraction of Ices Analogous to those on the Surfaces of Europa and Ganymede:* **P G Steffes**, A Akins, S Levin, S J Bolton

1902435 *Mapping Microwave Thermal Emission from Io's Volcanic Units:* **R Tam**, S T Brown, S J Bolton, S Levin, Z Zhang, A Mura, V Adumitroaie, A Ermakov

1921945 *Multi-species physical chemistry simulations of the Juno PJ57 and PJ58 flybys of Io:* **V J Dols**, F Bagenal

1900235 *Non-Maxwellian, anisotropic electron distributions at Europa:* **S Ellis**, J R Szalay, F Allegrini, G Livadiotis, S Carberry Mogan, D J McComas, T Oberg, R W Ebert

2003816 *Optics Throughput Loss of Junocam in the Jovian Radiation Environment:* **M A Ravine**, M A Caplinger, C J Hansen, S J Bolton

1848425 *Reconstructing Europa's atmosphere from the Juno PJ45 flyby:* **S Carberry Mogan**, A R Poppe, L Liuzzo, J R Szalay

1902758 *Sources, transport, and loss of pickup ions at Ganymede:* **T Oberg**, J R Szalay, F Allegrini, R W Ebert, S Ellis, D J McComas, S Carberry Mogan, A Pontoni, P W Valek

1902418 *Sub-surface Heat Anomalies on Io Observed by the Juno Microwave Radiometer:* **S T Brown**, S J Bolton, S Levin, A Ermakov, Z Zhang, M A Siegler, V Adumitroaie

1874922 *Sulfur Degassing on Io Constrains its Volcanic Processes and Redox Evolution:* **L Bellino**, C Sun

1926726 *Surface changes and small-scale processing on Io:* **C B Phillips**, E Bridges

1983378 *Synchronized Eruptions on Io: Evidence of Interconnected Subsurface Magma Reservoir:* **A Mura**, R M C Lopes, S J Bolton, A Ermakov, J T Keane, F Tosi, F Zambon, R Sordini, J Radebaugh, J A Rathbun, W B McKinnon, S J Goossens, M Paris, G Piccioni, C Plainaki, G Sindoni

1863474 *The Impacts of Galilean Moons on Whistler-mode Waves and Energetic Electrons in Jupiter's Magnetosphere:* **Q Ma**, W Li, X Shen, M Qin, L Le

1961815 *Understanding and Maximizing the Scientific Utility of JunoCam Images at Europa:* **L E Sacks**, E J Leonard, C B Phillips, E Lesage, A Dejoie

1914733 *Using Juno MWR Observations to Inform Radar Sounding Investigations of Icy Moons by Europa Clipper and JUICE:* **N S Wolfenbarger**, A Broome, D M Schroeder, A Ermakov, S J Bolton, D D Blankenship

249587
Laboratory Experiments to Inform the Dragonfly Mission to Titan

Conveners: **Morgan Cable**, Jet Propulsion Laboratory, California Institute of Technology; **Xinting Yu**, University of California Santa Cruz; **Robert Hodyss**, Jet Propulsion Laboratory; **Tuan Vu**, Jet Propulsion Laboratory

1870033 *Elastic wave velocities measurements of Titan's organic analog materials: Implication for NASA Dragonfly Seismic Exploration:* **E Hirai**, Y Higo, S Tsutsui, Y Sekine, T Tsuji, T Kawamura, K Onodera, S Tanaka, Y Yamamoto, S Hasegawa, R D Lorenz

249660
Machine Learning and Data Science Methods for Planetary Science *(joint with EP, SY, SH, SM)*

Conveners: **Ramanakumar Sankar**, University of Minnesota Twin Cities; **Abigail Azari**, University of Michigan Ann Arbor; **Hannah Kerner**, University of Maryland College Park; **Lior Rubanenko**, University of California Los Angeles; **Ramanakumar Sankar**, University of Minnesota Twin Cities

1955686 *Automated Mapping of Wrinkle Ridge Faults on Venus using Machine Learning:* **E Chou**, L Hernandez, Z Hasnain, S Smrekar, L Thuya, J House, S Nakaya, S Mendoza

1887333 *Black Hole Detection Through Gravitational Microlensing:* **L Friedman**, J Sanchez, Z Kramer, O Vanicor, R Ladha, K Srinivas, R Ravula, A Kazmierczak

1977033 *Can Earth's AI Predict Martian Weather? A Foundation Model Perspective:* **J Li**, M Carroll, G Villanueva, S D Guzewich

2001585 *Characterizing the Color and Structure of Jupiter's Clouds and Aerosols with Deep Learning:* **E Dahl**, R Sankar, B Bucher, A Singh, S Shah, G Eichstädt, M Wong, G Georgakis

1991843 *Data-Driven Modeling of the Martian Induced Magnetosphere Using Physics-Informed Neural Networks:* **J Gao**, C Dong, L Wang, Y Qin

1899661 *Deep Learning to Assess the Effective Resolution of LROC NAC DTMs:* **S Nystrom**, M Manheim, M Henriksen, M S Robinson

1880520 *Deep Reinforcement Learning for Rapid Spacecraft Science Operations Scheduling to Maximize Science Return:* **A Zhang**, L Waldrop, T Scott

1995331 *It's Raining on Titan! Can Dragonfly's Seismometer Detect Active River Transport?:* **A Bryant**, S Birch, M P Panning, A J Evans

2000954 *Sticking Together: Turbulent Flocculation of Tholins to Create Saltatable Dune Sand on Titan:* **A Husic**, X Yu, B Martinez, R Vega, C Cordts, E White, E Patrick, R Blase, S Birch, M G A Lapotre

1962659 *The Buried Truth About Titan's Organics: Impacts, Resurfacing, and Titan's Organic Inventory:* **J Hedgepeth**, B Schmidt

1960896 *The Role of Hydrocarbon Moisture on Titan's Organic Sands: Effects on Adhesion, Sediment Transport, and Dune Formation:* **S Port**, K Dobiyanski, X Yu, R Blase, E Patrick, J Gomez

1888898 *Derivation of dust optical depth from images taken by a Mars rover using a radiative transfer model and deep learning:* **I Kashimura**, T Kuroda, T Sato, H Iwabuchi, N Terada

1869405 *Detection of Pitted Mounds on Mars (Isidis Planitia) Using Faster R-CNN:* **P Batubo**, G Morra, D Oppo, C H Okubo, C M Dundas

1929889 *Downstream Science Applications and Benchmark Development for Lunar Science Foundation Models:* **A Annex**, M K Barker, Z Morse, V Viswanathan, S Roy, D Szwarcman, V Gaur, G Nyirjesy, A Kumar, R Slank, P Fraccaro, H Patil, C Watson, J Bernabe-Moreno, R Ramachandran

1876650 *Efficient Content-Based Image Retrieval with User Feedback for Mars Geological Studies through Vision Transformer:* **J Fang**, W Luo

2004528 *Efficient Uncertainty Quantification for Iterative Retrieval of Exospheric Density:* **E Widloski**, L Waldrop

1976421 *Enhanced Detection of Martian Dust Devils from Rover Images using Machine Learning:* **K Hatfield**, C A Nixon, J Santerre

1945821 *Enhancing Mission Operations and Science Return with Machine Learning:* **V T Bickel**

1882971 *Exploring Deep Learning Solutions for Photometric Calibration of JunoCam and Enhanced Navigation for Mars Science Helicopter:* **G Georgakis**

1965844 *From Tiles to Tectonics: Stitching ML-Segmented Faults into a Global Venus Fault Map:* **L Thuya**, L Hernandez, J House, Z Hasnain, S Mendoza, E Chou, S E Smrekar

1982723 *Grain-Scale Morphometrics of Martian Sedimentary Deposits via Neural Network Segmentation of Rover Imagery:* **A Hayes**, A Koeppel, E Rogers, M Krishna, S Gandhi

1975721 *Lava Flow Composition Discriminant Analysis using Training Data Sets on Earth and its Potential for Classification of Lava Flows on Planetary Bodies:* **L McQueen**, P N Ranasinghage, P R Kelso, N Gordon

1936275 *Learning the mechanical behavior of Martian Regolith via generative physical AI:* **X Tang**, J Qiao, S Xu, F Gao

1962563 *Mapping Wrinkle Ridges on Venus with Machine Learning: Training Data Integrity and Model Evaluation:* **S Mendoza**, S E Smrekar, Z Hasnain, S Nakaya, E Chou, L Thuya

252348
Modeling Approaches for the Climate of Mars

Conveners: **Melinda Kahre**, NASA Ames Research Center; **Victoria Hartwick**, Southwest Research Institute; **Courtney Batterson**, Bay Area Environmental Research Institute Moffett Field

1965028 *Advancements in Vertically Extending the NASA Ames Mars Global Climate Model:* **A S Brecht**, C E Harman Jr, M A Kahre, R A Urata, R J Wilson, C M Batterson, MS, L Gkouvelis, A Kling

1856528 *Discrepancies in the Observed Atmospheric Densities: MAVEN, Mars-GRAM, and the Ghost Peak:* **R Hanson**, S Curry, S Demcak, M Pilinski

1879029 *Exploring the Ice-House Transition on Ancient Mars with ROCKE-3D:* **O Clarkson**

1914977 *Paving the Way Toward a Real-Time Weather Forecasting Capability for Mars:* **T Fauchez**, O Reale, G Villanueva, S D Guzewich, S J Greybush, S Faggi, D Cremons, A S J Khayat, M D Smith, M A Kahre, H Yu, S A Braun, M Ganeshan, G Sarid, P R Colarco, G Gronoff

249564
Planetary analog field work to support and enable crewed and robotic exploration of our Solar System *(joint with B, EP, V)*

Conveners: **M Alexandra Matiella Novak**, JHU Applied Physics Laboratory; **Emileigh Shoemaker**, NASA Goddard Space Flight Center; **Lizeth Magana**, Johns Hopkins University Applied Physics Laboratory

1902644 *A Mobile Seismic Platform at the NASA Marshall Lunar Regolith Terrain Field:* **J M Lorenzo**, K Hayashi, M Zanetti, P M Bremner, H Haviland, G P Tsoflias, S Karunatillake

1939981 *Mars-Bench: A Benchmark for Evaluating Foundation Models for Mars Science Tasks:* **M Purohit**, B Gajera, V Malaviya, I Mehta, K Kasodekar, J B Adler, S Lu, U Rebbapragada, H R Kerner

1995954 *Semi-Automated Fragmentation Modeling for Jovian Impacts:* **K Davis**, R Sankar, C J Palotai

1903426 *Unifying Pyrolysis-Gas Chromatography-Mass Spectrometry Data for Agnostic Biosignature Detection with Peak Alignment and Vector Embeddings:* **M Walters**, E Dobberfuhl, A Prabhu, G D Cody, G Hystad, H J Cleaves II, R Hazen, M L Wong

1932667 *Using Machine Learning to Determine Asteroid Mineralogies:* **T Burbine**, S Saha, T Parida, M D Dyar

1897627 *Radiative Impact and Transport of Martian Aerosols During Regional Dust Storms:* **H E Gillespie**, A Kleinboehl, C Lee, L Steele

1992286 *ROCKE-3D Exotic Ices Snow Model for Improved Treatment of Martian Cryosphere:* **I D Aleinov**, O Clarkson, D M Glaser, S D Guzewich, J P Perlwitz, K Tsigaridis, M Way, E T Wolf

1847754 *Simulating Mars Atmospheric With a Global Variable-Resolution Model Model Description and Impacts of Mesh Refinement:* **Y Zhao**, C Zhao, L Li, J Feng, J Gu

1854469 *Simulation of the Aerosol and Water Ice Cloud Formation from Meteoric Metals in the Martian Mesosphere:* **R Sato**, T Kuroda, Y Nakamura, S Koyama, H Karyu, J M C Plane, N Terada

1975354 *The Longitudinally-Varying Nature of Mars' Hadley Circulation Revealed by Trajectories of Air Parcel Motions:* **A F C Bridger**, M A Kahre, C M Batterson, MS

1925738 *Upcoming Release of Early Mars Physics for the NASA Ames Mars Global Climate Model:* **K Steakley**, M A Kahre, R A Urata, H V L, C Batterson, R J Wilson

1896719 *ARRAKIS: Assessing Regional Reflectors of Astrobiology in Kobuk Dunes for Interplanetary Science.:* **C L Dinwiddie**, D E Stillman, E Oladeji, J Radebaugh, E Gosselin, S Kantner, E A Atekwana

1968384 *Characterizing Diagenesis on Mars via Clay Mineralogy:* **D M Davis**, M Thorpe, A McAdam, J Cuadros, A López-Quirós

1878643 *Characterizing the Corona lava tube (Lanzarote, Canary Islands) through magnetic methods: Implications for planetary cavity detection:* **J Martin de Blas**, Y M Martos, J R Espley, S Scheidt, D Sheppard, J A Richardson, J E P Connerney

1887630 *Enhanced Seismic Backscattering for Lava Tube Detection:* **J Wang**, N C Schmerr, N McCall, S Kruse, V Lekic, P Whelley, J Giles, L Wike, J D West, R C Porter, M E Banks, J Coonan, N Deykes, S Shahid, Z Vig, M Zanetti

2001015 *Exploring Sedimentary Rocks from Iceland as an Analog for Ancient Environments on Mars.:* **M Thorpe**, E B Rampe, A Silva, R roc1@stmarys-CAedu, A Baldridge, C Achilles

1865864 *GEODES Field Expeditions to Geophysical Analogs for Planetary Exploration:* **N C Schmerr**, J A Richardson, P Whelley, R R Ghent, M A Siegler, N McCall, M L Wasser, C Barry

1978886 *Ground-Penetrating Radar Observations of Shallow Subsurface Ice for Planetary Exploration and ISRU at Hekla Volcano, Southwest Iceland:* **A M Bramson**, E Shoemaker Thackston, R McGlasson, D M H Baker, M Henderson

252837
Planetary Atmospheric, Surface, and Interior Science Using Spacecraft Radio Links *(joint with A, G)*

Conveners: **Sami Asmar**, Jet Propulsion Laboratory; **Tatiana Bocanegra-Bahamon**, NASA Jet Propulsion Laboratory, California Institute of Technology

1848014 *Amplitude Scintillations observed in Radio Occultation Measurements at Venus:* **J Oschlisniok**, S Tellmann, M Pätzold, B Häusler, C Dumoulin, P Rosenblatt

248420
Planetary geology from the synthesis of compositional and geophysical observations
(cosponsored by EGU: European Geosciences Union,GSA: Geological Society of America) *(joint with EP, MR, NS, V)*

Conveners: **Suniti Karunatillake**, Louisiana State University; **Alain Plattner**, California State University Fresno; **Juan Lorenzo**, Louisiana State University; **Katherine Mesick**, Los Alamos National Laboratory; **Carlos Gary Bicas**, Louisiana State University

1847605 *Assessing the Feasibility of Fiber-Optic Sensing for Lunar and Planetary Seismic Monitoring: Observations, Modeling, and Laboratory Experiments:* **Q Zhai**, I Stubailo, G Glesener, E Biondi, A L Husker, Z Zhan

1898672 *Insight on the Emplacement of Lunar Silicic Lavas from Textures and Morphology of a Terrestrial Analog at Wildcat Hills, UT:* **B B Carr**, K A Bennett, A Gullikson, K L Donaldson Hanna, C S Edwards, J J Hagerty, T Felger, C W Hamilton, D Chapline, T Bourikas, C De Anda, L Kendzierski

1862944 *Planetary Drill Automation Tests at Analog Sites:* **B J Glass**, S Boelter, C Fortuin, T Stucky, C Stoker

1853350 *Safety and Collaboration in Planetary Analog Field Expeditions:* **P Whelley**, J A Richardson, C Barry, T G Graff

1883066 *Teri Sands of Southern India: A Multi-Analytical Assessment of Their Potential as an Analog for Martian Regolith:* **M Agnes**, S KS, A Ghatak

1953496 *The Morphology and Chemical Alteration of Planetary Analog Vents, Fagradalsfjall Iceland:* **P Whelley**, J A Richardson, S Sutton, S Scheidt, M A Matiella Novak, M Thorpe

1922503 *An Empirical Model of Jovian Radio Emission from 8 Years of Parker Solar Probe:* **E Wille**, Z Li, S D Bale

1981686 *Neutral Atmospheric and Ring Radio Occultation Experiments in Giant Planets:* **P Vergados**, K N Wang, A Akins, C O Ao, T M Bocanegra-Bahamon, V Afigbo, M M Hedman, R A Preston, S Asmar, J Lazio

2003318 *Processing and Analysis of Crosslink Radio Occultation Data at Mars:* **M Hahn**, M Paetzold, T Andert, S Tellmann, K Peter, J Oschlisniok

1979233 *State of Knowledge of Saturn System from Cassini Radio Science for Future Mission Proposals:* **S W Asmar**, P Vergados, M M Hedman, V Afigbo, T Imamura, H Yano

1889723 *Atypical Volcanism in the Mare Australe Region of the Moon: Insights From Mineralogy Using M^3 Onboard Chandrayaan -1:* **N Panwar**, T Kapadia, S Bose, N Srivastava

1951314 *Cassini RSS Bistatic Radar Observations of Titan's Solid Surface: progress update and most recent results:* **V Poggiali**, G Brighi, A Hayes, D Lalich, M Mastrogiuseppe, M Zannoni, P Tortora

1985544 *Intense Chemical Weathering of Large-Scale Silicic Volcanic Deposits as a Window into Early Martian Crustal Evolution:* **B Ye**, J Michalski, R Hazen

1914829 *Modeling Clay Mineral Hydration and Amorphous Phase Abundances in Gale Crater, Mars:* **S Czarnecki**, C J Hardgrove, E B Rampe, P J Gasda

1865922 *Paleoseismic Activity in the Taurus-Littrow Valley on the Moon:* **N C Schmerr**, T R Watters

1894405 *Photometric Modeling of Mastcam-Z Observations at Van Zyl Overlook, Jezero Crater:* **B Margara**, J R Johnson, A Hayes, M T Lemmon, W M Grundy, J F Bell III, PhD

1848466 *The Farside Seismic Suite: What we hope to learn from a new seismic mission to the far side of the Moon:* **C Nunn**, M P Panning, S Kedar, N E Bowles, S B Calcutt, M Drilleau, B Fernando, R F Garcia, A C Horleston, T Kawamura, P H Lognonné, D Mimoun, W T Pike, S De Raucourt, R C Weber

248483
Planetary geothermal heat as a driver of geological evolution, a potential resource, and an ingredient in habitability *(joint with EP, NS)*

Conveners: **Carlos Gary Bicas**, Louisiana State University; **Michael Sori**, Purdue University; **Lujendra Ojha**, Rutgers University; **Suniti Karunatillake**, Louisiana State University

1929857 *Hydrothermal Potential of Olivine- and Pyroxene-Rich Crater Units in the Noachis–Western Hellas Transition Zone on Mars.:* **J Wray**, S Tuhi

258535
Planetary Impacts as a Fundamental Geophysical Process: Multidisciplinary Perspectives *(joint with DI, EP, MR, NH)*

Conveners: **Saverio Cambioni**, University of Arizona; **Hairuo Fu**, Brown University; **Miki Nakajima**, Caltech; **Jacob Kegerreis**, NASA Ames; **Katarina Miljkovic**, Curtin University; **Charles-Édouard Boukaré**, Brown University; **Amanda Alexander**, Southwest Research Institute; **Maylis Landeau**, Johns Hopkins University

1915124 *A revised model for pore closure in planetary crusts: implication and consequences for porosity preservation and heat transfer from the mantle to the surface.:* **C Huber**, U Das, E M Parmentier, D Florez

1936393 *Advancing Giant-Impact Hypothesis Testing: Integrating Impact Simulations with Pre-Impact Body Differentiation:* **H Fu**, C É Boukaré, M Nakajima

1986769 *Constraints on the Origin of Lunar Impact Ejecta:* **M Nakajima**, S Helhoski, J Gagne, D Trail, K A Cone

1894030 *Deducing Source Lithologies of the Australasian Tektites Using a Bayesian Unmixing Model:* **C Hasler**, J Carter, P Sanchez, A Fuentes, P R Renne

1894447 *Have We Found an Underwater Extraterrestrial Impact Tsunami Layer in The Indian Ocean?:* **F Sohail**, D H Abbott, A West, C Moore, M LeCompte, M Baalousha, M Alam

1935995 *Influence Of Equation Of State And Sound Speed In Impact Simulations Using Smoothed Particle Hydrodynamics:* **I Kim**, S An, B D So

2001957 *The geochemical context of geophysically derived nearside-farside Lunar mantle variations:* **N Frankenberg**, N Wagner, H C P Lau

1874722 *Juno Microwave Radiometer Observations of Heat Flows on Io, Europa, and Ganymede:* **A Ermakov**, Z Zhang, S T Brown, M A Siegler, P G Steffes, S Levin, S J Bolton

1991352 *Temperature-Dependent Thermal Properties of Planetary Materials:* **A G Whittington**, A M Hofmeister

1855343 *Warming From Above: Subsurface Reservoirs, Uncertainties, and Habitability Feedbacks Associated With First Steps In Mars Terraforming:* **E S Kite**, A Braude, A Dumitrescu

1918781 *Long-Term Viscoelastic Response of the Earth to the Chicxulub Impact:* **K Wang**, Y Hu, Z Wang, Y Luo, S Huang, Z Wang, J Chen, H An

1915052 *Mineralogical phase transitions and mechanical property evolution induced by planetary impacts:* **J Qiao**, Y Zhang, X Tang, X Hua

2001045 *Origin of Pedestal Craters in the Medusae Fossae Formation, Mars:* **J Rice**

1964423 *Rapidly Accreting the Moon from an Extended Post-Impact Debris Disk:* **B G Downey**, R M Canup

1887636 *Sn-Coated Marine Microfossils and Ni-Rich Grains in Hudson River Core CD02-13- Is This Part of an Impact-Generated Tsunami Deposit?:* **D H Abbott**, A West, J L Rubenstone, C Moore, M LeCompte, M Baalousha, M Alam

1924823 *Stratigraphic Synthesis of the Outer Jezero Crater Rim, Mars:* **S Gwizd**, K Stack, A Jones, R Barnes, L S Crumpler, L E Mayhew, C Quantin Nataf, E M Ravanis, J I Simon, S Gupta, M Bramble, M Deahn, C C Bedford, B H N Horgan, A Klidaras, N Randazzo

1872420 *Superheated Core–Driven Dynamo Delays: A Constraint on Giant Impact Models ? :* **Y Zhou**, P Driscoll, C Reinhardt, Y Liu

1909898 *The heterogeneity of lunar mantle and space weathering: evidence from triple oxygen isotope of CE-5 lunar soil:* **M Li**, H Ma, Y Peng

1858611 *The Length of Martian Crater Rays and Their Relation to Lunar Cold Spots:* **T Erwin**, B C Johnson, A V Johnson, D Minton

1977683 *The Role of Magma Mixing and Fractional Crystallization in Mantle-Crust Differentiation of the Caloris Basin in Mercury:* **H Hitchcock**, A Boujibar, A Pommier, S Lambart, L A Groat

248977

Planetary Magnetism *(joint with DI, GP, SM)*

Conveners: **Rachel Maxwell**, Purdue University; **Sarah Steele**, Harvard University; **Douglas Hemingway**, Carnegie Institution for Science Washington; **Isaac Narrett**, Massachusetts Institute of Technology; **Isaac Narrett**, Massachusetts Institute of Technology

1870607 *A systematic exploration of nested dynamos:* **P Wulff**, H Cao, J M Aurnou

1945148 *Applying Scaling Estimates for Magnetic Fields in Rocky Exoplanets and Implications for Planetary Surface Habitability:* **R Hart**

1861736 *Arecibo Monitoring Campaign of the Putative Exoplanet-hosting Brown Dwarf TVLM 513-46546:* **M Route**, A Wolszczan

1880335 *Effect of rotation of the Moon on magnetic anomalies antipodal to impact basins:* **S Wakita**, B C Johnson

1927244 *Evidence for Crustal Magnetic Fields at the Blue Ghost Lander:* **R E Maxwell, PhD**, J R Espley, C Johnson, I Garrick-Bethell, R E Grimm, G Delory, J Gruesbeck, S K Howard, C R Neal, M E Purucker, F Simpson, D E Stillman

1999162 *Firefly Blue Ghost Mission 1 Crustal Magnetic Field Plasma Interaction Analysis:* **H Haviland**, S Fatemi, J S Halekas, A R Poppe, L L Hood

1947014 *Formation Environments of C-type Asteroids: Paleomagnetic Insights from Transiently Heated Meteorites:* **C Harrison**, J Bryson

1916834 *From Bulk Rock Magnetism to Individual Inclusions: A Detailed Magnetic Characterization of Refractory Inclusions in Chondrites for Paleomagnetic Analysis:* **K E Bristol**, C Borlina, J M Feinberg

1875330 *Geometric Properties of the Magnetic Field Outside a Magnetized Rectangular Prism:* **D Hemingway**

1956625 *Investigating the Role of Lightning in Remanent Magnetization on the Surface of Mars:* **B Petruccelli**, C Borlina, M Nunes, R I Trindade

1954922 *The Rustic Canyon Crater on Mt Sharp in Gale Crater, Mars: A Degraded Probable Secondary Impact Structure:* **J A Grant III**, S A Wilson, A Cowart, C M Weitz, M Hoffman, T Kubacki, N Moore, C Juarez, F J Calef III, L M Thompson

1972666 *Linear arrays of magnetic inclusions in mesosiderites: injection of impactor metal and potential as parent body paleomagnetic recorders:* **Y Dres**, R D Cottrell, J Tarduno

1923813 *Magnetic Mineralogies of Reduced Bodies: Insights from Magnetic Imagery of Aubrites and Millbillillie:* **S Steele**, R R Fu

2005276 *Modeling Solar Wind-Driven Hydration on Asteroid (16) Psyche: Magnetized and Unmagnetized Cases:* **C Dong**, Z Huang, L Wang, H Zhou, L S Morrissey, S Jarmak

1906737 *New insights into crustal magnetism at some of the Moon's oldest geologic features:* **H Park**, I Garrick-Bethell, H Jin

1976292 *No Record of Impact-Generated Magnetic Fields in a Young Apollo 17 Impact Glass:* **E A Lima**, B P Weiss, S Mao, H H Schmitt, R R Fu, C McDonald, K V Hodges

1970046 *Paleomagnetic Investigation of Shocked Lunar Basaltic Meteorites from the LaPaz Icefield and the Miller Range:* **J Mells**, S Tikoo, S M Elardo, R G Hatfield

1928959 *Possibility of Lunar Crustal Magmatism Producing Strong Crustal Magnetism:* **Y Liang**, S Tikoo, M J Krawczynski

1953237 *Potential Evidence of a Solar Nebula Magnetic Field in Samples Returned From Bennu:* **C Borlina**, K E Bristol, R Doctor, J M Feinberg

1891026 *Refined Interior Properties of the Main Group Pallasite and IIE Iron Meteorite Parent Bodies from Paleomagnetism:* **H Sanderson**, J Bryson, C I O Nichols

1931981 *Regional Constraints on Magnetic Source Depth for Terra Cimmeria-Sirenum, Mars:* **R Soltanabadi**, A Plattner, C Johnson, L Ojha, G Golabek

1976858 *The Role of Magnetic Mineralogy in Lunar Crustal Magnetism:* **S Tikoo**

2000199 *Young lunar glass and the evidence for impact magnetizations:* **R D Cottrell**, Y Dres, S K R, T Ollis, N Vamivakas, J Tarduno

249507
Planetary Ring, Meteoroid, and Dust Populations and Effects *(joint with SA, SH, SM)*

Conveners: **Camille Yoke**, University of Colorado Boulder; **Richard Jerousek**, University of Central Florida; **Kenneth Obenberger**, Air Force Research Laboratory; **Mitchell Shen**, Princeton University; **Camille Yoke**, University of Colorado Boulder

1972135 *Dust populations within the innermost heliosphere from Parker Solar Probe observations:* **G D Muro**

1864836 *Active Asteroids as a Possible Source of Meteoroid Streams Detected In-Situ in the Near-Sun Interplanetary Dust Cloud:* **D Malaspina**, J R Szalay, A Mazurkiewicz, D Lee-bellows, M E Landis

1925571 *Applying Reflecting Boundary Conditions to N-Body Simulations of Saturn's B Ring: How to Generate the Opaque Regions and Implications for Particle Density:* **E Faulkner**, J E Colwell, R Jerousek

1886847 *Beyond the Initial Plume: Modeling the Long-Term Fate of DART Ejecta and Comparison with Extended HST Monitoring:* **L Li**, Y Zhang, S Raducan, C Li, M Jutzi

1932392 *Dust mass density of Enceladus plume constrained with in situ impact plasma measurements:* **S Hsu**, Y Dong

2005312 *Electric field antenna signals induced by dust impacts on MAVEN revealing dusty environment around Mars:* **S Ye**

1980137 *Identifying Dust Populations in the STEREO WAVES Instrument Data:* **S Thomas**, A Smith, Z Sternovsky, D Malaspina

1877773 *Is Mars the primary source of interplanetary dust particles?:* **J L Joergensen**, P S S Jorgensen, M Benn, F E Jørgensen, T Denver, A C Andersen, J E P Connerney, S J Bolton

1934376 *Mass Spectral Analysis Of Water Ice Targets Impacted By Hypervelocity Dust:* **C Yoke**, T Munsat, J Fontanese, J Bouwman, S Kempf

1921124 *New Horizons' Student Dust Counter: Measurements Beyond 61 AU Heliocentric Distance:* **B Schulze**, A Doner, M Horanyi, P C Brandt, W M Grundy, J W Parker, A R Poppe, K N Singer, S A Stern, A Verbiscer

1962653 *Probing Short Timescale Variability in Saturn's Rings using Cassini UVIS Stellar Occultations of Binary and Triple Star Systems:* **T M Becker**, R Jerousek, S Jarmak, J E Colwell, S Eckert

1971035 *Saturn's E Ring Revisited:* **S Kempf**, F Postberg, J Schmidt, C Yoke, M Seaton, R Srama

1901759 *Saturn's F Ring is Confined by Prometheus and Negative Diffusion:* **L W Esposito**, A Al Rebdi

1952313 *Stellar Occultation Diffraction as a Probe of Edge Structure in Saturn's Narrow, Eccentric Ringlets:* **S Eckert**, J E Colwell, R Jerousek, T M Becker, L W Esposito

1916465 *The Dust Environment Near Jupiter:* **M Shen**, W S Kurth, D R Wilkinson, T F Averkamp, S J Bolton, J Faden, C Piker, J R Szalay

1918499 *The dynamics of submicrometric dust grains in Mercury's exosphere:* **A Flandes**, H Krüger

251142
Processes in the present-day Atmosphere of Mars *(joint with A, AE, SA, SM)*

Conveners: **Armin Kleinboehl**, NASA Jet Propulsion Laboratory; **Majd Mayyasi**, Boston University; **Joseph Battalio**, Yale University; **Yuni Lee**, University of Michigan

1923456 *1D Modeling of the Regolith-Atmosphere Water Exchange on Mars:* **P K Patel**, L K Tamppari, M de la Torre Juarez, G Martinez, T H McConnochie, J Pla-García, F Gómez

1988517 *A Decade of MAVEN Proton Auroral Observations at Mars: Evaluating the Influence of Seasonal and Solar Cycle Variability:* **A C G Hughes**, G A DiBraccio, N M Schneider, M Chaffin, N Romanelli, J S Halekas, C O Lee, E Thiemann, J R Espley, J Gruesbeck, M Mayyasi, J Deighan, S Jain, S Gupta, S Curry

1863636 *A Distinct Material Isolation and Pole-to-Pole Teleconnection on Mars:* **C S Fan**, C Sun, Z Xie, PhD, Y Luo, L Gu, S Fan

1880147 *A GCM Assessment of Wind Energy Potential for Future Human Missions to Mars:* **V Hartwick**, O B Toon, J K Lundquist, M A Kahre, O Pierpaoli

1992422 *Advances in Mars 2020 MEDA Wind Data Retrieval and Implications for Mars Exploration:* **G Martinez**, J A Rodriguez-Manfredi, J Gomez-Elvira, R Hueso, M Marin, S Navarro Lopez, J Pla-García, C E Newman, A Munguira, J Torres, R Urqui

1888510 *Assimilating MCS Brightness Temperatures into the Ensemble Mars Atmosphere Reanalysis System (EMARS):* **R McMichael**, S J Greybush, R J Wilson, H E Gillespie, A Kleinboehl, A Vendrame

1965129 *Assimilation of Temperature Retrievals from the EMirates InfraRed Spectrometer (EMIRS) in the Ensemble Mars Atmosphere Reanalysis System (EMARS):* **A Vendrame**, S J Greybush, R McMichael

1891906 *Characterization of Aerosols from Observations by the Planetary Fourier Spectrometer (PFS) aboard the Mars Express (MEx) Mission and Images by the Mars Color Imager (MARCI) aboard the Mars Reconnaissance Orbiter (MRO) in the Tharsis Region During the Dusty Season:* **P Wolkenberg**, J Hernandez-Bernal, M Giuranna

1859508 *Dust Activity on Mars:* **D Singh**, K Misra

1952958 *Evaluating the Impact of UV-Activated Perchlorate as a Fast Methane Destruction Mechanism for Martian Methane:* **E Dong**, J E Moores, G Bischof, M Gordon, M E Walters, G Martinez, C Neish

1984456 *Expanding the Science Return of the Mars Climate Sounder: An Updated Retrieval Framework for Atmospheric CO2 Ice in the Martian Polar Regions:* **R Stevens**, P O Hayne, A Kleinboehl, D M Kass

1977829 *Global modeling of Mars Carbon Escape:* **D J Pawlowski**, Y Lee, D Lo, V Tenishev

1880394 *Harmonic Analysis of the Martian Nitric Oxide Nightglow:* **E M Royer**, S Jain, M H Stevens, N M Schneider, J Deighan

1920457 *High-Frequency Migrating Thermal Tides in the Martian Atmosphere:* **R J Wilson**, A Kumar, S England

1990087 *Hot Carbon Corona at Mars: Structure, Escape, and Variability from Coupled 3D Models:* **Y Lee**, D Lo, D J Pawlowski, V Tenishev, S W Bougher, M R Combi, M Gacesa

1921083 *Illuminating the Martian Nightside: A New Class of Noctilucent Cloud Revealed by MAVEN/IUVS Stellar Occultations and Nadir Imaging:* **S Schiller**, N M Schneider, S Gupta, S Jain, J Deighan, J Cessna, C Emery, A Braude

1861831 *In-flight Radiometric Calibration of the Emirates eXploration Imager (EXI) for the Emirates Mars Mission (``Hope'', EMM):* **R Shuping**, M J Wolff, A R Jones, C Fisher, C Jeppesen, N M Smith, M M Osterloo

1976678 *Interpreting Dynamics and Gravity Wave Signatures using M-GITM Simulations:* **S Gupta**, S Jain, S W Bougher

1988775 *Investigating the Baroclinic Annular Mode in the Martian Atmosphere Using the OpenMARS Reanalysis:* **Z Song**, L Wang, J M Battalio

1898978 *Joint observations of mesospheric clouds using MAVEN/IUVS stellar occultations and MRO/MCS limb observations of the Martian atmosphere:* **A Braude**, M Slipski, S Gupta, N M Schneider, A Kleinboehl, F Montmessin, S Jain, R V Yelle, J Deighan

1935967 *Latest Results from Sky Spectroscopy with the Perseverance and Curiosity Mars Rovers: Updates on Molecular Oxygen, Water Vapor, and Aerosol Properties and Vertical Distributions:* **T H McConnochie**, T Bertrand, A Stcherbinine, E W Knutsen, V Orlauskis, S VanBommel, D Lo, F Montmessin, T Fouchet, C Royer, S Maurice, R C Wiens, A Cousin, M T Lemmon, M J Wolff, M D Smith, A S J Khayat, M G Trainer, H B Franz, O Gasnault, J Lasue, N Lanza, S K Atreya, G Martinez, F Lefèvre, F Daerden, M P Zorzano

1958636 *Latitudinal Variations of Temperatures and Composition in the Martian Thermosphere Observed by EMM/EMUS and MAVEN/IUVS:* **S Jain**, J Deighan, J S Evans, F H Lootah, M Chaffin, S England, S Gupta, E Thiemann, N Alsaeed, N M Schneider

1932516 *Mars Climate Sounder – The Late-Afternoon Mission:* **A Kleinboehl**, M Slipski, S Piqueux, H E Gillespie, M M Schreier, J Lynn

1904531 *Mars Thermospheric Polar Warming at Aphelion: Dynamical Processes Studied Using M-GITM:* **J Z Li**, S W Bougher, C Li, E Yiğit, PhD

1967428 *Martian South Pole Dust Activity using Observations, Reanalyses, and Modeling:* **C Campbell**, S D Guzewich, J M Battalio, S Robbins, C M Batterson, MS

1891492 *Non-Migrating Tides and Dust Response in Mars' Lower and Middle Atmosphere:* **A Kumar**, S England, R J Wilson, A S Brecht

1928138 *Orbit-Spin Coupling and the Triggering of Martian Global-Scale Dust Storms in 2001 and 2007:* **J H Shirley**

1957475 *Oxidation of Halite (NaCl) during Seasonal Dust Storms on Mars:* **W Salgado**, E Hirai, Y Sekine

1964957 *Periodic variations in the Martian upper atmosphere and ionosphere during dust storms: Insights into lower-upper atmospheric coupling on Mars:* **T Hara**, K Masunaga, N Terada, S Sakai, K Seki, K G Hanley, C M Fowler, J P McFadden, S Curry

1953433 *Periodicity of Mars's Northern Annular Mode May Help Explain Global Dust Storm Intermittency:* **J M Battalio**, J M Lora, S W Lubis, P Hassanzadeh

1970338 *Radiatively Coupled Equatorial Waves in Mars' Aphelion Cloud Belt: Wavenumber-Frequency Analysis in Mars GCM Simulations:* **M Mester**, R J Wilson, M A Kahre

1891102 *Reviewing Discrepancies Between Photochemical Models and Observations of Protonated Species in the Martian Ionosphere:* **L Cheng**, E Vigren, J Cui, S W Stone, M Benna

1980366 *Signatures of martian thermospheric water in D Lyman alpha emissions measured by MAVEN/IUVS:* **E M Cangi**, M H Stevens, M Chaffin, N M Schneider, J T Clarke, M Mayyasi, J Deighan, S Jain

1960535 *The Martian Aphelion Cloud Belt: Diurnally Varying Vertical Distributions:* **M A Kahre**, M J Wolff, R A Urata

1930069 *The Martian Global Dust Storm of 2007: Resolving the Inception and Growth Phases in High Spatial and Temporal Resolution with Updated Mars Climate Sounder Retrievals:* **J H Shirley**, A Kleinboehl, M Schreier, M de la Torre Juarez, J M Battalio

1911427 *The Perseverance Rover's Mastcam-Z Visible Aerosol Optical Depth Record:* **M T Lemmon**, M J Wolff, J F Bell III, PhD, A Hayes, J Maki

1859112 *Thermal Trends in the Martian Thermosphere:* **N B B Pickett**, P Withers, M Felici

248758
Radar Investigations of Planetary Surfaces and Subsurfaces

Conveners: **Sean Peters**, University of Colorado Boulder; **Indujaa Ganesh**, Georgia Institute of Technology; **Wes Patterson**, Johns Hopkins University Applied Physics Laboratory; **Kristian Chan**, JHU/APL

1969059 *REASON at Mars: Initial Performance Overview:* **L Desage**, D D Blankenship, K Chan, N S Wolfenbarger, G Steinbrügge, T L Ray, A P Freedman, Y Gim, J Plaut, E Chapin, R Akbar, H Figueroa, F Leader, I Seker, X Duan, B A Campbell, C Grima, D Buhl, G Ng, S D Kempf, A Moussessian, D A Young

1959975 *Addressing Phase Distortions in Orbital Radar Sounder Data for High-Resolution Wavefield Imaging:* **M R Perry**, F J Foss II, P C Sava

1903824 *Assessing the Effects of Altitude Variations on Radar Reflectometry to Characterize the Near-surface of Jovian Icy Moons: Insights from an Antarctic Terrestrial Analog:* **K Chan**, C Grima, L Desage, D A Young, D D Blankenship, W Patterson

1978943 *Bi-Static Radar measurements at Mars at UHF wavelengths .:* **H Svedhem**, D Nieuwenhuizen, A Cardesin-Moinelo, J Parrott, C Wilson, B L A Vermeersen

1859781 *Constraining the Temperature of Europa's Ice Shell through Radar Detection of Eutectic Interfaces:* **A Cheng**, D M Schroeder, N S Wolfenbarger

1964925 *Data Analysis from Field Tests of a newly developed Ultra-Wideband Ground-Penetrating Radar for Planetary Exploration using Rovers and Landers:* **D Plettemeier**, M Laabs, Y Lu, F Geissler, W S Benedix, A A Le Gall, E Brighi, V Ciarletti

1899961 *Feasibility Study of Passive Radar Sounding Using Saturnian Kilometric Radiation to Investigate Titan:* **J Williams**, S T Peters, G Alfonso, A Romero-Wolf

1981841 *Variability of the Tropical Martian Atmosphere – Data Analysis and Model Results:* **H Wang**, M I Richardson, A D Toigo

1962678 *Variation of Martian Photoelectron Flux During Regional Dust Storms Observed by MAVEN:* **M N Sakib**, E Yiğit, PhD, A Gann, E Thiemann

1979669 *Zonal wave analyses of Mars Climate Sounder temperature maps and their relation to the dust cycle:* **M de la Torre Juarez**, J M Battalio, J H Shirley, M M Schreier, A Kleinboehl

1960806 *High Frequency Radar Perspective of Putative Subglacial Liquid Water on Mars using Novel Spacecraft Maneuver:* **G A Morgan**, M Perry, B A Campbell, N E Putzig, J L Whitten, F Bernardini

1921055 *Investigation of Radar Bright Lava Flows in Elysium Planitia, Mars:* **M Stephenson**, C Grima, S P S Gulick

1929642 *New insights on the Planum Boreum basal unit extent and stratigraphy from 3D SHARAD analysis.:* **R Jacobo Bojorquez**, S Nerozzi, J W Holt

1928078 *PANTHER – Preliminary field demonstration of passive radar using HF Jovian radio bursts:* **T Kristinsson**, S T Peters, J Voigt, G Steinbrügge, C W Hamilton, S Diniega, J Williams, G Alfonso, A Romero-Wolf

1969389 *Probing Europa Ionosphere during Juice/Clipper joint operations with RIME / REASON bistatic measurement?:* **A Herique**, W W Kofman, C Grima, S Zine, Y Berquin, D D Blankenship, Y Rogez

1911187 *REASON at Mars: Implications for Europa:* **D A Young**, L Desage, K Chan, N S Wolfenbarger, G Steinbrügge, T L Ray, A P Freedman, X Duan, R Akbar, Y Gim, F Leader, J Plaut, E Chapin, B A Campbell, C Grima, H Figueroa, D Buhl, G Ng, S D Kempf, D M Schroeder, A Moussessian, D D Blankenship

1915937 *Studying megaflood deposits as Martian analogs using multisystem radar:* **M Daniel**, R Aguilar, O Hon, R Jacobo-Bojorquez, E Kim, G Gowman, C Meyer, R Maciel, M Tuohy, J Lesemann, T Liu, S Nerozzi, L Carter, J W Holt, V R Baker

1957978 *Twenty Years of Radar Sounding at Mars Informs Planning for New Missions:* **N E Putzig**, J Heldmann, G A Morgan, M Perry, F Bernardini

1905398 *Unveiling the Origins and Makeup of the Mars North Polar Basal Unit with Multiband Radar Analyses:* **S Nerozzi**, M Christoffersen, J W Holt

1924971 *Utilizing Delay-Doppler Processing Techniques to Discern Firn Structure Over Devon Ice Cap:* **H Jackson**, D A Young, K Chan, D D Blankenship

248744
Redox Frontiers: Energy Pathways for Life Across Planetary Systems *(joint with B, EP, PP)*

Conveners: **Adomas Valantinas**, Organization Not Listed; **Patrick Gasda**, Los Alamos National Laboratory; **Samuel Howell**, University of Hawaii at Manoa

1990965 *Green reduction spots in red sedimentary rocks of the Bright Angel formation, Jezero crater, Mars:* **A P Broz**, H Kalucha, D Flannery, A Jones, A Klidaras, H Manelski, B H N Horgan, M M Tice, J Hurowitz, M S Rice, J Parnell, S Larriva, S Connell, A F Vaughan, N Schmitz, K P Hand, Y Liu, A J Williams, E Cardarelli

1858471 *H_2 Production via Water-Rock Interaction on Earth and Beyond:* **N Park**, E Shock

1953995 *HabMars: A project focused on understanding habitability across the Noachian-to-Hesperian climate transition on Mars using Icelandic lake sediments as analogs.:* **R E Price**, V Alfonso, V Hamill, L M Barge, T D Glotch, R S Jakubek, D LaRowe, A C Schuerger, M Thorpe, A J Williams

247514
Small Solar System Bodies: Sample Returns, JWST, Ground-Based Astronomy, and More

Conveners: **Bryan Holler**, American Astronomical Society; **Julie Castillo**, Jet Propulsion Laboratory; **Franck Marchis**, SETI Institute

1969276 *Analysis of Nano-IR Spectra of Fine-Grained Rims and Matrix of Three Carbonaceous Chondrites: Cold Bokkeveld, Northwest Africa 12748 and Tagish Lake.:* **L Flores Andrade**, T D Glotch

1969072 *Assessing S-Type Asteroids: Can Mid-Infrared Spectra Complement the Mineralogical Information Derived from Near-Infrared Spectra?:* **J Crevier**, C Thomas, O Humes, M Hood, S Storms

1860264 *Can IR observations reveal the existence of extended sources of H_2O on comet 45P/ Honda–Mrkos–Pajdušáková during the 2017 apparition?:* **Y Shou**, M R Combi, B Bonev, V Tenishev

1912956 *Characterization of OH/H_2O on Near-Earth Asteroids:* **L McGraw**, C Thomas, A Rivkin, J Emery

1957632 *Color Evolution of Interstellar Comet 3I/ATLAS Using Observations from the Unistellar Network:* **A Graykowski**, F Marchis

1928461 *Constraining Water Production Evolution in the Third Interstellar Object 3I/ATLAS:* **Z Xing**, S Oset, J W Noonan, D Bodewits

1894509 *How Mineralogy Makes More-Oxidising or -Reducing Planetary Mantles:* **C Guimond**

1959204 *Microbial-Geological Coupling in Salt Diapirs:* **V Martinez**, B Brunner, A Couroux

1898735 *Serpentine and other Astrobiologically Relevant Materials Explored Recently by SuperCam on the Perseverance Rover:* **R C Wiens**, C Quantin Nataf, J Comellas, H Manelski, A Cousin, L E Mayhew, J I Simon, T Bosak, P Beck, A M Zastrow, E Dehouck, J A Manrique, G Lopez-Reyes, S K Sharma, Ph D, S Connell, E Clave, J Lasue, C C Bedford, J Hurowitz, M L Cable, A Broz, H Kalucha, B H N Horgan, K P Hand, K Uckert, N Randazzo, K Stack

1952791 *Temperature-Based Metabolic Behaviors by a Chemosynthetic Bacterium in Steady-State:* **A Manna**, Q Hua, R Wang-Polendo, K Bousses, J K E Choi, I M Perez-Rodriguez

1943735 *Constructing a 3D Thermophysical Model for (269) Justitia & (623) Chimaera Through the Multiphysics Software COMSOL v6.3:* **S Alhosani**, M Formisano

1979255 *Evolving Comae and Outburst Morphologies of Centaur 29P/Schwassmann-Wachmann 1: HST and Swift Observations Across a Range of Event Strengths:* **D Bodewits**, Z Xing, Y Moulane, S Oset, M S P Kelley, J Y Li, K Mandt, J W Noonan, S Protopapa, R Miles, M Womack, Q Ye

1869525 *Fireball Acoustics: A Curated, Open-access Dataset of Simultaneous Optical and Infrasound Detections of Regional Meteor Events:* **E Brown**, E A Silber, V Sawal, A Thompson, P Brown, T Little

1974055 *First Compositional Results from Lucy's Flyby of the C-Type Asteroid (52246) Donaldjohanson:* **S Protopapa**, A Simon, H Kaplan, J Emery, W M Grundy, J M Sunshine, C Howett, D Reuter, J R Spencer, K S Noll, S Marchi, H F Levison

1896763 *Investigating the Surface Properties of Small Solar System Bodies via Observations of Their Opposition Effect:* **A Verbiscer**, P Helfenstein, S Benecchi, A Sickafoose, J Lynn, H Worters

1950472 *JWST Observations of (3200) Phaethon: Understanding the Current Surface Composition:* **C Thomas**, A Madden-Watson, A Rivkin, I Wong, M Knight, S Marshall, C W Haberle, J P Emery, S N Milam, H B Hammel, R J Vervack Jr, E S Howell

1979126 *Nano-IR Analysis of Ryugu A0028 and First Look in the Near-IR Range at the Nanoscale:* **O Koren**, M Yesiltas, T D Glotch, Y Kebukawa

1944257 *New Hubble Space Telescope Reflectance Spectra of Amalthea and Thebe at UV-to-Visible Wavelengths:* **P M Molyneux**, T M Becker, J Kammer, K D Retherford

1997133 *Probing Asteroid Family Evolution Through Rotation and Shape Analysis:* **J Hanus**, J Durech

1970106 *Radar tomography of asteroid deep interior. JuRa / HERA to Didymos and the Radars to APOPHIS:* **A Herique**, D Plettemeier, M Haynes, P Michel, M Lazzarin, C A Raymond, W W Kofman, Y Rogez

1921523 *Solar System Science with the NSF-DOE Vera C. Rubin Observatory: Overview and Results:* **C Chandler**, J Kurlander, P Bernardinelli, M Jurić, S Eggl, D Singh, M E Schwamb, H Hsieh, I Sullivan, R L Jones, D Vavilov, M Holman, F Spoto, E Christensen, W Beebe, A Roodman, K T Lim, T Jenness, J Bosch, B Smart, E Bellm, S MacBride, S Greenstreet, A Heinze, M Rawls, C Slater, R Makadia, M Bannister, W C Fraser, Ž Ivezić, B Blum, T Lister, N H Samarasinha, A Connolly, G Daues, C Snodgrass, L A Young, M Gower, J B Kalmbach, L Dones, R Dorsey, J Forbes, C Fuentes, C Holt, L Inno, G Jones, M Knight, C Lintott, R Lupton, M J M Magbanua, R Malhotra, B Mueller, J Murtagh, N Pandey, W Reach, D Seligman, M Solontoi, G Szabö, E White, M Womack

248417
Space Environments of Unmagnetized or Weakly Magnetized Solar System Bodies and the Effects of Space Weather on These Systems

(joint with SH, SM)

Conveners: **Catherine Regan**, Centre for Planetary Sciences at UCL/Birkbeck; **Beatriz Sanchez-Cano**, University of Leicester; **Yingjuan Ma**, University of California Los Angeles; **Xiaohua Fang**, University of Colorado at Boulder

1977218 *A Complicated Relationship: Modeling Solar Wind Precipitation and Resulting Proton Aurora at Mars:* **T Flint**, M Chaffin, R Jolitz, Y Ma, W Sun

1963273 *Analysis of Large-Scale Disturbances in the Ion Tail of Comet C/2022 E3 (ZTF):* **A Wellbrock**, G Jones

1988699 *Applying Machine Learning to Explore Global Magnetic Field Distributions at Mars:* **A Hu**, X Fang, X Chu

1864079 *Dependence of Martian Proton Precipitation on IMF Orientation: Hybrid Simulations:* **H Du**, X D Wang, X Cao, B Ni

1981386 *Spectral Classification of Asteroid (623) Chimaera Using Visible and Near-Infrared Observations:* **M Alteneiji**, M Aldhaheri, H Almansoori, P O Hayne, H Harish, H A AlMazmi

1966657 *Spitzer Observations of the Koronis Asteroid Family: Probing Size-Dependent Surface Evolution:* **A Gustafsson**, C Thomas, D Trilling, N Erasmus, A Rivkin, J Stansberry

1900442 *Taxonomic Characterizations and Interpretations of Targets in the Emirates Mission to the Asteroid Belt:* **L Lee**, D Trilling, C Thomas, T Kareta, C S Edwards, C W Haberle, R Strauss, G van Belle

1879931 *The Densities of the Small Satellites of Pluto and Constraints on Formation:* **S Porter**, A Verbiscer

1875642 *The Lucy mission encounters main belt asteroid (52246) Donaldjohanson - First results:* **S Marchi**, H F Levison, K S Noll, J R Spencer, T Statler

1913512 *Foreshock Electron Impact Ionization Effect on the Amplitude of Pickup Proton-Generated Waves:* **C X Mazelle**, K Meziane, C L Simon Wedlund, C Bertucci, N Romanelli, C Zhang, J Fruchtman, J S Halekas, A M Hamza, D Mitchell, J R Espley, S Curry

1904789 *Global MHD Study of an Extreme ICME at Mars and Comparison with Multipoint Observations:* **Y Ma**, R J Lillis, C M Fowler, J S Halekas, S Xu, G Toth, Y D Jia, X Fang, A F Nagy, J G Luhmann, G A DiBraccio, D A Brain, S Curry

1893151 *High Resolution Hybrid Modelling of the Dayside Martian Plasma Environment:* **O Q Hamil**, S A Ledvina, T Cravens

2001221 *High-Resolution Mapping of the Near-Venus Induced Magnetic Field Using VEX Observations Under Varying IMF Conditions:* **M He**, J Vogt, E Dubinin, T Zhang, Z Rong

1895792 *Looking for Magnetosonic Waves at Mars: Statistical Characteristics and Occurrence Rates (Spatial & Temporal):* **S Salem**, C M Fowler, C C Chaston

1864460 *Mapping Energy Transfer From the Solar Wind to Mars' Atmosphere Using MAVEN Spacecraft Observations:* **C Hu**, C Regan, A Turner, C M Fowler

1848226 *MAVEN/NGIMS Observations of Metallic Fe^+ in the Martian Ionosphere:* **A R Poppe**, G Collinson, M Benna, S W Stone, J M C Plane, C M Fowler, S Xu

1850038 *Modeling the Detectability of Energetic Heliospheric Ions at Pluto During the New Horizons Flyby:* **R Ruch**, S Simon

1864598 *Observations of Counter-Streaming Ions in and around the Diamagnetic Cavity of Comet 67P:* **X Yun**, G Stenberg Wieser, H Nilsson, S Bergman, S Fu, B Ni

1869288 *Observations of Magnetic Pumping at Mars and Earth: Comparisons of Wave-Particle Interactions:* **C Regan**, C M Fowler, O V Agapitov, S A Ledvina

1848223 *Predicting the effects of coronal mass ejections on the lunar exosphere with in-situ observations:* **A R Poppe**, Q Nenon, P S Szabo, S Carberry Mogan, C O Lee

1910949 *Rapid localised variability in the Martian topside ionosphere as observed by Mars Express and MAVEN.:* **D Meggi**, B Sanchez-Cano, C M Fowler, M Lester, A Turner, R Tian, S Joyce, S Xu, X Fang, O Witasse, M Holmström

1916274 *Response of Thermosphere Densities at Mars During the 14 May 2024 Solar Flare Event from MAVEN NGIMS In-Situ Observations:* **A G Cramer**, E Thiemann, C Taddeo, P Withers, M Benna

1922552 *Rotational Influence on the Martian Magnetotail Current Sheet: A Multispecies MHD Study:* **N B Quartey**, M W Liemohn, Y Ma, W Sun

1862236 *Simulating Martian Nightside Electron Auroral Emission:* **M Marquette**, R J Lillis, J Y Chaufray, D J Pawlowski, Y Ma, L Soret

1891591 *Spatial and Temporal Variability in Mars' Upper Ionosphere Driven by the Solar Wind:* **S Ali**, C M Fowler

251635
Technological advances in icy world exploration
(joint with C)

Conveners: **Christine McCarthy**, Lamont-Doherty Earth Observatory, Columbia University; **Wes Patterson**, Johns Hopkins University Applied Physics Laboratory; **Samuel Howell**, University of Hawaii at Manoa; **Benjamin Fernando**, University of Oxford

1987904 *Developing a Thermally Isolated Vacuum Chamber to Improve Cryobot Efficiency for Ocean Worlds:* **A Brumfield**, A Dean, B Kerridge, S Drezek, E Lucas, A Langagne, P do Vale Pereira, D Kirk

1976508 *Statistical Structure of the Martian Ionosphere–Magnetosheath Interface from MAVEN Observations:* **S Shuvalov**, L Andersson, S R Shaver

1945201 *The generation, propagation, and impact of magnetosonic waves in the Mars magnetosphere: analysis of global hybrid simulations:* **S Cupp**, C M Fowler, S A Ledvina

1917452 *The Impact of Interplanetary Magnetic Field (IMF) Orientation on the Mars Dayside Plasma Environment; A joint MEX and MAVEN Case Study:* **A Turner**, C M Fowler, B Sanchez-Cano, D Meggi

1924787 *Timing of the slippage of the interplanetary magnetic field past Mars:* **M W Liemohn**, N B Quartey

1899034 *Upstream triggers for Martian Sinuous Aurora:* **L Gregory**, R J Lillis, J S Halekas, A Azari, J Deighan, S Jain, M O Fillingim, M Chaffin, G M Holsclaw, H A AlMazmi, Y Dong, J R Espley, S Curry

1977724 *Variations in Mars' 'Sailboat' Crustal Field Morphology:* **L Cogswell**, J Bergfalk, D A Brain, J R Espley, J S Halekas, E Thiemann, S Curry

1921342 *What drives Mars' nightside Ionosphere? Insights from in situ and remote sensing.:* **R J Lillis**, M Marquette, M Mayyasi, Y Ma, D Mitchell, S Xu, L Andersson, S W Stone, M Benna, J S Halekas, J R Espley, J Deighan, S Jain, M O Fillingim, K G Hanley, N Alsaeed, S Curry

1921756 *Whistler wave mode generation via large amplitude steepened magnetic structures propagating through the Martian ionosphere:* **C M Fowler**, K G Hanley, J S Halekas, C Regan, J P McFadden, D Mitchell, L Andersson, Y Harada, D Bark, Y Ma, C C Chaston, B Sanchez-Cano, M Lester, D A Brain, C X Mazelle, J R Espley, M Benna, R Jolitz, S Curry

1912255 *Pressure-Confined Freeze-In of Fiber Optic Tethers in Support of Cryobot-to-Surface Communications for Ocean World Exploration:* **M Silvia**, M Jakuba, R Loer, V Singh, C McCarthy, C R German, K L Craft

1968028 *Simulating Conditions and Characterizing Performance of Materials for Sending Signals Through the Ice (STI) on Ocean Worlds:* **M Wolbeck**, K L Craft, E Asenath-Smith, J Buffo, M Friedman, C R German, M Jakuba, A Lakey, R Loer, R D Lorenz, C McCarthy, W Patterson, H Sequeira, T Price, M Silvia, R Stilwell, M Walker, V Singh

1882354 *SLUSH: Development of an Ice Drilling Probe to Access Ocean Worlds:* **L Stolov**, K Zacny, F Sheeran, V Singh, C Lang, C McCarthy, K Bywaters, F Bonn, T Michel-Villalobos, M Tipton

249826
The Emergence of Life as a Planetary Process

Conveners: **Michael Wong**, Carnegie Institution for Science; **Michael Walter**, Carnegie Institution for Science

1982146 *Abiotic Reactions in Realistic Planetary Conditions: What we have learned from Earth and Mars, Past, Present and Future:* **K L Rogers**, A Steele, L G Benning, J G Catalano, J L Eigenbrode, J A Hendler, R Krishnamurthy, S Q Lang, M A Pasek, V S Riggi, P Schmitt-Kopplin, C Wang

1970973 *Air, Water, and Earth: Prebiotic Chemistry from the Atmosphere to the Surface through Laboratory Experiments:* **N Reed**, C Christensen, K Jansen, C Neubauer, R Shearer, S McGlynn, B A Wing, J D Surratt, M A Tolbert, E C Browne, K L Rogers

1865477 *Characterization of Earth's Earliest Life: Deciphering Fragmental Biomolecular Fossil Remains Using Supervised Machine Learning:* **R M Hazen**, A Prabhu, M L Wong

1881693 *Formation of Short-chain RNA Oligomers in Aerosolized Microdroplets:* **S Pryor**, M F Schaller, J Shelley

1989503 *Incremental Molecular Complexity as a Universal Constraint on Early Biochemistry:* **C Blanco**, S A Hashmi, H Chok, R Cabrera

252849
The Gas Giants: Atmosphere, Interior, and Evolution of Jupiter and Saturn

Conveners: **Benjamin Idini**, UC Santa Cruz; **Cheng Li**, University of Michigan Ann Arbor; **Paula Wulff**, University of California Los Angeles; **Ananyo Bhattacharya**, University of Michigan Ann Arbor; **Paula Wulff**, University of California Los Angeles

1980621 *3D Hydrodynamical Modeling of Jupiter's Disequilibrium Carbon Monoxide – Latitudinal trends and Meridional Transport:* **A Hyder**, H Ge, J Yang, G Orton

1957525 *3D Simulations of Polar Vortices on Jupiter by JupiterMPAS:* **Y Lian**, C Li, J Hu, A P Ingersoll, T Guillot, S Brueshaber, M Wong, J Rogers, S Levin

1922056 *A Comprehensive Assessment of the Tianwen-4 Mission's Potential to Refine Jupiter's Gravity Field:* **Z Afzal**, Y Jianguo, J P Barriot, R W Aslam

1935698 *A Search for Jovian Lightning-Induced Radio Waves in the HFR-Lo Band (0.5–3 MHz) Using Juno Waves Data:* **P Basuvaraj**, M Imai, I Kolmasova, O Santolik, D Pisa, U Taubenschuss, W S Kurth, G B Hospodarsky, S J Bolton, J E P Connerney

1865336 *Machine Learning methods for molecular paleobiology: Characterizing Earth's Earliest Life by building interpretable classifiers:* **A Prabhu**, M L Wong, R Hazen

1933011 *Photochemical Sulfur Drives Ammonia Formation in Venusian Clouds: Implications for Prebiotic Chemistry and Habitability:* **Y Li**, R Yin, H Ye, Y Li

1929225 *Planetary Obliquity and Origin of Life Potential in Warm Little Ponds: Earth and Beyond:* **H Nyberg**, B K D Pearce, R N Bryant, D R Chavas, S L Olson

1919169 *Prebiotic Nitrile Reduction Via Metal and Mineral Catalysis:* **M Sturtz**, C H House

1880885 *Selective Funneling and State-Space Expansion: A Conceptual Framework for Novelty Generation and Origin Events:* **M L Wong**, H Demarest, S Bartlett, C Cleland, H J Cleaves II, A Prabhu, R Hazen

1940467 *Sufficient Bioavailable Nitrogen in the Hadean Ocean Based on a Self-Consistent Earth System Model:* **M Guo**, J Korenaga

2004534 *Tracing ancient biochemistry through network evolution and enzyme discovery:* **J Goldford**

1989518 *Ultraviolet-Driven Repair Mechanisms in Nucleic Acids: Environmental Controls on Prebiotic Chemistry and Early Evolution:* **S Crucilla**, J Zeng, D Ding, Y Xing, A Nanda, J Sutherland, J W Szostak, D D Sasselov, C Kufner

1956111 *Analysis of Jupiter's atmospheric thermal structure using two years of Juno radio occultations:* **Y Kaspi**, M Smirnova, E Galanti, A Caruso, L N Fletcher, L Gomez Casajus, W B Hubbard, G Orton, M Parisi, M Zannoni, P G Steffes, S Levin, P Tortora, S J Bolton

1917154 *C++ Acceleration of Unidata's MetPy Thermodynamics Module and its Adaptation to Jupiter Thunderstorm Analysis:* **L Li**, R May, D Camron, J Norman, Y Ho, S Arms, H Ge, C Li

1903495 *Constraining Saturn's Tidal Dissipation and Titan's Migration Rate Combining Radio Science Normal Points and Astrometry:* **A Magnanini**, V Lainey, L Gomez Casajus, M Zannoni, P Tortora

1929205 *Constraining the Amount of Helium Rain in Jupiter and Saturn with Ab initio Computer Simulations and Interior Models:* **B Militzer**

1892140 *Deep Neural Network-based characterization of jovian moist convection:* **R Sankar**, B Bucher, E Dahl, G Eichstädt, G Georgakis, A Singh, S Shah, S Talleri, M Wong

1912211 *Double-diffusive Convection in a Model of Saturn's Stably Stratified Layer:* **Y K Tsang**, C Guervilly, G Sarson

1908871 *Dynamical Constraints on the Vertical Structure of Jupiter's Polar Cyclones:* **N Gavriel**, Y Kaspi

1897903 *Hubble Space Telescope imaging coverage of Jupiter during Juno perijove passes 77 and 78:* **M H Wong**, S M Hill, P G Irwin, A A Simon, V Tejfel, J Rogers, I De Pater, G L Bjoraker

1904658 *Instruments on Juno Observe Jupiter's Atmosphere and Interior: Blind Men and Women Observe the Elephant - (1) Water Abundance, (2) Temperature-Opacity Degeneracy, (3) Deep Winds on Cylinders, (4) Polar Vortex Crystals:* **A P Ingersoll**

1890324 *Investigating Giant Planets Atmospheres: H_2 CIA and First Interference Dips Measurements Over a Wide Temperature Range from 4000 to 5500 cm^{-1}:* **F Vitali**, S Stefani, G Piccioni, M Snels, D Grassi, D Biondi, A Boccaccini

1883903 *Jet-Eddy Regime Transitions on Jupiter and the Role of the Deep Convective Layer:* **A Chupakhina**, E A Yankovsky

1914911 *Jovian Cloud Pressure, Ammonia Mole Fraction, and 5-µm Radiance during 2024-25 EZ Disturbance:* **S M Hill**, G Orton, P G Irwin, J Rogers, M Wong, L Tiktin

1870149 *Juno Microwave Radiometer Measurements of the Depths of Spatial and Temporal Variability in Jupiter:* **G S Orton**, Z Zhang, S Levin, L N Fletcher, F A Oyafuso, C Li, S Brueshaber, M H Wong, T Momary, S J Bolton, K Baines, E Dahl, J A Sinclair

1957311 *Jupiter Polar Vortex Simulation with a Quasi-geostrophic Continuous Forcing Model:* **T Liao**, A P Ingersoll

247438
The Ice Giants: Investigating the Planetary Systems of Uranus and Neptune (cosponsored by AAS: American Astronomical Society,EGU: European Geosciences Union) *(joint with A, EP, SA, SM)*

Conveners: **Michael Roman**, University of Leicester; **Willliam Saunders**, NWS NERFC; **Erin Leonard**, University of California Berkeley; **Ian Cohen**, University of New Hampshire Main Campus; **Willliam Saunders**, NWS NERFC

1946238 *A Modern View of the Ionosphere of Uranus provided by JWST:* **H Melin**, P I Tiranti, L N Fletcher, H B Hammel, S N Milam, L Moore, T Stallard, J O'Donoghue, E M Thomas, K Knowles, M T Roman, L Lamy, O King, J Harkett

1929505 *A New Global Circulation Model for Uranus' Atmosphere Coupled with Realistic Radiative Transfer:* **K Shao**, S Chen, J H Jiang, C Li, Y L Yung

1984438 *Limb Darkening in Jupiter's North: Deconvolution of Juno's Microwave Radiometer Data:* **F A Oyafuso**, C Li, S Levin, Z Zhang, V Adumitroaie, S T Brown, J Hu, S Bolton

1870630 *On the meaning of the dynamo radius in giant planets with stable layers:* **P Wulff**, H Cao, J M Aurnou

1976381 *Outbreaks on Jupiter's Fastest Jet: a Candidate of Baroclinic Instabilities Revealed by Nonhydrostatic Simulations and Multi-wavelength Observations:* **H Ge**, C Moeckel, I De Pater, A P Ingersoll, L N Fletcher, J Rogers, S Mizumoto, X Zhang, G Orton

1997007 *Polar Vortex Dynamics on Gas Giants: Insights from 2D Energy Cascades:* **J Shi**, W Kang

1877478 *Statistical characteristics of Jupiter dispersed pulses observed by Juno:* **M Imai**, I Kolmasova, W S Kurth, O Santolik, M H Wong, R Sankar, G B Hospodarsky, S J Bolton, S Levin

1900315 *The bimodal extension of Jupiter's dilute core:* **B Idini**

1862054 *The Inhomogeneous and Non-Adiabatic Evolution of the Solar System Gas Giants:* **R Tejada Arevalo**, A Burrows, A Sur, Y Su

1931249 *Trapping Alkali Metals in Mineral Clouds Explains the Juno MWR Puzzle:* **X Zhang**, C Li, J Hu

1933344 *Tropospheric Composition and Thermal Structures of Jupiter's North Pole Revealed by Juno Microwave Measurements:* **J Hu**, C Li, A Mura, F A Oyafuso, G Orton, L N Fletcher, L Li, S K Atreya, T Guillot, Y Lian, Z Zhang, S Levin, S J Bolton

1930095 *Ab Initio Entropy Calculations of Water Predict the Temperature in the Interiors of Uranus and Neptune to Differ by 15-30 Percent from Previous Models:* **B Militzer**

1932538 *Analysis-Ready Images, DEMs, and Geologic Maps: Laying the Foundation for Future Exploration of the Uranian Moons:* **E J Leonard**, D A Patthoff, E S Martin, M T Bland, C Beddingfield, J S Kargel, R T Pappalardo, B J Thomson, F Nichols-Fleming

1955406 *Argon Partitioning Between Water and Hydrogen: a Proxy for Determining the Rock Mass Fraction of Uranus:* **B H Chua**, L P Stixrude

1963327 *Exploring the Inner Uranian Satellites with JWST NIRCam:* **J Herman**, M Hedman, M El Moutamid, I De Pater, M Tiscareno

1900603 *Formation and Evolution Simulations of Uranus, Including Mixing of Constituents and Compositional Gradients:* **J J Lissauer**

2000535 *Heat-flux-limited Cloud Activity and Vertical Mixing on Uranus and Neptune:* **H Ge**, C Li, X Zhang, C Moeckel

1963548 *Ice Giants' Coupling with the Solar Wind Through Magnetic Reconnection Processes:* **S Zomerdijk-Russell**, J M Jasinski

1861609 *Internal Heat Flux and Energy Imbalance of Uranus:* **X Wang**, L Li, M T Roman, X Zhang, X Jiang, P Fry, C Li, A Sánchez-Lavega, G Milcareck, S Perez-Hoyos, R Hueso, T Guillot, C A Nixon, R A West, M E Kenyon, U Dyudina

1858452 *Investigating the Temporal Variations of Neptune's Stratospheric Winds Using an Incremental Variational Framework:* **S Loughran**, R Cosentino, M Cordiner, C A Nixon, A E Thelen, J Poterjoy

1846229 *Modeling Aerosol Microphysics in Ice Giant Atmospheres:* **A Walker**, S Smith, P Gao

1979475 *Neptune's Upper Atmospheric Winds and Vertical Wind Shear from ALMA Observations:* **R Cosentino**, S Loughran, M Cordiner, C A Nixon, A E Thelen

1915431 *Predictions of Auroral Electron Precipitation and Joule Heating at Uranus:* **G B Clark**, D J Gershman

1917201 *Preliminary Uranus Atmospheric Results from the 2025 Stellar Occultation Campaign:* **W R Saunders**, K Sayanagi, C Anderson, G Blake, K Breeland-Newcomb, J Castro-Chacón, N Chanover, E Cook, M Croom, E Dahl, J Dembicky, D DePoy, J Dull, R G French, G Harmon, M M Hedman, J Holtzman, W B Hubbard, S Hummel, J Jackiewicz, B Jackson, C KUlesa, M Lehner, S Levine, D McCarthy, B McLeod, J P Morgenthaler, R Oelkers, M J Person, L Schmidt, M Skrutskie, D Souami, H Stubbers, A Verbiscer, L A Young, Z W Zhang

249775
The New Mars Underground VIII: Maximizing Martian Subsurface Science Return *(joint with H)*

Conveners: **John Ortiz**, New Mexico Institute of Mining and Technology; **David Burtt**, NASA Goddard Space Flight Center; **Yu-Feng Lin**, Illinois State Geological Survey; **Julian Chesnutt**, Pacific Northwest National Laboratory; **Mohammad Afzal Shadab**, University of Texas at Austin

1892951 *ARRAKIS Life Detection in Frozen Dunes: Early Results and Implications for the Search for Life in Subterranean Mars:* **C M Phillips-Lander, PhD**, D Parmenter, M Flores, P Henderson, D Wendt, J Radebaugh, C Dinwiddie

1860058 *Constraining the Timing of Fault Activity on Mars Using Syn-Tectonic Craters:* **C Becker-Schwartz**, H Bernhardt

1873851 *Deciphering the mechanisms of Jarosite Formation and Preservation in Western Kutch, India: A Multiproxy Approach with Martian Insights:* **S Guha**, S S Acharya

1910749 *Results from the 2021 Neptune Occultation Campaign (NOC21): probing Neptune's upper atmosphere in the search for seasonal changes:* **D Souami**, R Lyam, B Sicardy, I De Pater

1893227 *Revisiting Uranus' Atmosphere: Re-analysis of Voyager 2 Radio Occultation Data with Uncertainty Quantification:* **A Caruso**, A Togni, E Piqueras Moralejo, D Buccino, L Gomez Casajus, M Zannoni, M Fonsetti, K Oudrhiri, P Tortora

1923348 *Steady Collapse of Uranus' exosphere since the Voyager Era:* **D Bhattacharyya**, J T Clarke, P Stephenson, T Koskinen, J Y Chaufray, L Moore, H Melin

1961742 *The Temperature, Composition, and Haze Structure of Uranus' Atmosphere Determined from JWST:* **M T Roman**, L N Fletcher, H B Hammel, O King, P G Irwin, J I Moses, N Rowe-Gurney, G Orton, I De Pater, H Melin, J Harkett, S N Milam

1887814 *Uranus is Dissipative: What is That Telling Us?:* **F Nimmo**, R Dbouk

1876201 *Uranus' magnetosphere was observed in an anomalous state by Voyager 2:* **J M Jasinski**, C Cochrane, X Jia, W Dunn, E Roussos, T A Nordheim, L Regoli, N Achilleos, N Krupp, N Murphy

1924244 *Voyager 2 Plasma Data at Uranus and Neptune:* **F Bagenal**, L Dougherty, G Xystouris, R J Wilson, J D Richardson, J W Belcher, R L McNutt Jr

1880784 *Enhancing Understanding of Martian Subsurface Sulfate through Structural Analysis of Amorphous Sulfates at Low-Temperatures:* **R Hopkins**, L Ehm, D Rogers

1874171 *How important is the incoherent portion of echoes in planetary radar sounding data?:* **D M Schroeder**

1864996 *Hydrothermal Alteration of Basaltic Parent Minerals in Lake Kleifarvatn, Iceland, Indicates a Suitable Earth Analog for a Potentially Habitable Gale Crater, Mars:* **V Alfonso**, T D Glotch, M Thorpe, A J Williams, V Hamill, R E Price

1977792 *Macromolecular Organic and Lipid Preservation within Planetary Analog Regolith Evaporites:* **S M Perl**, M B Wilhelm, J L Eigenbrode, K Warren-Rhodes, F Nichols, A Simpson, E F Gibbons, C Lee, K Lynch, W Abbey, A J Ricco, J Shimada, C Walker, E Cook

1997235 *Mineralogical complexity and elemental abundance may serve as proxies for life in martian rocks:* **J J Marlow**, F Calabrese, R S Jakubek, D LaRowe, A B Regberg, H Graham

1902078 *SHIELD: Sterilizing using Heat and Infrared Emitting LED Device, in-situ sterilization to preserve sample fidelity on Mars.:* **J Schultz**, L Stolov, E Seto

1901145 *Spatial and Temporal Ice Accumulation from Vapor Transport in Subsurface Mars:* **J S Selker**

1930708 *Tharsis Extraction as a Driver for Temporal Variations in Mantle-Derived Magmas and Their Source:* **L Parsons**, B A Black, R I Citron

1968063 *The case for a subsurface biosphere on Mars:* **H M Sapers**, R Murali

250198
The Nexus for Exoplanet System Science (NExSS) – Building a Community for Interdisciplinary Research Across NASA Science Divisions *(joint with A, OS, SA)*

Conveners: **Ofer Cohen**, Harvard-Smithsonian CfA; **Linda Sohl**, Columbia University of New York; **Hilairy Hartnett**, University of Washington Seattle

1969283 *The Rise of Biomolecules and Temperate Climate on Early Earth and Young Rocky Exoplanets Under the Active Young Sun:* **V Airapetian**, K Kobayashi, G Gronoff, M Way

1859790 *A Change Will Do You Good: Geological Perspectives on Interdisciplinary Terrestrial and Exoplanet Science:* **C B Till**, K Brugman

1928122 *A Workshop on Extraterrestrial Photosynthesis: Bridging Specialized Scientific Communities in the Search for Life:* **N Y Kiang**, R E Blankenship, C Gisriel, A Agostini, D Canniffe, T Cardona, N Ennist, W W Fischer, Y Fujii, Y Komatsu, B Kacar, N La Rocca, A Mandell, T Matsuo, G Moore, E Schwieterman, L Young

1953521 *Beyond the Habitable Zone: Data-Driven Tests of Climate Feedbacks on Earth-like Exoplanets:* **M Underwood**, A Lenardic, J Seales Jr, B Kwait-Gonchar

247996
The Synergy among Theoretical Methods, Laboratory Studies and Atmospheric Modeling: Chemistry, Photochemistry and Cloud Processes in Planetary Atmospheres
(cosponsored by EGU: European Geosciences Union) *(joint with A)*

Conveners: **Benjamin Frandsen**, Organization Not Listed; **Xi Zhang**, University of California Santa Cruz; **Wencheng Shao**, USTC University of Science and Technology of China; **Wen Chao**, JPL/NASA/Caltech; **Andrea Salazar**, Harvard University

1930796 *An Exploration of $(SO)_2$ as a Source for Polysulfur within a Simulated Venus Atmosphere with an Overabundance of Oxygen:* **G Katrivesis Brown**, F P Mills, B Croke, J P Pinto, K Willacy, Y L Yung

1891350 *The First Deep Underground Mars Exploration Will Be by A Drone in a Cave:* **R C Wiens**, P J Gasda, M Zanetti, W King, A K Misra, N Martin

1998231 *Transient Groundwater Modeling Suggests Extremely Punctuated Early Mars Climate:* **E Hiatt**, M A Shadab, S P S Gulick, T A Goudge, M A Hesse

1915779 *CUISINES: A 2025 Update on the Menu:* **T Fauchez**, D Sergeev, R Barnes, G Chaverot, D Christe, J D Haqq-Misra, C E Harman Jr, N Iro, T Lichtenberg, L E Sohl, K Tsigaridis, G Villanueva, A V Young, N Mayne

1880100 *Earth, With a Twist: How Orbital Parameters Affect the Photochemistry and Climate of Earth-like Exoplanet Atmospheres with ROCKE-3D:* **C E Harman Jr**, K Tsigaridis

1963781 *Effects of Orbital and Continental Configurations on Land Habitability of Earth-like Exoplanets:* **J Jernigan**, É A Laflèche, A Capirala, S L Olson

1946876 *Exploring past habitable Venus scenarios using a coupled spin-climate evolution model:* **A M Salazar**, R Wordsworth

1959077 *Geologic Factors Influencing Long-term Habitability on M-Dwarf Exoplanets:* **T Hammond**, S L Olson

1994182 *Leveraging Seasonality for Exo-Earth Characterization with NASA's Habitable Worlds Observatory:* **É A Laflèche**, S L Olson, J Jernigan, M N Parenteau, E Schwieterman, N Wogan, A G Ulses, S R Gilbert, J Krissansen-Totton

1857731 *The SAMOSA (Sparse Atmospheric MOdel Sampling Analysis) Intercomparison for M-dwarf Planetary Habitability:* **J D Haqq-Misra**

2002838 *Clouds and Aerosols in the Solar System: Updates on an In-Progress Review Paper and Community Organization Efforts:* **E Dahl**, A Akins, K Baines, E L Barth, E Ashimolowo, A Bhattacharya, A Braude, S Brueshaber, J Bellan, W H Cantrell, C E Carr, C Dang, R C Flagan, A Chatain, D Gentry, H E Gillespie, H V L, A Hyder, V Jha, K L Jessup, O Lamaakel, K McGouldrick, L Jovanovic, R Mogul, S Nath, N Lombardo, M Pauken, C Percival, J Salazar, E M Sciamma-O'Brien, S Nellutla, M Slipski, S Ubukata, P Patel, F Winiberg, W Saunders, P Streeter, S Varappillikudy Sulaiman, L Valdarno

1933381 *Clouds and Chemistry in the Transient Lunar Atmosphere:* **A V Johnson**, R Nag, E Hueston, M Aguilar

1909729 *Clouds in Substellar Atmospheres: Microphysics and Eddy Diffusion:* **Y Du**, X Tan, E K H Lee, X Zhang

1877534 *CO Oxidation in the Venusian Mesosphere and Associated Isotopic Fingerprints Enabling Detection and Chemical Mechanism Insights.:* **B Frandsen**, R Skog, W Chao, G Jones, K Pham, F P Mills, M Okumura, M Sulbaek Andersen, C Percival, F Winiberg

1877741 *Computational Simulation of Polysulfur UV-Vis spectra with Detailed Elucidation of Structural Isomers for use in Photochemical Models:* **R Skog**, B Frandsen

1960917 *Experimental Exploration of the Chemical and Physical Interactions between Mineral Aerosols and Atmospheric Gases in Warm to Hot Exoplanet Atmospheres:* **S Port**, K Dobiyanski, R Montes, R Delaney, X Yu, S M Tsai, J R Lyons

1956982 *HEL-Fire and Brimstone: High Temperature Optical Properties of Quartz and Tridymite for Substellar Cloud Studies:* **E Mullens**, J Terragni, S E Moran, E Kohler, V Kofman, N K Lewis

1852271 *High level ab-initio predictions of Chlorine-Sulfur photochemistry relevant to Venus's atmosphere:* **T Trabelsi**, J Francisco

1975959 *HITRAN2024: Enhancing Spectroscopic Foundations for Retrievals of (Exo)Planetary Atmospheres:* **I Gordon**, R Hargreaves, F Gomez, T Bertin, L S Rothman

1914579 *INSIGHTS INTO CATALYTIC CHLORINE OXIDATION OF CO IN THE VENUS MESOSPHERE:* **F Winiberg**, W Chao, M Sulbaek Andersen, G Jones, R Skog, B Frandsen, C Markus, F P Mills, Y L Yung, C Percival, M Okumura

248910
Titan at Equinox: Seasonal Changes on an Ocean World

Conveners: **Conor Nixon**, NASA Goddard Space Flight Center; **Kathleen Mandt**, Southwest Research Institute San Antonio; **Samuel Birch**, Brown University; **Kendra Farnsworth**, NASA Goddard Space Flight Center

1998423 *"Salt Tectonics" on Titan: Radial Labyrinths as Topographic Expressions of Solid-State Flow:* **A Schoenfeld**, S D Vance, R M C Lopes, M Malaska, M T Bland

1850886 *Analysis of Cassini/UVIS Scans of Titan's FUV Airglow During Northern Vernal Equinox:* **D Hoover**, T Koskinen, P Lavvas, N Le Guennic

1872939 *Characterizing Water-soluble vs Water-insoluble Titan Haze Analogs:* **B Blakley**, S M Horst, C Pesciotta, J Sebree, S MacKenzie, X Yu, M J Radke, M Apple

1863996 *Photolysis in the Venus mesosphere: Insights from ESA Venus Express on D/H ratio and Oxygen abundance:* **A Mahieux**, S Viscardy, R V Yelle, S Szyper, H Raynor, P Rosenblatt, S Robert, H Karyu, A Piccialli, J Erwin, A Bissey, A C Vandaele, L Trompet

1920902 *Potential Impacts of the High Thermal Stability of the ClSO Radical Determined by the Cl-SO Bond Energy in Venus's Mesosphere:* **W Chao**, M Okumura, T P Huang, C Percival, T Y Kao, F A F Winiberg, X Zhang, C H Chang, Y Y Lee

1850075 *The Chemistry of Clouds: Salt's Effect on Water Vapor in Y-Dwarf Atmospheres:* **T Erwin**, A V Johnson

1984042 *The Quest for the Unknown UV Absorber: Exploring Catalytic Chemistry in Venus:* **J Pang**, D Adams, B Frandsen, R Wordsworth

1934638 *Thermodynamics and Chemistry of Non-equilibrium Mixed-phase Air in Exotic Environments:* **C Li**, X Zhang

1866910 *Three-dimensional structure of atmospheric chemistry on Venus simulated by a General-Circulation Model:* **W Shao**, J Mendonca, L Dai

1866161 *Venus as an Exoplanet: An Initial Exploration of the 3-D Energy Balance and Photochemistry for a CO_2-rich Exoplanetary Atmosphere Around the M-Dwarf Star GJ 436:* **C D Parkinson**, S W Bougher, F P Mills, Y L Yung, A S Brecht, R Hu, G Gronoff

1938656 *Search for complex nitriles in Titan's stratosphere from space and ground-based data:* **A Coustenis**, D Jacquemart, P Lavvas, T K Greathouse, T Encrenaz, C A Nixon, R Giles, P Soulard, B Tremblay, K Lahouari

1984953 *Seasonal variations in sea circulation on Titan driven by flood and drought:* **W Kang**, Z W Koh, Y Zhang

1952548 *Surf's Up on Titan: Modeling the seasonality of Wind-Driven Hydrocarbon Waves on Ligeia Mare and Ontario Lacus:* **C Detelich**, U G Schneck, A Hayes, M Curcic, J Jones

2003254 *The Variability of Clouds on Titan: Observations and the Upcoming Saturnian Equinox:* **J Hanley**, C Thieberger, P Corlies, J Llama

1982704 *Titan's Summer Wind Report: Results from a 2022 Stellar Occultation Observed with Adaptive Optics:* **T Marlin**, E F Young, K de Kleer, I De Pater, M Cordiner, P Corlies, R Cosentino, N Lombardo, J M Lora, C A Nixon, S Rodriguez, A E Thelen

1881060 *Tropical Cyclone Favorability Between Earth-like and Titan-like regimes:* **D Moore**, J Mitchell

250591
Titan: Atmosphere, Ionosphere, Space Environment and their Interactions *(joint with A, SA, SM)*

Conveners: **Matthew Fillingim**, University of California Berkeley; **Stephen Ledvina**, University of California Berkeley; **Jared Bell**, NASA Goddard Space Flight Center; **Niklas Edberg**, Swedish Inst. of Space Phys.; **Konstantin Kim**, Space Research Institute of the Russian Academy of Sciences (IKI)

1885063 *Analyzing Data from the Cassini Spacecraft to Better Understand Titan's Atmospheric Airglow Response to Saturn's Magnetospheric Particles and Solar Activity.:* **J Sweatman**, A Morales, E M Royer

1870578 *Cross Section Measurements of Toluene (C_7H_8) with FTIR for Titan's stratosphere:* **K Rahman**, K Le Bris, D Nemchick, K Sung

246834
To the Moon: A New Era of Lunar Science

Conveners: **Li Hsia Yeo**, University of Colorado Boulder; **Phillip Phipps**, Boston University; **Paul Stefan Szabo**, TU Wien; **Jan Deca**, KU Leuven

1980136 *Lunar Orbiting Observatory for Neutron Spectrometry (LOONS) :* **G A de Nolfo**, J G Mitchell, A Bruno, M Daehn, J Dumonthier, J Legere, J M Ryan, G Suarez, T Tatoli

1851883 *A New Approach to Icy Lunar Simulants: Reproducing Granular, Cemented, and Intermediate Ice States with Structural Validation:* **G Kwon**, K J Kim, K Slumba, S Kim, M Hess, E S Yi

1934913 *Analysis of Apollo 16 Lunar Surface Magnetometer Data: Implications for Future Lunar Exploration Instrument Design:* **S Kim**, H Jin, Y Ahn, H Park, W Jo, K H Kim, I Garrick-Bethell, S M Baek, P J Chi

1961299 *Assessing the Likelihood of SPA-Derived Materials within the Artemis III Candidate Landing Regions using Compositional Remote Sensing:* **B L Jolliff**, C Moye, C Fassett, K Izquierdo, G R Osinski, B A Cohen

1962713 *Characterizing the Single Scattering Albedo of Nearside Lunar Silicic Sites:* **S Burnette**, K L Donaldson Hanna, A Dove, L Santori, J M Sunshine

1995819 *Charging and Mobilization of Regolith Dust on a Surface Under Electron Beam with Varying Incident Angles:* **S Gopalakrishnan**, X Wang, M Horanyi, V Kvon, L Heijmans, M Chaudhuri, A Yakunin

1882202 *Currents in Titan's Ionosphere:* **M O Fillingim**, S A Ledvina, N J T Edberg, K Kim

1969314 *Measurement Needs and Gaps in UV Cross Sections for Planetary Atmosphere Modeling:* **E Aufderheide**, C A Nixon, B Benne

1982483 *Modeling Titan's Planetary Boundary Layer at the Huygens Landing Site: Evidence for the Role of Subsurface Methane Evaporation in Limiting Convective Growth:* **V Hartwick**, S C Rafkin, A Soto

1908372 *Negative Ions at Titan: The Near-Terminator Density Depression:* **A Wellbrock**, A J Coates, G H Jones, O Shebanits, E Vigren, P Lavvas, V Vuitton

1900597 *Spectroscopic Analysis of Solar Radiation Interactions with Titan's Upper Atmosphere Using Cassini Data.:* **A Morales**, J Sweatman, E M Royer

1957079 *The induced magnetosphere of Titan:* **C Bertucci**

1940684 *Titan's Interaction with its Variable Plasma Environment:* **S A Ledvina**, S H Brecht, M O Fillingim

1980038 *Comparative Simulation of Lunar and Terrestrial Regolith-Tool Interaction Forces to Inform Testing, Tool Design, and Surface Operations:* **J Long-Fox**

1930694 *Comparing Magnetic Field Signatures at the Lunar Surface and the Upstream Plasma Environment Using LMS and THEMIS-ARTEMIS:* **S K Howard**, J R Espley, R E Grimm, J Gruesbeck, C Johnson, G Delory, I Garrick-Bethell, R Maxwell, C R Neal, M E Purucker, F Simpson, D E Stillman

1997825 *Constraints on Geologic Timeline of Mg-spinel Anorthosite in South Pole-Aitken Basin on the Moon:* **G Sodha**, D Dhingra

1984589 *Craters in the Dark: Effects of Scattered Light on Diameter Estimates:* **E J Speyerer**, M S Robinson, B Giuri, V DeFazio, E Cisneros

1897498 *Cryogenic X-ray Tomography of Ice Migration and Structural Evolution in Lunar and Martian Regolith Simulants.:* **T Farr**, T M Orlando, H Lisabeth

2003314 *Current Status of a South Pole–Aitken Basin Sample Return and Exploration Rover Concept:* **J T Keane**

1899451 *Development Status of Honeybee Robotics' Rover for the Lunar-VISE CP-21 CLPS Mission to Gruithuisen Domes:* **J Lawrence**, V Vendiola, D Bergman, D Sabahi, G Paulsen, S Squyres, K Zacny

1976822 *Digging for Deployment: Lunar Environment Monitoring Station for Artemis III (LEMS-A3) Deployment Testing in a Regolith Simulant Bin:* **N McCall**, M Benna, N C Schmerr, D N DellaGiustina, N Shah, S Hicks, G Ludwig, Z Morse, T G Graff, K Virkaitis, A G Marusiak, V J Bray, S Bailey, P K Byrne, B Avenson, D Kim

1950716 *Early Lunar Interior Evolution as Revealed by Thorium:* **J Watson**, A J Evans, M Jones, J Levin

1966353 *Electrical Conductivity and Composition of Lunar Upper-Mantle inferred from KPLO Magnetometer Electromagnetic Sounding:* **W Jo**, I Garrick-Bethell, H Jin, S Fatemi, A R Poppe, K H Kim, H Park

1927746 *Experimental study of the evolution of the ancient lunar mantle:* **Y Liang**, F McCubbin, J Stopar, B A Anzures, C K Shearer

1944717 *Ground Support for LDA: Experimental Evaluation of $FeO+TiO_2$ Effects on Dielectric Properties of Lunar Simulants:* **A Toida**, H Miyamoto, M Kobayashi

1944576 *Ground Truthing Lunar Permittivities: The Role of LDA in Enhancing the Interpretation of Orbital Radar Data:* **H Miyamoto**, C Sun, M Kobayashi

1917131 *Identifying mechanical and plasma conditions for initiation of grain motion on the lunar surface:* **M I Zimmerman**

1912404 *In-situ Temperature and Thermal Conductivity Measurements of the Lunar Regolith Down to 1-m Depth at the Blue Ghost Mission One Landing Site in Mare Crisium:* **S Nagihara**, K Zacny, P Ngo, L Sanasarian, R Misra, M Zasadzien, M Schmitt, A Wang, C Ladd, P Ng, Y J Hwang, J Knorr, R Tuanuma, T Thomas, T Heiman, G Paulsen, M Grott, K Joerg, S Smrekar, M A Siegler, T Hudson, C R Neal

1992094 *Influence of Dust Particle Mass on Electrostatic Mobility in Lunar Dust Mitigation:* **S Ghaleb**, N C Orger, K Toyoda

2003914 *Investigating Lunar Hydrogen Anomalies in Mons Mouton and its Surroundings:* **M Jodhpurkar**, C J Hardgrove, D A Williams

1960766 *Investigating Lunar Silicic Volcanism from the surface of Mons Gruithuisen Gamma:* **K L Donaldson Hanna**, J Benavente, K A Bennett, B Byron, B W Denevi, A Dove, J J Hagerty, C J Hardgrove, P O Hayne, L Heffern, M E Landis, T H Prettyman, J V Rudd, K Shirley, M A Siegler, J M Sunshine, P Tripathi, J P Williams, S Valencia, R N Schindhelm

1970504 *Investigating the Formation of Shield Volcanoes on the Moon Through the Russell and Struve Crater Complex:* **R Luo**, N Kumari, J F Mustard, I Daubar, H Tompkins

1934743 *KPLO Magnetometer at 60 km Altitude: Observations and Lessons Learned:* **Y Ahn**, H Jin, H Park, W Jo, K H Kim, S M Baek, I Garrick-Bethell, J R Yim

1939486 *L-MAG: A Temperature-Stabilized Fluxgate Magnetometer System for Long-Term Lunar Surface Observatories:* **H Cao**, K K Khurana, R J Strangeway, R Caron, H Gonzalez, D Pierce, D A Hinkley, N Walsh

1867736 *LACE II – Lunar Atmospheric Composition Experiment Two:* **M Poston**, D E George, E Patrick, O J Tucker, P Prem, M A Siegler, H H Schmitt, S Boccelli

1959815 *Laser ranging from LRO-LOLA to laser retro-reflector arrays on the lunar surface:* **R T Walker**, D Mao, M K Barker, E Mazarico, S Bertone, G Cascioli, D Cremons, H Tomio, X Sun, G A Neumann, V Viswanathan, D E Smith, M T Zuber

1916581 *Lunar gas plumes inferred from volatile profiles in volcanic and impact beads:* **Z Yang**, Y Zhang, Y Liu

1869291 *Lunar Impact-Plasma Dynamo Amplification and Future Tests:* **I Narrett**, R Oran, Y Chen, K Miljkovic, G Toth, E Mansbach, B P Weiss

1919904 *Lunar Magnetotelluric Sounder: Design, Operations, and Preliminary Results:* **R E Grimm**, G Delory, J R Espley, I Garrick-Bethell, J Gruesbeck, S K Howard, C L Johnson, R Maxwell, C R Neal, M E Purucker, F Simpson, D E Stillman

1850968 *Lunar PlanetVac on Blue Ghost successfully demonstrated pneumatic regolith mining, transport, and sorting:* **K Zacny**, Z Fitzgerald, H Jung, A Wang, K Carrington, R Misra, I King, M Alattas, J Bailey, P Ng, R Mueller, V Vendiola, M E Banks, J Hernandez, C Wohl

1942925 *Lunar subsurface evolution inferred from subsurface rock distribution by Chang'E-4 Lunar Penetrating Radar observation:* **K Kanda**, A Kumamoto, K Ishiyama, Y Katoh

1988842 *Lunar Surface Charging and Dust Transport over the Dayside and Terminator Regions: Correlations with CME-Driven Solar Wind and Geomagnetic Activity Indices:* **N C Orger**, E C Kalafatoglu Eyiguler, S Ghaleb, K Toyoda, M Cho

1999566 *Lunar water detection and isotopic analysis with an in-situ miniature tunable laser spectrometer:* **K Schwarm**, L Christensen, A C Noell, M Fradet, J K Wallace, K Mansour, Y Liu

1919179 *Magnetic Anomalies Near the Lunar South Pole and Their Consequences:* **L L Hood**, J Deca, S Li

1995011 *Measurement of Plume Surface Interactions in Low-Pressure Environments:* **B Dotson**, D T Britt, P T Metzger

1874052 *Melt Retention and Migration in Early Lunar Mafic Cumulates Reconcile KREEP Composition and Crustal Chemical Heterogeneity:* **H Fu**, E M Parmentier, C Huber

1981629 *Molecular Dynamics Insights into Nanophase Metallic Iron Formation and Oxidation from Micrometeoroid Impacts on Lunar Regolith:* **Z Huang**, M Hirabayashi

1961081 *NASA Experiments on the Blue Ghost 1 Lunar Lander Mission:* **R E Grimm**, M E Banks, S Nagihara, B Walsh, K Zacny, D Currie, C Buhler, B LaMeres, M Monk, J Parker

1946135 *Near-infrared Hapke photometric analysis of the Moon's regolith with passive radiometry from the Lunar Orbiter Laser Altimeter (LOLA):* **R T Walker**, M K Barker, E Mazarico, X Sun, G A Neumann, D E Smith, M T Zuber, J W Head III

1897017 *Plasma Wakes Throughout the Solar System:* **J Deca**, A V Divin

1904371 *Plume Surface Interaction Modeling for Future Lunar Exploration:* **F Hogan**, Y Zhang

1994175 *Polarimetric Observations of the Lunar Surface from Low-Earth Orbit by the Hyper-Angular Rainbow Polarimeter (HARP2) on NASA's PACE mission:* **B McBride**, R A Fernandez Borda, X Xu, A Puthukkudy, J V Martins

1846413 *Preliminary 250-m resolution surface gravitational maps of the Moon from GRAIL gravity, LOLA topography and 3D crustal density:* **B Bucha**

1896545 *Proof-of-Concept Demonstration of a Standoff Raman Optical System Using a Long-Distance Microscope for Enhanced Lunar Science:* **P Misra**, D Mugisha, A Jones, L Hare, R F Garcia-Sanchez, S Aslam, D M Bower, B W Meeson, Q Gong, L Seals, T Oberst, M Provenzano

1966078 *Quasielastic Neutron Scattering Study of Lunar Regolith Ice Sublimation Behavior Using Lunar Simulants:* **T Zhang**, E Mamontov, A Kolesnikov, L M Anovitz, P Reiss, Q Hu

1874884 *Radiation Exposure of Astronauts during Extra Vehicular Activity on the Apollo 11 and 12 Missions:* **P H Phipps**, T Stubbs, M D Looper, H E Spence

2001777 *Rapid Ice Explorers: A Lunar Penetrator Suite for the Exploration of Permanently Shadowed Regions:* **T M M Eubanks**

1967347 *Science Goals, Design, and Performance of an Orbital Ultra-Compact Imaging Spectrometer for the Moon (UCIS-Moon):* **A A Fraeman**, B L Ehlmann, D R Thompson, R O Green, B W Denevi, R L Klima, N E Bowles, C S Edwards, K L Donaldson Hanna

1962304 *ShadowCam: Shallower Small Craters in Lunar Permanently Shadowed Regions:* **A Sonke**, P Mahanti, B W Denevi, J Ando, M S Robinson, S Li

1980693 *Solar Activity Effects on Lunar Surface and Impact Dynamics:* **S L Ivanovski**, L Biasiotti, L Calderone

1922384 *Space Weathering of Lunar Dust – In-Situ Spectral Analysis:* **L H Yeo**, J L McLain, T Stubbs

1955444 *Spectral mapping of the Hydration Feature at the Moon's Gruithuisen Domes:* **P Tripathi**, K L Donaldson Hanna, J M Sunshine, S Li, W H Farrand, A Dove, B Byron

1924047 *SUMMARY OF THE CONTRACTED DELIVERIES OF NASA PAYLOADS TO THE MOON VIA COMMERCIAL LUNAR PAYLOAD SERVICES (CLPS):* **H Haviland**

1920546 *Surface Engineered Materials in the Lunar Environment: Results from the Regolith Adherence Characterization (RAC) Payload Mission:* **C Wohl**, L Das, K Gordon, J H Kang, G King, S Hocker, V Wiesner

1895372 *Target Property Effects on Crater Degradation in the Lunar Maria:* **M M Chertok**, C M Elder, C Nypaver, R R Ghent, E Costello

1915848 *The Lunar Meteoroid Monitor (LMM) Approaching Technology Readiness Level 6:* **A Doner**, M Horanyi

1986262 *The Lunar-VISE Gamma Ray Neutron Spectrometer:* **E B Johnson**, E Weststrate, C J Hardgrove, A Frost, G Mehall, Z Farkas, C Ortiz, M Patel, H Bowles, T H Prettyman, J V Rudd, A Dove, A Vera, K L Donaldson Hanna, E Fredrickson, D Neal, S Tesch, V Stephens

1914105 *To the Moon: Manufacturing, Experimental Characterization, and Computational Modeling toward ISRU Lunar Regolith Sintering:* **Y R Kim**, X Zhang, S Gholami, I K Jeon, B Cui

1984988 *Transient Regolith Dust Bursts Induced by Time-Varying Electron Beam:* **A Cabra**, X Wang, M Horanyi

1979999 *Using Morphometric Properties to Assess Landing Site Safety on the Moon: A Case Study for the Future CP-21 Mission and Lunar-VISE:* **J P Williams**, S Valencia, K A Bennett, M E Landis, K L Donaldson Hanna, A Dove, P O'Brien, B W Denevi, J J Hagerty, C J Hardgrove, P O Hayne, A LaMee, T H Prettyman, K Shirley, M A Siegler, J M Sunshine

1947155 *Using the Cosmic Ray Telescope for the Effects of Radiation (CRaTER) to map albedo radiation from the Moon as a function of solar cycle:* **A Jordan**, M MacLeod, PhD, J K Wilson, M D Looper, H E Spence, L Townsend

1980762 *Water Delivery to the Lunar South Pole: The Role of Impact Melt Degassing:* **H Harish**, P O Hayne, O Aharonson

252802
Ultraviolet Observing of Solar System Targets

Conveners: **Amanda Hendrix**, Space Environment Technologies; **Shouleh Nikzad**, Jet Propulsion Laboratory; **Lizeth Magana**, Johns Hopkins University Applied Physics Laboratory

1976588 *Analyzing Surface Variations of Europa in the FUV Using the Space Telescope Imaging Spectrograph:* **M A Velez**, K D Retherford, T M Becker, V Hue, U Raut, B Mamo, J Kammer, L Roth, P M Molyneux, T Peterson

1947685 *Design Study of UV IFS and HRS on HWO for Solar System Bodies and Exoplanets:* **S Kameda**, G Murakami, U Enokidani, M Kuwabara, B Fleming, K France

1968804 *Detailed Spectroscopy and Modeling of the Carbon Monoxide Fourth Positive Group Band System at Mars:* **J Deighan**, S Jain, J S Evans, M Chaffin, G Holsclaw, R J Lillis, M O Fillingim, S England, H A AlMazmi, N Alsaeed

1903067 *Laboratory Electron Impact UV Fluorescence Spectroscopy for Accurate Modeling of Terrestrial and Planetary Dayglow and Auroral Observations:* **S Aryal**, J M Ajello, G Holsclaw, L Fagan, J S Evans, V Veibell, E M Royer, C P Malone, J C Gérard, R Eastes

1969091 *The Influence of Space Weathering on the Far-Ultraviolet Reflectance of Apollo-era Soils:* **C Gimar**, U Raut, A Stevanovic, L C Mayorga, S Protopapa, B Byron, K D Retherford, T K Greathouse, M Poston, J T Cahill, D Qasim

1967162 *Unveiling the Origins of Dark Far-UV Albedo on Jupiter's Icy Moons:* **B Mamo**, U Raut, B D Teolis, S Protopapa, K D Retherford, D Qasim, P M Molyneux, T M Becker, T Greathouse, R J Cartwright, T Peterson, L Roth, M McGrath, A R Hendrix

252476
Unveiling the Atmosphere–Interior Connection in Planets: Integrating Observations, Simulations, and Experiments

Conveners: **Taehyun Kim**, Arizona State University; **Luis Welbanks**, Arizona State University; **Hilke Schlichting**, University of California Los Angeles; **Aster Taylor**, University of Michigan Ann Arbor

1995828 *Forming Wet Planets from Dry Building Blocks: High Pressure Magma-Hydrogen Reactions:* **A Vazan**, H Horn, S H D Shim

1983481 *Impact of increasing H_2O concentration during conversion of a hydrogen-rich sub-Neptune to a water-rich sub-Neptune:* **T Kim**, A Vazan, S Chariton, V Prakapenka, Y J Ryu, S Yang, S H D Shim

1962493 *Linking rocky exoplanetary atmospheres and interiors through meteorite outgassing experiments:* **N McGregor**, M Thompson, M Telus, L Schaefer

1975066 *Modeling Core-Induction Responses and Their Impact on Atmospheric Escape from Rocky Exoplanets:* **L Chin**, C Dong, Y Chen

1936777 *Observable signatures of magma-atmosphere interactions in sub-Neptunes:* **M Nixon**, J Ih, S Somers, E Kempton, A Savel, E D Young, H Schlichting, T Lichtenberg, L Welbanks, A Piette, N Wogan, W Misener

1874870 *The Nature of sub-Neptune Cores: Differentiation is the Exception Not the Rule:* **E D Young**, H Schlichting, J Rogers

246909
Uranus Orbiter and Probe Mission Design: Advances Since the Decadal Survey

Conveners: **Amy Simon**, NASA Goddard Space Flight Center; **Ian Cohen**, University of New Hampshire Main Campus; **Mark Hofstadter**, NASA Jet Propulsion Laboratory

1974851 *Dust Analyzer Design Options for the Uranus Orbiter and Probe Mission:* **A Smith**, Z Sternovsky, S Hsu, M Melwani Daswani, J Žabka

1857240 *Searching for Ariel's Aliens with the CRISPI (Compositional Regolith and Icy Surface analysis via Particle Impact) Mass Spectrometer SmallSat Flyby Mission:* **Z Ulibarri**, S Jamal, A Alex, L Arzoumanian, R R Bhaskara, A Chadwick, S Gayen, K Kim, M Lohatepanont, P Nair, K Nova, C Oliveira, A Parks, R Pride, S Singh, A Sessay, J Umansky-Castro, L Volk, E Yablonski, M Zhou, E Petro, M Peck, D Savransky, F Royer, A van Paridon

1994956 *Solar Electric Propulsion Trajectories to Uranus in the 2030s:* **J A Englander**, D H Ellison, N Hatten, K Hughes, A Mudek, T Rashied

1894412 *TITUS (Technology Innovation Thermoradiative Uranus Smallsat): a companion satellite for enhanced Uranus magnetospheric science:* **R O Chancia**, S Polly, G Landis, S Hubbard, S Oleson, N Pokharel, E Haight, A Iovinella, B O'Neill

248940
Venus Science and Technology, Interior to Exosphere of a Dynamic Planet; Preparing for the Next Generation of Missions.

Conveners: **Noam Izenberg**, Johns Hopkins Univ; **Debra Buczkowski**, Johns Hopkins Applied Physics Laboratory

1967643 *3D Modeling of Lithospheric Delamination at Artemis Corona and Derceto Plateau on Venus:* **A Adams**, S E Smrekar, M Gurnis, D R Stegman, P J Tackley

1984746 *AErosol Rapid Analysis Combined Entry Probe/sonde Technology (AERACEPT) for Small-Spacecraft Planetary Cloud Missions:* **D Gentry**, J Blair, A P Borner, C Dang, J Meurisse, C Naughton, J Park, A Cassell, S Dhaniyala, L Hand, L T Iraci, A L Mattioda, P Sobron, E Venkatapathy, A F Davila

1936082 *Characterization of the Alteration of Volcanic Glasses Exposed to Venus Surface Conditions:* **K Morin**, A Santos, J Semprich, M S Gilmore

1925452 *Constraining Lithospheric Thickness in Sedna Planitia, Venus: A Geomorphic and Tectonic Analysis:* **D Buczkowski**, J L Whitten, L M Jozwiak, M A Matiella Novak

1953217 *Constraining Venus' Interior Structure Using Geophysical Data from PVO and Magellan: Implications for EnVision:* **A M Gargiulo**, A Genova, M Ciambellini, T Torrini, G Tobie, P Rosenblatt, C Dumoulin

1914138 *Crustal Convection on Venus:* **S Solomatov**, C Jain

1929153 *Detecting Remanent Magnetism on Venus with an Aerial Platform:* **E Higgins**, S W Courville, J G O'Rourke

1952113 *Exploring Driving Forces in Wrinkle Ridge Formation on Venus with Topography and Gravity:* **S Nakaya**, S Smrekar, A Adams, A Gülcher, Z Hasnain, L Sabbeth

1847458 *First analysis of the Venus atmosphere:* **N Sugimoto**, Y Fujisawa, N Komori, H Ando, M Takagi, H Kashimura, J Liang, T Miyoshi

1958907 *High-resolution altitude profile for N_2 obtained by re-analysis of Pioneer Venus data:* **R Mogul**, M Y Zolotov, S S Limaye, M Way

1949606 *High-Temperature Measurements of CO_2-CO_2 Collision-Induced Absorption in the Fermi Dyad Region:* **J Terragni**, V Kofman, E Kohler, G Villanueva, T Fauchez, S Faggi, S Anderson

1947569 *Uranus Orbiter and Probe: Mission Challenges and Updates Since the Planetary Science Decadal Survey:* **R C Anderson**, A A Simon, D T Gallagher

1951101 *Uranus Orbiter and Probe: System Capture and Orbital Operations:* **D Ellison**, N Hatten, J A Englander, R C Anderson

1947672 *Influence of Lava Flows on the Global Evolution of Venus:* **D J Louro Lourenço**, P J Tackley, M Grünenfelder

1992677 *Investigation of an Archean Collision Zone as a Potential Analogue for the Venus Highlands:* **L Wratchford**, P Byrne

1884299 *Material Selection and Testing of VfOx Sensor Membrane for Oxygen Fugacity Measurement in Lower Venusian Atmosphere:* **S Derrick**, Z Berman, K A Dalrymple, W Dougherty, E Dunn, L Lapp, A Louisy-Louis, P Potrzasaj, S M Horst, N Izenberg, D R Kraemer, A Podpirka

1997731 *Modern Venus Could Have Been Earth-like Several Hundred Million Years Ago:* **P K Byrne**

1847444 *Objective Analysis with Akatsuki Horizontal Winds Assimilation for Studying Planetary-Scale Waves in the Venus Atmosphere:* **Y Fujisawa**, N Sugimoto, N Komori, M Imai, M Takagi, H Ando, T Kouyama

1905479 *Phase Equilibria Modelling of Basaltic Rocks from the Venusian Surface:* **S Uthup**, J G Shellnutt

1992466 *Radiative Transfer Analysis of Gigantic Discontinuity in Venus Cloud Layer and Its Lifecycle:* **T Satoh**, T Imamura, T M Sato, T Kuroda

1946849 *Rock Classification Accuracy for Venus Remote Spectroscopy:* **M D Dyar**, C Ytsma, L Breitenfeld, A Maturilli, G Alemanno, S Adeli, N T Mueller, S Garland, S Smrekar

1966883 *Simulating seismic wave propagation through conceptual Venus models:* **B Chow**, I Seppi, R R Herrick, I S Ahn, Z Yang

1909355 *Small-scale gravity waves in the Venus Atmosphere as seen by VeRa on Venus Express in view of EnVision and other upcoming Venus missions:* **S Tellmann**, J Oschlisniok, M Pätzold, C Dumoulin, P Rosenblatt

1948496 *The Detectability of Volcanic Surface Deformation on Venus in VISAR Interferograms:* **K McCarthy**, H A Zebker

1937828 *The Influence of Transport on Chemistry in the Middle Atmosphere of Venus:* **C A Hsieh**, T Liao, F P Mills, C D Parkinson, Y L Yung

1907748 *The latitudinal and vertical structure of Venus' thermal tides and accompanying flow field as inferred from radio occultations:* **E Galanti**, T Imamura, H Ando, S Tellmann, M Paetzold, R Navon, Y Kaspi

1897216 *True polar wander of Venus:* **N McGregor**, F Nimmo, C Gillmann, G Golabek, D J Louro Lourenço

1913702 *Venus' Water Loss History Inferred from D/H Ratios via Ion Cyclotron Wave Analysis:* **F Weichbold**, H Lammer, M Scherf, D Schmid, C Simon Wedlund, M Volwerk, C X Mazelle, T Constantinou, P Woitke, P Eminger, M Ferus, P Rimmer

260145
Planetary Sciences Student and Early Career GeoBurst Session

Conveners: **Kerri Donaldson Hanna**, University of Central Florida; **Wes Patterson**, Johns Hopkins University Applied Physics Laboratory; **Cesare Grava**, Southwest Research Institute

1955904 *Applying Multi-Time-of-Day Thermal Inertia Measurement to Constrain the Surface Properties of the Medusae Fossae Formation, Mars:* **D Chapline**, C S Edwards, S Khan, K W Lewis

2000984 *Evaluating Orthopyroxene, Olivine, Spinel (OOS) Lithologies on the Moon: Genetic Assemblage or Physical Association?:* **G Sodha**, D Dhingra

1964556 *VERITAS (Venus Emissivity, Radio science, InSAR, Topography, And Spectroscopy): Revealing Venus' Surface and Interior:* **S E Smrekar**, S Hensley, D C Nunes, M D Dyar, J L Whitten, A C Plesa, L Iess, E Mazarico

1929351 *What is the spatial relationship of coronae and constructive volcanism on Venus?:* **M B Russell**, C L Johnson

1943433 *Fractal Geometry of Cloud Ensembles on Jupiter: A Comparative Study with Earth:* **S Bishop**, T J Garrett, K Rees, T DeWitt

2003093 *Hydrodynamic Modeling of the SL9 Fragment G Propagating Rings:* **K Davis**, C J Palotai, R Sankar

1944291 *Modeling Saturn's Space Environment: Interchange Instabilities as a Mechanism for Plasma Transport in the Inner Magnetosphere:* **E Hathaway**, P Oliveira Carvalho Da Silva, J Liu, M W Liemohn, R Ilie, A Roosnovo

1876585 *Tectonic Formation of Divalia Fossae from Vesta's Reorientation and Despinning:* **H C J Cheng**, C Klimczak, I Matsuyama

1949118 *Understanding Asteroid surfaces – Experiments on tribocharging through impacts, slow impacts in reduced gravity and settling in varying gravity levels:* **M Keulen**, K Joeris, T Giese, J E Kollmer, J Teiser, G Wurm

SPA-AERONOMY

248057
2025 Marcel Nicolet Lecture *(joint with SH, SM)*

Conveners: **Katharine Reeves**, Smithsonian Astrophysical Observatory; **Michael Liemohn**, University of Michigan Ann Arbor; **Brianna Isola**, University of New Hampshire Main Campus

250384
Advances in Radio Frequency Propagation Modeling and Applications *(joint with AE)*

Conveners: **Ethan Miller**, STR; **Stephen Kaeppler**, SRI International; **Jonah Colman**, Air Force Research Laboratory Albuquerque; **James Jones**, Northrop Grumman Corporation Bellevue

1883973 *A Fullwave Ray-Optic Approach for Multipath HF Propagation including Attenuation:* **C A Jeffery**

1938008 *AM Radio Interferometry for Tracking Ionospheric Disturbances:* **Y Jia**, S A Cummer, Y Pu

1917488 *Approximate Ray-Tracing in the Moderately Collisional Ionosphere:* **J C Holmes**, C A Jeffery

1950933 *Characterization and Modeling of the Medium Scale Traveling Ionospheric Disturbances (MSTIDs) in High-Frequency radar observations:* **D R Joshi**, D A Hickey, K Zawdie, P Inchin

1970105 *Data-Driven Nighttime D-Region Electron Density Model:* **H Burch**, R C Moore

1992142 *Evaluating Ionospheric D-layer Properties via VLF Observations, Numerical Modeling, and Deep Learning-based Ground-Wave Conductivity Assessments:* **Y Reuveni**, B Romano

1980291 *First In-Situ Measurement of VLF Waveguide Leakage Across the Ionospheric D-Region:* **Z Hasan**, J W Bonnell, R Roglans

1899348 *Frequency-Selective Propagation of Power Line Emissions by Ionospheric Ion Dynamics:* **A Pedgaonkar**, J J Simpson, E A Jensen

1952542 *High-Latitude HF Propagation Experiments Between SuperDARN Radars and Ground-Based Receivers at Summit Station and Pituffik, Greenland:* **E G Thomas**, S G Shepherd, J Holmes, R Troyer, PhD, J Lange, J Carilli, E Burnside, E V Dao

1895739 *How Bad Could It Be? Quantifying Errors in the Quasi-Midpoint Mapping when Ingesting Oblique Ionograms:* **J Hughes, PhD**, L J Nickisch, S V Fridman, S Kraut, M Hogan, K Kramer

1933682 *How do solar flares impact affect VLF propagation in the ionospheric D-region?:* **D E Siskind**, J V Eccles, N Pailoor, K Zawdie, J Reep

1992557 *Investigating Ionospheric Duct Formation with TEC Measurements During HAARP HF Experiments Using Pencil and Toroidal Beams:* **C Spitler**, A Reddy, P A Bernhardt, P A Delamere, M McCarrick

1950371 *Multipoint Investigation of Ionospheric Responses to the 2023 and 2024 Solar Eclipses Using HF Sounding, GNSS TEC, and Modeling:* **S Chakraborty, PhD**, S Mrak, A Barjatya, H Calderon, J Holmes, J Mabie, K Obenberger, T Bullett

1891521 *Polar-cap cap patches as a source of Doppler spread in the polar-cap: a case study:* **G W Perry**, L J Lamarche, O F Jonah, T Cameron

250986
Advances in Understanding Dynamics and Energetics of the Thermosphere-Ionosphere System at Low and Middle Latitudes

Conveners: **Quan Gan**, University of Colorado at Boulder; **Nicholas Pedatella**, University Corporation for Atmospheric Research; **Yen-Jung Wu**, National Cheng Kung University; **Wenbin Wang**, High Altitude Observatory; **Komal Kumari**, National Center for Atmospheric Research

1985333 *2D Pattern of Total Electron Content Day-to-Day Variability During Quiet Days of Solar Minimum:* **J Cheek**, X Cai, T Hu

1915613 *A method to retrieve aeronomic parameters from noontime bottom-side equatorial Ne(h) and satellite neutral density observations:* **L Perrone**, A V Mikhailov

1899867 *Applying newer models and techniques to remote sensing of geophysical conditions:* **S Mukherjee**, S Chakrabarti, L Schaufenbil

1863206 *Development of Swirls in the Thermosphere and Ionosphere during May 2024 Storm: GITM Simulation:* **Z Wang**, Y Deng, C Sheng, S Zou, A J Ridley

1874201 *Drivers of Mid-latitude Quiet-time Longitude Variations in Ionospheric Density:* **K Greer**, L P Goncharenko, V L Harvey, C Y Cullens

1962193 *Quantifying the day-to-day variability in the bottomside ionosphere using Bistatic HF observations:* **D Markowski**, S R Kaeppler

1939994 *Reproduction of Shortwave Fadeout that occurred in May 2024 using GAIA with PHITS and evaluation of blackout detection based on ionospheric parameters:* **K Watanabe**, S Kitajima, H Jin, C Tao, S Masuda, M Nishioka, K Murase

1959916 *Self-Action of HF Radio Waves in the Lower Ionosphere: Experiment and Modeling:* **H Burch**, R C Moore

1949187 *Statistical Properties of Echoes Associated With Polar Cap Patches Obtained From SuperDARN Observations:* **K Beser**, G W Perry

1861705 *The Peculiar Propagation of Equatorial Extremely Low Frequency Whistlers:* **G Hulot**, M Jenner, P Coïsson, L Chauvet, R Deborde

1937282 *Tomographic Reconstruction of Plasma Density from Faraday Rotation Measured During the GIRAFF Rocket Mission:* **A Mule**, K Lynch, R Nikoukar, R Michell, E R Mirizio, P A Bernhardt, L J Lamarche

1929545 *Toward Global Monitoring of the D-Region using Sferic-Based Pipelines:* **M Strong**, M Cohen

1929672 *Extreme Ionospheric Storm Effects at Mid-latitudes During The May 2024 Geomagnetic Storm:* **S Dey**, P C Anderson, A Bukowski, C E Valladares

1974397 *Global F-Region Ionospheric Response to the May 2024 Superstorm as Observed by GNSS-RO and GNSS-POD:* **N Swarnalingam**, D L Wu, D Emmons, C C J Salinas

1916152 *Impacts of Resolved Gravity Waves on Global-Scale Wave Variability in the Ionosphere-Thermosphere: Insights from WACCM-X, ICON, and COSMIC-2:* **F Gasperini**, H Liu

1947352 *Integrating Non-migrating Tides into the Horizontal Wind Model (HWM):* **M Dhadly**, J T Emmert, D P Drob, M Jones Jr, J Oberheide, N Wang, G Small

1963603 *Investigating the Relative Role of NO Cooling and Solar Radiation on Thermospheric Temperature Changes During April 23, 2023 Geomagnetic Storm: GOLD Observations and GITM Simulations:* **S Khanal**, C Sheng, Y Deng, Y Hong, G Lu, Q Gan, X Cai

1960497 *Ionospheric Responses to 10-11 October 2024 Geomagnetic Storm Over Low Latitude South American Region Using Multi-Instrument Observations from Ground and Satellites:* **A Kumar**, P R Fagundes, V G Pillat

1978705 *Large-Scale Traveling Ionospheric Disturbances During May 2024 Superstorm: Ionosonde Observation and MAGE Simulation:* **T Hu**, W Wang, K H Pham, H Wu, L Qian, Q Gan, N M Pedatella

1881387 *Longitudinal and Local Time Dependence of Post Sunset Equatorial Ionization Anomaly: GOLD Observations:* **T Sodari**, Z Wang, D K Karan, PhD, Y Deng, C Sheng

1885453 *Mean Field and Variability Responses of Ionospheric NmF2 to Minor and Weak Geomagnetic Forcing During a 30-day Quiet Solar Minimum Period Based on Ensemble Simulations:* **X Cai**, W Wang, J M McInerney, L Qian, H Liu, R Eastes

1978613 *MSTID Climatology over the Continental U.S.: Longterm Observation and WACCM-X Simulation.:* **J Liu**, S Zhang, H Liu

1888136 *New Results from Balloon Borne FPI HIWIND Thermospheric Wind Observation During the New Zealand Flight and Comparison with the NCAR TIEGCM simulations:* **Q Wu**, H Wu, W Wang

1961013 *One Step Closer with GITM: How Lower Atmospheric Tides Control the Ionosphere-Thermosphere:* **C Wu**, A J Ridley

1918613 *Optimizing Preconditioning Length for the TIEGCM to Improve Geomagnetic Storm Prediction Accuracy:* **S Ortiz**, M J Wiltberger, W Wang, K H Pham, N Rao

1928232 *Post-Sunset Equatorial Ionization Anomaly (EIA) merging during a weak geomagnetic activity on 23-24 February 2023:* **Q Zhu**, P Vishwakarma, C E Valladares, P C Anderson, Q Wu, R Kerr, S K Vines

1916833 *Progress on incorporating non-migrating tidal temperatures into the NRLMSIS® framework:* **M Jones Jr**, J T Emmert, D P Drob, M Dhadly, M H Stevens, J Oberheide, N Wang, G Small

249054
Advances in understanding the characteristics of auroral precipitation and its effects in the magnetosphere-ionosphere-thermosphere system *(joint with SM)*

Conveners: **Dong Lin**, National Center for Atmospheric Research; **Wenbin Wang**, High Altitude Observatory; **Dogacan Ozturk**, University of Michigan; **Shanshan Bao**, Rice University; **Pauline Dredger**, University of Texas at Arlington

1875024 *All-Season Auroral Observations with HiT&MIS: Nighttime Energy & Flux Retrieval of Auroral Electrons and Progress Toward Sunlit Conditions:* **C Patel**, S Chakrabarti, S Mukherjee, L Schaufenbil

1926299 *Characterization of F-region neutral wind response times and its controlling factors during substorms:* **K Davidson**, Y Zou, L J Lamarche, A Bhatt, M Conde

1937075 *QBO imprint on Ionosphere-thermosphere:* **D Singh**, L P Goncharenko, S Zhang

1899282 *Quantifying the I-T day-to-day variability driven from above and below using TIEGCM, ICON, and COSMIC-2:* **X Lu**, J Oberheide, D Aggarwal, B Martinez

1924746 *Quantifying Vertical and Horizontal Wave Energy Fluxes Due to Upward Propagating Tides:* **M Neogi**, J Oberheide

1922976 *Quasi-Trimestrial Oscillations in the Equatorial Ionosphere: Investigating the Underlying Drivers:* **J Wang**, M Y Chou, J Yue, W Wang, C C H Lin

1881250 *Seasonal and Annual Variations in Winds and Temperature Terdiurnal Tides in the Ionosphere seen with ICON, MIGHTI:* **R Agarwal**, S England, G Liu

1873413 *Simulating the Impact of Viscosity on Thermospheric Winds and Temperature Structure During Geomagnetic Storms:* **O Nwankwo**, A J Ridley

1909967 *Study of the Mid-latitude Airglow Responses to Geomagnetic Storms Based on Long-term Observations at Three Locations in Japan: Comparison with the TIMED Satellite and Ionosondes:* **Y Hotta**, S Kazuo, Y Otsuka, M Nishioka, J Yue

1958558 *The quasi-two day wave, gravity waves, and resulting plasma bubble activity over south America linked to lower atmospheric dynamics:* **K Bossert**, J Norrell, P Inchin, S Phillips, P D Pautet, C R Martinis, S D Eckermann, M D Zettergren, B Pineyro, J B Snively

2003736 *Validation of Thermospheric Day-to-Day Variability in the Whole Atmosphere Model Using Space- and Ground-Based Observations:* **G Malhotra**, T J Fuller-Rowell, S Karol, A Kubaryk

1947961 *Characterizing auroral precipitation and energy deposition with the Dragon King model in MAGE:* **D Lin**, W Wang, V G Merkin, M J Wiltberger, S Bao, K Sorathia, X Shi, B Kunduri, M Hartinger, W Lotko, K H Pham, A Sciola, H Wu

1968957 *Contribution and characteristics of electron precipitation mechanisms under different ionospheric, magnetospheric, and solar wind driving conditions:* **A Giraldo**, J P Dombeck, B Ackerman, J H Magnus

1855948 *Energetic Particle Precipitation and Their Contribution to Magnetosphere–Ionosphere Coupling: Insights from ELFIN Measurements:* **X Zhang**

1928984 *Energy inversion of ground-based data from pulsating aurora spectral emissions:* **A D Minot**, A N Jaynes, C Gabrielse, E Spanswick, J Liang

1979584 *Estimation of auroral electron energy flux spectra from multispectral FUV satellite imagery:* **K Rouabhi**, T Matsuo

1933234 *Geomagnetic activity dependence of the auroral electron precipitation spectrum estimated from EISCAT measurements:* **S I Oyama**, I I Virtanen, R Tero, H Tesfaw W, L Holappa, Y Miyoshi, L Cai, H Vanhamaki, A T Aikio, Y Ogawa, K Hosokawa

1872151 *Global Thermospheric Nitric Oxide (NO) Response to the three major geomagnetic storms of 2024:* **C Nayak**, E Yiğit, PhD, N Parihar, S Singh, A P Dimri

1974415 *High-resolution auroral particle precipitation from FAST:* **E R Mirizio**, E Hansen, M Samara, R Michell, R F Pfaff Jr

1933028 *Identifying footprint auroral emission associated with relativistic electron precipitation events at ISS-CALET:* **K Yanagisawa**, K Ryuho, K Seki, D Whiter, Y Miyoshi, S Kazuo, M G Connors, S Torii, S Nakahira

1997439 *Impact of Magnetospheric Electron Heat Flux on the Upper Ionosphere During the May 2024 Superstorm:* **S B Kang**, S P Radhakrishna, M Yoshizumi, M C H Fok, A Glocer

1899315 *Impact of Precipitation During Substorms on Density Irregularities and GPS Position Error:* **Y Nishimura**, W Liao, W Younas, W Li, E Donovan, V Angelopoulos

1963485 *Improving Electron Density Profiles Derived from GNSS RO in Auroral Regions:* **A Hunter**, R Kursinski, P H Cheng, J Brandmeyer

247096
Aeronomy: General Contributions

Conveners: **Scott England**, Virginia Tech; **Hazel Bain**, CU/CIRES NOAA/SWPC; **Weichao Tu**, West Virginia University; **Eduardo Perez Macho**, INPE National Institute for Space Research

1851638 *Analysis of Penetration Electric Fields During Geomagnetic Storms Using Wavelet Coherence Techniques:* **B Adhikari**, A Giri, N Sah, K Saud, G Dangi, N Chapagain, K Pudasainee

1938068 *Assessing the Impact of Ingesting Oblique Ionograms on Specifying the Ionosphere:* **C Nasr**, A Newheart, E Vance, S Thaller, I Collett, J Hughes, R Kelly, J Steward

1894834 *CCMC Onboards PHaRLAP to Facilitate Studies of HF Radio Wave Propagation in Earth's Atmosphere:* **R Janalizadeh**, M Y Chou, J Yue

1964722 *Deformation of the Equatorial Ionization Anomaly Crest due to the Passage of a Hybrid Solar Eclipse on 20 April 2023 over the Indonesian Sector:* **R Pradipta**, A Faturahman, V Dear, S Anggarani, A Husin, J Muhamad, J Horjosuwito, A Purwono, A S Mardiani, S C Pranoto

1991774 *Direction finding of simultaneous medium frequency burst and hiss auroral radio emissions:* **T Godfrey**, J W Labelle

1904343 *Modeling Precipitation-driven D-region conductance:* **Y Zhang**, H Wu, R H Varney, Q Wang, D Ma

1850771 *Purple Rain: Direct Relativistic Electron Injections and Their Auroral Counterparts:* **K Sorathia**, M Shumko, J Liang, H Arnold, V G Merkin, A Sciola, A Michael, D Lin, S Bao, Y Pan, J Garretson, D L Turner, S Ukhorskiy, G Sinha

1991972 *Quantifying Joule heating energetics within the Lower Thermosphere-Ionosphere with the ACES-II sounding rocket:* **L Velazco**, K Greene, R Roglans, J W Bonnell, C Feltman, S R Bounds

1982519 *Quantifying Mesoscale Precipitation: Long-term, Large-scale Statistics of Pulsating Aurora Using an ML Identification Algorithm:* **A N Jaynes**, M Haag, J McLennan, R Troyer, PhD, E Spanswick, E Donovan, F Wu, D Chaddock, K S Chan

1963877 *Traveling ionospheric disturbances associated with dayside and nightside auroral activity:* **S Zhang**, P J Erickson, A Coster

1939047 *Validating an Energy Flux Inversion Method with Satellite Data during Pulsating Aurora Events:* **J McLennan**, A N Jaynes, R Troyer, PhD, S R Kaeppler, M Shumko

1931585 *Evaluation of Hybrid Gas-Surface Interaction Models for Improved Satellite Drag Coefficient Estimation:* **S Dey**, M Pilinski, P C Anderson

1894252 *Evening Vertical Plasma Drifts over South America: Longitudinal and Seasonal Variability from Multi-Instrument Observations and SAMI3, TIE-GCM, and WACCM-X Simulations:* **S Rodrigues Laranja**, B G Fejer, C M De Nardin, L Resende, G Picanço, S S Chen

1903384 *Exploring the Use Cases of Photophoretic Levitation in Near Space:* **B Schafer**, A Feldhaus, J Martinez Hardigree

1949993 *First implementations of plasma line fittings for Millstone Hill ISR:* **A Abubakar**, E L A Rojas Villalba, K Cariglia, R Schaefer, N Aponte, W Rideout

1948807 *Is the D-Region Ionosphere Changing over Decades?:* **M Cohen**

1964019 *On the anomalous negative perturbations during Sudden Storm Commencements and the associated Geomagnetically Induced Currents during space weather events:* **S Hajra**, P R Fagundes, V G Pillat

1846089 *Plasma Blobs and Perkins Instability:* **S Y Su**, C K Chao, L C Tsai, C H Liu

1888314 *Polar mesospheric cloud observations by the Japanese geostationary-Earth-orbit meteorological satellites Himawari-8/9:* **T T Tsuda**, Y Ando, Y Moriyama, J Yue, H Suzuki, H Nakagawa, T Nishiyama, Y Tanaka, K Murata

1879153 *Slow recovery of the plasmaspheric electron density during the May and October 2024 geomagnetic storms:* **A Shinbori**, N Kitamura, K Yamamoto, A Kumamoto, F Tsuchiya, S Matsuda, Y Kasahara, M Teramoto, A Matsuoka, T Sori, Y Otsuka, M Nishioka, S Perwitasari, Y Miyoshi, I Shinohara

1983401 *Structural Insights and Inhibitors Identification Against Mitogen-Activated Protein Kinase Kinase 7 (MAP2K7) Obtained in Microgravity Environment:* **A Premkumar**, G Sharma

248126
Atmosphere-Ionosphere Coupling During Impulsive Events *(joint with NH)*

Conveners: **Xing Meng**, University of Science and Technology of China; **Elvira Astafyeva**, IPGP - Institut de Physique du Globe de Paris; **Pavel Inchin**, Computational Physics Inc. Springfield

1926851 *A Novel Signal Processing Technique Applied to VLF Scattering Experiments at HAARP:* **J Camp**, R C Moore

1908586 *From Fault Ruptures to Atmospheric Perturbations: Examining the 2016 Norcia Seismic Sequence:* **G D'Angelo**, M Falanga, P Cusano, E De Lauro, F Lepreti, M Piersanti

1930839 *Geolocation of Tropospheric TID Sources using Ground-Based TEC Measurements:* **B Bergsson**, P Inchin, S Debchoudhury, S Chakraborty, PhD, M D Zettergren

1948037 *GNSS-TEC Signatures of Multi-Phase Eruption Dynamics at Calbuco Volcano, Chile:* **M Shrivastava**, A K Maurya, S S A, S Layana Dr, P S Sunil, P Salazar, F Aguilera Dr

1893329 *GUARDIAN Scout: First Global AI-Driven System for Automated Detection of Ionospheric Disturbances from Natural Hazards:* **C Martire, PhD**, S Krishnamoorthy, W Lu, M Vallisneri, B Szilagyi, L Romans, A Komjathy, Y E Bar-Sever

1999427 *Impact of different AGW specifications on the Ionospheric Disturbances Generated by the 2022 Tonga Eruption: Comparison of GITM-R simulations and Ionospheric datasets:* **J Tyska**, Y Deng, S Zhang, S Vadas, E Becker, H Liu

1954119 *Impact of Rocket Exhaust on Ionospheric Electron Temperature Observed by the Sanya Incoherent Scatter Radar:* **F Ding**, L Zhao, X Yue, Y Cai, J Wang

1945253 *SuperDARN Dual-Radar USRP Operation in Iceland:* **S G Shepherd**, E G Thomas, J Lange, G Bichenbach Pardo, D Flores, W A Bristow

1983759 *Teaching Old Rockets New Tricks: A Reanalysis of Nightglow Emission Observations:* **K S Kalogerakis**, L Urbanek

1987125 *The 0-Cutoff Rigidity Campaign: Measuring Radiation Dose at Aviation Altitude in High Latitudes:* **G Gronoff**, C J Mertens, D B Phoenix, W K Tobiska

1934092 *Understanding Pc3, Pc4, and Pc5 Waves' Relation to Geomagnetic Events in the Earth's Magnetosphere:* **K Smith**, M B Moldwin, L V Ojeda

1945471 *Linking Anthropogenic Energy Release and Ionospheric Perturbations Above Eastern Europe:* **L P Goncharenko**, S Derghazarian, N Aponte, E L A Rojas Villalba, P Kolla, S Zhang, A Coster, L J Paxton, D V Kotov, S Panasenko, O V Bogomaz

1853954 *Modeling Dual-Mode Co-Seismic Ionospheric Disturbances from the 2010 Chile Earthquake Using Seismo-Atmospheric-Ionospheric Coupling:* **O Adebayo**, E A Kherani, L Rolland, A A Pimenta, S A Sánchez Juarez, T A Patricio

1957355 *Numerical Modeling of Ionospheric Responses to Ground-level, Anthropogenic Sources:* **M D Zettergren**, D Calhoun, J B Snively, C Burstedde, H Brandt, P Inchin, M Hirsch, T Griesbach, S Aiton, K Deshpande

2003054 *Scalable Modeling of Acoustic-Gravity Wave Propagation and Evolutions from Impulsive Sources:* **J B Snively**, D Calhoun, S Aiton, C Burstedde, H Brandt, T Griesbach, B Pineyro, S Mesfin, J Aguilar Guerrero, PhD, C J Heale, P Inchin, R Sabatini, M Hirsch, M D Zettergren

2002627 *TEC Signatures of Acoustic Transients: Automated Detection and Thermosphere Parameter Inversion:* **E L A Rojas Villalba**, L P Goncharenko, S Zhang, S Derghazarian, N Aponte, P Kolla

1862760 *The generation, propagation and dissipation of atmospheric gravity waves in the Earth's atmosphere, and their generation of traveling ionspheric disturbances in the ionosphere:* **S Vadas**

1941729 *Umbrella-shaped nighttime plasma depletion and daytime plasma enhancement over the Tonga volcano after the eruption on 15 January 2022:* **T Liu**, P H Liao, J Y G Liu, P H Lee, C Y T Lin, T Y Wu, C Y Lin, C K Chao

252139
Atmospheric responses to transient events

Conveners: **Rafael Luiz Araujo de Mesquita**, Organization Not Listed; **Igo Paulino**, Federal University of Campina Grande (UFCG); **Gareth Perry**, New Jersey Institute of Technology

1945623 *Characterization of Ionospheric Disturbances from Sustained High-Energy Surface Events using GNSS Data:* **P Kolla**, L P Goncharenko, S Derghazarian, N Aponte, S Zhang, A Coster

249523
Composition, Wind, and Temperature Variability in the Mesosphere and Ionosphere/Thermosphere *(joint with A, AE, SM)*

Conveners: **Sovit Khadka**, Orion Space Solutions; **Jonathan Makela**, University of Illinois at Urbana Champaign; **Liying Qian**, University Corporation for Atmospheric Research; **Gunter Stober**, Institute of Applied Physics & Oeschger Center for Climate Change Research, Microwave Physics, University of Bern; **Lilias Claire Gasque**, Space Sciences Laboratory

1903453 *A report on the Doppler velocity measurement of auroral 427.8-nm band emission by a Fabry-Perot interferometer in Norway:* **K Shiokawa**, T Kikuchi, S I Oyama, Y Ogawa, J Kurihara

1985482 *Advancing In Situ Thermospheric Wind Measurements using the Winds Cross-Track Instrument:* **L Davis**, J H Clemmons, S Black, D J Swanson, D Puopolo

1989038 *Characterizing Mixed Rossby–Gravity Waves Using Dual-Station Spectral Analysis:* **M He**, J M M Forbes, L Liu, C Jacobi, G Stober, G Li

1990506 *Climatology of Mesosphere and Lower Thermosphere Tides Observed by the CONDOR Meteor Radar in the Andes:* **M Bals**, A Z Liu, Z Qiao

1976224 *Climatology of the Solar Tides in the Mesospheric Neutral Wind Components over Puerto Rico: First Year of the PRISMA Meteor Radar.:* **P T Terra**, C G M Garnett Marques Brum

1894610 *Contribution of Gravity Waves to the Lower Thermospheric Winter-to-summer Meridional Circulation in High-resolution WACCM-X:* **D Koshin**, N M Pedatella, A K Smith, H Liu

1914688 *Enhancing the NRLMSIS® NO Local Time Variability via SABER NO Assimilation:* **N Wang**, J Emmert, M Jones Jr, M G Mlynczak, D P Drob, M Dhadly, G Small

1918821 *Gravity Wave Activity during Hurricane Sam:* **A Gann**, E Yiğit, PhD

1933867 *Ionospheric Plasma Density Variations During the April 2024 Total Solar Eclipse: Observations and Modeling:* **K Pandey**, G W Perry, B Kunduri, D Emmons, D Themens, J D Huba, A Chartier

1864965 *Numerical modeling of ionospheric plasma effects driven by tropospheric gravity waves:* **P Inchin**, S D Eckermann, K Zawdie

1902679 *Quantifying the Radiative Recombination Contribution to GOLD Mission's Eclipse O/N_2 Observations:* **S Aryal**, J S Evans, R Eastes, S Mrak, Q Gan, F I Laskar, W Wang

1941275 *Estimating mesospheric winds from gravity wave phase structures in multi-layer airglow imaging:* **S Suzuki**, S Kazuo

1923699 *Evaluation of thermospheric density simulated by TIEGCM during 2014–2024:* **A Hernandez**, H Wu, K H Pham, W Wang, J Vila-Pérez

1879638 *Exploring the Variability of Molecular Oxygen in the Ionosphere-Thermosphere System from the GOLD mission:* **J Holmes**, S England, K Greer

1925227 *Extraction of Upper Atmospheric Tides from Solar Occultations – Simulated Retrievals from the OWLS Instrument and Proof of Concept Using MAVEN EUVM Observations:* **N Jones**, R H A Sewell, E Thiemann, K Greer, F Gasperini

1953218 *First Year of Horizontally-resolved Mid-Latitude Wind Field Observations with the SIMONe Millstone Meteor Radar Network:* **P J Erickson**, R Volz, D Singh, L P Goncharenko, M Clahsen, N Pfeffer, J L Chau

1948281 *Hemispheric Asymmetry in Thermospheric Wind Disturbances During Extreme Lower and Upper Atmospheric Forcing:* **K Kumari**, J J Makela, N M Pedatella, A Bhatt, B J Harding

1924537 *High resolution simulations of the chemistry and dynamics in the mesosphere and lower thermosphere during the 2018-2019 sudden stratosphere warming:* **N M Pedatella**, H Liu, V L Harvey, J L Chau, S Datta-Barua

1929594 *ICON/MIGHTI as a Probe of O-Atom Green Line Emission and Density:* **K S Kalogerakis**, D Matsiev, S Noll

1965799 *Identifying Correlations between Day-to-Day Variabilities in Ionospheric Neutral Winds and in Pre-Reversal Enhancement of Equatorial Zonal Electric Field:* **F Yousuf**, B J Harding, L C Gasque, T J Immel

1990904 *Impact of Solar Cycle Forcing on Electron Density in the Ionosphere — Two-Decade Observations from FORMOSAT-3/COSMIC-1 and FORMOSAT-7/COSMIC-2:* **S Wang**, K F Li, M C Liang, K K Tung

1936447 *Investigating the impact of the migrating terdiurnal tide (TW3) on the thermosphere-ionosphere using TIEGCM driven by ICON observations:* **A I Maute**, C Y Cullens, J M M Forbes, S Karol, S England, R Agarwal

1936181 *Investigating the Relative Contribution of Ion Drag to Thermospheric Wind Dynamics in High-Latitude Regions During a Geomagnetic Storm: A Case Study:* **A Alhothali**, A J Ridley, M Akhavan-Tafti

1956785 *Investigation of Meso-Scale Thermospheric Neutral Winds using Multi-Instruments in Alaska:* **M J Kim**, Y Nishimura, C Sheng, Y Deng, L R Lyons, K Davidson, M Conde

1983412 *Investigation of the Long-Term Relationship between Geomagnetic Activity and Thermospheric $\sum O/N_2$:* **H Li**, C Xiao

1948679 *Latitudinal distribution of AO, SAO and ISOs in the MLT Temperature:* **K** , R Pratap Singh

1942117 *Mesospheric and Lower Thermospheric Responses in the Antarctic Peninsula to the May 2024 Geomagnetic Storm:* **B G Song**, I S Song, M Kogure, G Jee, J H Kim, C Lee, E Kim, Y B Ham, H Kam

1901766 *Near coincident DAILI and GUVI observations of changes in O_2 density and O/N_2 during geomagnetically disturbed and quiet conditions:* **J H Hecht**, L J Gelinas, Y Zhang, R L Walterscheid

1886207 *New Model of the $CO_2$15 μm Cooling of the Mesosphere and Lower Thermosphere:* **A A Kutepov**, A Feofilov, L Rezac, K S Kalogerakis

1969372 *New Rayleigh-Mie Lidar for Sub-Auroral Research at the Sub-Auroral Geophysical Observatory:* **M Roddewig**, R L Collins, V Rajendra Kumar, C Harvey

1926143 *Probing the MLT with Solar Soft X-ray Occultations: Neutral Density and Temperature Measurements from the MinXSS and DAXSS CubeSat Missions:* **R H A Sewell**, E Thiemann, T N Woods

1980531 *Quantifying Day-To-Day Variability of Ionosphere and Thermosphere Induced by Upward Propagating Migrating Diurnal and Semidiurnal Tides:* **T Hu**, L Qian, N M Pedatella, W Wang, Q Gan

1908603 *Response of Neutral Air Density in the Middle Atmosphere to the major SSWs:* **J Yang**

1940275 *Response of NO 5.3 μm Emission to the Geomagnetic Storm on24 April 2023:* **H Gao**, J Xu

1936166 *Role of the Diurnal Tide in Driving the Westward Phase of the Mesospheric Semiannual Oscillation around March Equinox Simulated by High-Resolution WACCM-X:* **C S Krier**, G Liu, H Liu

1986002 *Role of Thermosphere in Interhemispheric Asymmetry of the Ionosphere:* **K H Pham**, R H Varney, W Wang

1866154 *Satellite Drag and Trajectory Analysis under Thermospheric Neutral Winds:* **M Tian**, W Parker, R Linares

1947212 *Solar Rotation as a Driver of Thermospheric Density Variability Seen in the Starlink Constellation Data:* **I Azeem**, E K Sutton, T W Fang

1970595 *Surprising Results of Lidar Measurements of Mean Vertical Winds in the Mesosphere and Lower Thermosphere at McMurdo, Antarctica: Implications on Atmospheric Circulation and Wave Impact:* **X Chu**, J Jandreau, Y Chen, X Li, C Y T Lin, C S Gardner, L Qian, H Liu

1963747 *TeraHz Limb Sounder (TLS): Remote Sensing instrument for Atmospheric Oxygen Density, Temperature and Neutral Winds:* **S Mrak**, J H Yee, C Cantrall, R L Araujo de Mesquita, I Mehdi, B Drouin, A Maestrini

1856710 *The behavior of thermospheric O, N_2 and temperature as revealed by ICON-FUV:* **S England**, R R Meier, C C Triplett, G Liu

1918728 *The Effects of Coupling Thermosphere and Exosphere Models on Helium Dynamics and Distribution:* **S Luettgen**, J P Thayer, E K Sutton

1924243 *The EZIE Mission Mesospheric Retrievals: Temperature Profiles and Line-of-Sight Winds:* **R L Araujo de Mesquita**, J H Yee, J W Gjerloev, W H Swartz, R DeMajistre, S Misra, F Werner, M Schwartz, B Smith

1950181 *The Impact of Medium-Energy Particles on Antarctic Stratospheric Ozone: Based on the WACCM-SIC Model:* **S Chang**, Z Chen, W Feng, J M C Plane, D R Marsh, M Chipperfield, G Li, Y Chen, H He, Y Zhang

1958076 *Thermosphere Wind Observations with the Winds In-Track Sounding Rocket Instrument:* **D J Swanson**, J H Clemmons, D Puopolo, L Davis

1914152 *Thermospheric Temperature and Density Coupling: Sensitivity of Density Longitudinal Variations to Temperature Tides:* **J T Emmert**, M Jones Jr, D P Drob, M S Dhadly, J Oberheide, N Wang, G Small

1992028 *Thermospheric temperature retrievals from ICON/MIGHTI observations:* **L Navarro**, C C Triplett, B J Harding, T J Immel

1983303 *Thermospheric Variability in Composition, Temperature and Winds over a 1000-day period:* **T J Immel**, M H Stevens, S England, R R Meier, Y J Wu, B J Harding, C C Triplett, L C Gasque

1940808 *Validation of Neutral Wind in the Mesopause Measured by a Dual-Channel Optical 1 Interferometer (DCOI) Network of the Chinese Meridian Project:* **W Liu**, Y Zhu, J Xu, Q LI, W Yuan, G Zhu, T Wang, G Yang, L Du, S Liu, F Li

1970912 *Variations in Storm-Driven Nitric Oxide Generation Across Local Times:* **K Delano**, D Oliveira, S Mutschler, B Dilorenzo, L Qian, E Zesta

250590
Coordinating Python Software in Space Physics *(joint with IN, P, SH, SM)*

Conveners: **Julie Barnum**, Colorado State University; **Shawn Polson**, Laboratory for Atmospheric and Space Physics; **James Lewis**, University of California Berkeley; **Angeline Burrell**, US Naval Research Laboratory; **Shawn Polson**, Laboratory for Atmospheric and Space Physics

1900206 *GNEISS/PySTET: A GPU-enabled Python code for magnetospheric superthermal electron energization and transport:* **I DesJardin**, J Dorelli, A Glocer, G V Khazanov

1974654 *MavenPy: A native Python package for accessing MAVEN spacecraft data:* **R Jolitz**

247933
Current System throughout Geospace: Its Drivers, Dynamics, and Coupling *(joint with GP, SM)*

Conveners: **Astrid Maute**, National Center for Atmospheric Research; **Patrick Alken**, NOAA National Centers for Environmental Information; **Karl Laundal**, University of Bergen; **Yukitoshi Nishimura**, University of California Los Angeles; **Sneha Yadav**, UCLA

1909394 *Atmosphere-ionosphere coupling in the equatorial electrojet:* **Y Yamazaki**

1921434 *Day and Night Variations of Electric and Magnetic Fields in the Equatorial Ionosphere During Major Geomagnetic Storms of 2024:* **J Rodriguez-Zuluaga**, Y Zou

2000286 *Detecting Spatial Early Warning Signals of Substorms in Ionospheric Current Systems:* **R M McGranaghan**, O P Verkhoglyadova, J W Gjerloev

1865565 *Five extreme storm time auroral electrojet events: Testing our understanding.:* **J W Gjerloev**, S Ohtani, Y Zou

1965212 *Global Ionospheric Electrodynamics During Geomagnetic Storms: Combined Effects of Wind-Driven Dynamo, Magnetospheric Field-Aligned Currents and Energetic Particle Precipitation:* **H Wu**, A I Maute, W Wang, V G Merkin, D Lin, A D Richmond, K Sorathia, J W Gjerloev, H Liu, J M McInerney, F Vitt

1971214 *MHDweb: An Interactive Visualization Toolkit for Coronal and Heliospheric Magnetohydrodynamic Simulations:* **R Davidson**, A Reyes, C Downs, J Linker, P Riley, R M Caplan, M Ben-Nun, E Palmerio

1933079 *PyAuroraX: Updates to data access and analysis support tools for auroral datasets:* **D Chaddock**, J Houghton, E Spanswick, E Donovan, J Liang, B Gallardo-Lacourt

1984911 *PySPEDAS: 2025 Updates, New Features, and Development Roadmap:* **J W Lewis**, N Hatzigeorgiu, J M McTiernan, C Russell, A Drozdov, J Wu, M F Bashir, D Carpenter

1985565 *Updating the PyIRI Core Coefficients Through Spherical Harmonics.:* **N Servan-Schreiber**, V Makarevich, M Burleigh, K Zawdie, J L Semeter

1955744 *In situ Hall and Pedersen Conductivity During a Weak, Pre-midnight Auroral Arc: The ACES-II Twin Rocket Campaign:* **C Feltman**, S R Bounds, S R Kaeppler, K Greene, R Roglans, J W Bonnell, M Lessard

1895796 *Kinetic Simulations of Farley-Buneman Waves within a Vertically Structured High-Latitude Ionosphere Shows Coupling of Waves between Altitudes with Impacts on Measurements and Conductance:* **M M Oppenheim**, R Koontaweepunya, A Green, Y S Dimant

1966675 *Modeling Auroral-Like Forms: The Role of Parallel Electric Fields and Turbulent Conductivities:* **P R Vaggu**, M D Zettergren, L C Gasque, B J Harding, M Young, J M Diaz Pena

1886671 *Towards a physically constrained empirical model of climatological variations of ionospheric F-region magnetic field and electric currents:* **G Hulot**, M Fillion, P Alken

2002876 *Validation of ICON-Derived Ionospheric Currents Using Ohm's Law and Swarm Data: Assessing the Role of Conductivity:* **Y J Wu**, S B Mende, B J Harding, P Alken, A I Maute, C C Triplett, T J Immel, L C Gasque, C C J Salinas

1990013 *VLF Wave Generation as a plasma diagnostic:* **T Lindley**, H Burch

252110
Debris and Meteoroids in the Space Environment

Conveners: **Alex Fletcher**, Stanford University; **Reinhard Friedel**, Los Alamos National Laboratory; **Jonathan Parham**, Organization Not Listed

1918328 *Deep Learning Models for Automated Identification of Non-Thermal Electromagnetic Radiation (NTEM) Signals in Archival Radio Telescope Data:* **T Atilaw**, M Akhavan-Tafti, N O Renno, Y Zhang, Y Chen

1923807 *Empirical Dielectric Characterization of Dusty Plasma through Laboratory Experiments:* **A L Hodges**, T Canny, E M Tejero, W E Amatucci

2001065 *Fluid Modeling of 2D Magnetized and Unmagnetized Solitons for Orbital Debris Detection:* **A Mansour**, C M Hartzell, A Barjatya

1917963 *Impact of debris charging models on the formation of ion-acoustic precursor solitons:* **J C Holmes**, P A Resendiz Lira, G L Delzanno

1976501 *Investigation of object-plasma interactions in Low-Earth Orbit through integrated numerical and laboratory approaches:* **N Maruyama**, D Malaspina, X Wang, J Deca, Y Miyake, L Andersson

1893918 *Leveraging Impact-Induced Emissions to Remotely Detect Small Space Debris and Meteoroids:* **Y Zhang**, N O Renno, C Li, T Atilaw, M Akhavan-Tafti

1946516 *Lightsheet Anomaly Resolution and Debris Observation (LARADO) Test Results and Pre-Launch Update:* **A C Nicholas**, K D Marr, J M Wolf, V Kooi, T T Finne, C M Brown, S A Budzien, G Small

252241
Exploring E-Region Dynamics: From Theory to Forecasting, Observations and Emerging Applications

Conveners: **Eliana Nossa**, US Naval Research Laboratory; **Aroh Barjatya**, Embry-Riddle Aeronautical University; **Stephen Kaeppler**, SRI International; **Kenneth Obenberger**, Air Force Research Laboratory Albuquerque; **Bryce Halter**, University of Colorado Boulder

1914478 *Distinguishing Sporadic-E from Auroral-E in GNSS Radio Occultation Measurements of the Arctic Ionosphere:* **S Hyder**, D Emmons

1912158 *Dynamics and Electrodynamics Across the Turbopause and the Mesosphere/Lower Thermosphere Transition:* **M F Larsen**

2001141 *Micrometeoroid Entry as a Fluid-Structure Interaction Problem: A Coupled DSMC-FEM Approach:* **K Blake**, S Elschot, C Farhat

1891988 *Modeling Meteoroid Ablation Via Large Computational Plasma Simulations to Understand the Near-Earth Dust Population:* **T Hedges**, N Lee, S Elschot, G Sugar, M M Oppenheim

1863490 *N-Body Simulations of the Centaur (20199) Chariklo Ring System:* **L Angrand**, J Nollenberg

1884543 *Passive Detection of Whistler Waves from Space Objects with Ground and Satellite Sensors and Active Detection with VHF Radar:* **P A Bernhardt**, B E Eliasson, D Hysell, A D Howarth

1885373 *Plasma signatures of small orbital debris in LEO:* **G L Delzanno**, P A Resendiz Lira, S Janhunen, J Holmes

1856836 *Plasma Signatures of Space Objects Observed by the e-POP Radio Receiver Instrument: A Statistical Study:* **I Collett**, S Thaller, C Nasr, A Newheart, R Patel, R Kelly, E Vance, J Hughes, PhD, W Wilson, N Parrish, B Tatman

1864600 *Prototyping and Design Advances for Debris and meteoroid ENvironment Sensor (DENTS): an Instrument for In-Situ Small Debris Detection and Characterization of the Near-Spacecraft Environment Following Hypervelocity Impacts:* **D Malaspina**, Z Sternovsky, T Hellickson, S Wade, A Borlovan, L Christenson, J Astalos, L Andersson, D Martin

1876839 *Seasonal and Diurnal Variations in Meteor Trail Characteristics Generated from the Influx of Space Objects Observed by VHF Specular Meteor Radar:* **H Kam**, E J Choi, D G Roh, J H Jo, C Lee, M Kim, J Choi, J Yu

1986317 *Dynamics of E region Irregularities Observed with the ALTAIR Radar, Multi-mode Ionosonde Measurements and GNSS Radio Occultations During the NASA SEED Sounding Rocket Campaign:* **K M Groves**, V Paznukhov, C Carrano, T Modesto Surco Espejo, A Barjatya, D Hysell, R Kursinski

1980013 *Effects of Geometric Error of Optical Inversions on Driving the GEMINI Model:* **C Westerlund**, D L Hampton, K Lynch

1968794 *Enhanced Detection of Sporadic E-Layers Using PlanetiQ and COSMIC-2 Radio Occultations:* **P H Cheng**, R Kursinski, A Hunter, J Brandmeyer, K M Groves, C Carrano

1998953 *Estimating Sporadic-E electron density perturbations from COSMIC-2 excess phase measurements:* **C C J Salinas**, D L Wu, D Emmons, Y Yamazaki, L Qian, J L Chau, N Swarnalingam

1950084 *Exploring the auroral E-region with rockets, tomography, radars, imagery, and modelling: a GNEISS, GEMINI, and Swarm-over-Poker study of auroral current closure:* **K A Lynch**, J van Irsel, A Mule, C Acomb, D L Hampton, C Westerlund, L J Lamarche, R Michell, M Samara, M Lessard, R Nikoukar, J W Bonnell, M Burleigh, R Clayton, M D Zettergren

1895494 *Forecasting Sporadic E Using Planetary Wave and Tidal Signatures in Radio Occultation Data:* **J Hughes, PhD**, M Hogan, K Kramer, J Ellis, D J Emmons II, K Obenberger, J B Malins

1896221 *Formation Mechanism of the E Layer at Lower Altitude (ELLA):* **E Nossa**, J Krall

1880620 *Global Empirical Model of Sporadic-E Occurrence Rates: GEMSOR:* **D J Emmons II**, E Parsch, A L Franz, E V Dao, D L Wu, N Swarnalingam, C C J Salinas

2002966 *Ionosonde observations and machine-learning modelling of Es irregularities.:* **V Paznukhov**, K M Groves, M Proctor

1951906 *Lidar Discovery of Annual and Semiannual Oscillations in Thermosphere–Ionosphere Na (TINa) Layers and Comparison with WACCM-X-Na Simulations:* **Y Chen**, X Chu, W Feng, J M C Plane, C S Gardner

1852717 *May 2024 severe geomagnetic storm suppressed mid-latitude ionospheric E-region formation mechanism:* **C C J Salinas**, D L Wu, L Qian

1968097 *Modifications to Auroral E-Region Conductivity Structure and Energy Deposition from Prolonged Pulsating Aurora associated with the LAMP Sounding Rocket Campaign:* **L Coleman**, S R Kaeppler

251310
Gravity Waves, From the Surface to the Edge of Space *(joint with A, OS, P)*

Conveners: **Corwin Wright**, University of Bath; **Neil Hindley**, University of Bath; **Tyler Mixa**, University of Colorado Boulder; **Haruka Okui**, The University of Tokyo; **Haruka Okui**, The University of Tokyo

1895754 *A Case Study of Overlapping Medium Scale Traveling Ionospheric Disturbance and Gravity Wave Observations over Alaska at Geomagnetically Quiet Times:* **S Phillips**, K Bossert, E Becker

1992884 *Airborne and Balloon-borne Gravity Wave Observations and Modelling During the Multinational TEAMx Observational Campaigns Over the European Alps:* **N Hindley**, A Orr, C Wright, A N Ross, T Banyard, P Noble, M Lehner, S Gumber, S Mobbs, C Chemel

1908382 *Multi-Scale Observations of the Lower Thermosphere and E-Region with the SIMONe Network:* **J L Chau**, J M M Urco, D R Huyghebaert, K Obenberger, J F Conte, M Clahsen, R Latteck, G Mitra, T Renkwitz, R Volz

1852039 *Observations and fully-coupled numerical simulations of ionospheric irregularities in the postsunset subauroral E region:* **D L Hysell**, M F Larsen

1925322 *Simultaneous Multipoint In-Situ Observations of Sporadic E Layers and Associated Plasma Irregularities:* **H Valentine**, A Barjatya, S Chakraborty, PhD, R Clayton, N Graves, S Debchoudhury, R Conway, J Milford, K M Groves, T Modesto Surco Espejo, T W Bullett, M F Larsen

1987922 *Sporadic-E Layer Electrodynamics Revealed from Combined Sounding Rocket and VHF Radar Observations:* **R F Pfaff Jr**, E Kudeki, M F Larsen, J H Clemmons, H T Freudenreich, G D Earle, J V Urbina, S R Bounds, S Franke, R J Wheeler, R L Bishop

1938775 *The Observational Evidence of Wind Shear Theory for the Development of Mid-Latitude Sporadic-E Layer through ICON/MIGHTI and Korean Ionosondes:* **J Lee**, Y S Kwak, H Kil, T Y Yang, J Y Yun

1973869 *Unraveling Temperature- and Composition-dependent Dynamics of the Ionospheric E-region:* **J L Semeter**, N Servan-Schreiber, M LeMay, J M Diaz Pena, Y Nishimura, M Hirsch

1977243 *WVU RockSat-X; Lab Plasma Calibrated Ionospheric Density Profile from In-Situ Sounding Rocket:* **D Conner**, J Bowman, G Lusk, H Perera, K Goodrich, C M Fowler, J W Bonnell, N Ghalsasi

1929488 *Airborne Rayleigh and Sodium Lidar Observations of Convective Gravity Waves during the CGWaveS Campaign:* **B P Williams**, D C Fritts, S Meloney, D S Nolan

1942399 *Assessing mesospheric cooling rates from vertical wind observations using multistatic meteor radar networks and advanced retrieval methods:* **G Stober**, A Liu, A Kozlovsky, D Janches, J Zeng, L Poku, W Yi, W Krochin, Z Qiao, S Nozawa, M Tsutsumi, N Gulbrandsen, J Kero, M Lester, N J Mitchell, T Moffat-Griffin

1928329 *Atmospheric Instabilities above the Andes Lidar Observatory:* **J Norrell**, K Bossert

1909126 *Climatologies of Gravity Wave Properties over Scandinavia: A Multi-Instrument Comparison:* **J Jaen**, C Wright, P Noble, N Hindley, R Wing, P Berthelemy

1996657 *Comparison of gravity waves observed by Atmospheric Waves Experiment and simulated by high-resolution WACCM-X:* **J Zhang**, H Liu, Y Zhao, P D Pautet, L Scherliess

1890229 *Coupling of Gravity Wave Parameterisation to Cloud Ice Processes: Implementation and Effects in a Global NWP Model:* **A Kosareva**, S Dolaptchiev, A Seifert, P Spichtinger, U Achatz

1932316 *Dual-station Triangulation of Spritacular Citizen Science Observations Exhibiting Concurrent Mesospheric Gravity Waves and Sprites:* **F Di Mare**, B Kosar, J Yue

1866790 *Exploring the Link between Convectively Generated Gravity Waves and Ionospheric Anomalies: Insights from Observations near the Low-Mid Latitude Geomagnetic Transition Region:* **M Malik**, M R Rather Jr, A H Bhat Jr, R K Thokuluwa

1897043 *First Observations of Conjugate Equator-eastward Propagating Nighttime MSTIDs: 4 October 2018 Case Study:* **Z T Katamzi-Joseph**, C R Martinis, J J Makela, Y Otsuka, J B Habarulema, A Hiyadutuje, M B Moldwin, S Toledano

1930146 *Flying Around Thunderstorms at Night: The Convective Gravity Waves in the Stratosphere Experiment (CGWaveS):* **D S Nolan**, D C Fritts, B P Williams, Y Dai, T Lund, C G Kruse, B D McNoldy, S Majumdar, C Pine

1848370 *Geolocation Algorithms and On-Orbit Calibration for Atmospheric Waves Experiment:* **E McKinney**, K Blonquist, Z Hatfield, C Waite, P Sevilla, L Scherliess, H Latvakoski, G Cantwell

1952158 *Gravity waves measured by the CONDOR Meteor Radar in the Andes:* **A Z Liu**, G Stober, W Dong, Z Qiao, J L Chau, J F Conte, C Adami

1962183 *GW-KHI Interactions in the MLT: KHI Localization and Modulation by the GW Field:* **T Mixa**, D C Fritts, T Lund

1900005 *High-resolution observations of mesoscale gravity wave events in the nocturnal boundary-layer over the Netherlands and Belgium:* **J D Assink**, S Knoop, H Leijnse, N Theeuwes, S Tijm, L G Evers, M de Haij, F Bosveld, C Unal, Q Laffineur

1909505 *Inertia-gravity waves above extratropical storm track:* **I S Song**, J T Bacmeister, A R Herrington, P H Lauritzen

1850303 *Influences of Derecho Storms on the Ionosphere and Thermosphere: Gravity Wave Coupling from Deep Convection:* **L Wilcoxson**, K Bossert, P Inchin

1885416 *Initial exploration of gravity wave responses to diverse sources at ~87 km employing the NASA Atmospheric Waves Experiment (AWE) aboard the International Space Station:* **D C Fritts**

1894886 *Local Time Variability of Gravity Wave Activity Revealed by SABER Temperature Observations:* **D Koshin**, N M Pedatella, A K Smith, H Liu

2001952 *Modeling Thermospheric Responses to Acoustic-Gravity/Gravity Waves Generated by Isolated Thunderstorms:* **S Mesfin**, B Pineyro, B Bergsson, J Aguilar Guerrero, PhD, C J Heale, J B Snively

2002809 *Multi-instrument Synoptic Characterization of Deep Convective Events and Associated Gravity Wave Responses Over CONUS Using AWE, AIRS, TEC, and LLITED:* **J Aguilar Guerrero, PhD**, B Bergsson, S Debchoudhury, S Mesfin, P Inchin, J B Snively, M D Zettergren, A Barjatya, L Scherliess, Y Zhao, P D Pautet

1850265 *Multi-Season Hydroxyl Airglow Observations of Gravity Waves Over Poker Flat, AK:* **T Karasinski**, K Bossert

1885219 *Numerical Simulations of the 1992 February 14-15 STORM-FEST Gravity Wave Event with Wave Genesis Diagnostics:* **R Bhandari**, M Kaplan

1976836 *Observed and Modeled Critical Level Filtering of Convection-Generated Gravity Waves Sampled During the CGWAVES Field Campaign:* **C G Kruse**, D C Fritts, D S Nolan, S D Eckermann, B P Williams, Y Dai, J Aguilar Guerrero, PhD, T Lund

1963758 *SAAMER-NOVA is a new multistatic meteor radar network for gravity wave studies above Tierra del Fuego:* **G Stober**, D Janches, B Fuller, R Weryk, D O'Connor, J L Hormaechea, L Maslov

1999946 *Spatial Downscaling of WACCM-X Using a Graph Diffusion-Transformer (GDiT) Model: A Novel Approach to Gravity Wave Parameterization:* **W Dong**

1920426 *Statistical Characterization of Small-Scale Instabilities in the Mesosphere and Lower Thermosphere from Machine Learning-Detected Ripple Structures in Airflow Images:* **J Hu**, A Feener, A Liu, J Li, T Li, W Dong

1850521 *Stratospheric Gravity Waves and Medium-Scale Traveling Ionospheric Disturbances Induced by Heavy Rainfall in August 2021 over Kyushu, Japan:* **M Kogure**, I S Song, B G Song, H Liu, M Nishioka, S Perwitasari, H Kam, J Hong

2001122 *The generation of primary and secondary gravity waves and traveling ionospheric disturbances from deep convection over the United States during 25-26 March 2015:* **S Vadas**, E Becker, S Mrak, J D Huba, K Bossert

1963882 *The limitations of steady source gravity wave parameterizations at reproducing observed momentum flux distributions:* **R King**, B Green, A Sheshadri

1987664 *Three-Dimensional Structure of the Mesospheric Circulation and the Role of Waves:* **H Okui**, K Sato

1919142 *Tracing low-latitude thermospheric gravity waves in a whole-atmosphere simulation to their sources:* **C Stephan**

1938956 *Validation and Impact of Large-Scale Gravity Waves using ICON-MIGHTI and SD-WACCMX:* **C Y Cullens**, H Liu, A I Maute, N M Pedatella, S England, B Thurairajah, T J Immel

1927857 *Validation of the mesopause region temperature observations by the Atmospheric Waves Experiment:* **T Yuan**, P D Pautet

248552
Heavy Metal Ionosphere: Cranking up the Volume on Space Rock and Human Tech Infusion

Conveners: **Austin Egert**, Organization Not Listed; **Matthew Cooper**, Orion Space Solutions; **Jörg-Micha Jahn**, University of Texas at San Antonio

247379
Magnetosphere-Ionosphere-Thermosphere Coupling Across Regions and Scales *(joint with SM)*

Conveners: **Yukitoshi Nishimura**, University of California Los Angeles; **Yue Deng**, University of Texas at Arlington; **Larry Lyons**, University of California Los Angeles; **Cheng Sheng**, University of Texas at Arlington; **Katherine Davidson**, Boston University

1863752 *A Numerical Study on the Responses of Thermosphere Density to the IMF B_y Condition at High Latitudes:* **Y Tan**, J Lei, Z Li, X Luan

1869188 *Advancing Magnetosphere-Ionosphere-Thermosphere Modeling: Initial results from Coupling OpenGGCM and AROTHRON:* **B Ferdousi, PhD**, V Eccles, M David, J Raeder, J Holmes, S Kavosi

1920847 *Are Sustained Strong Vertical Winds a Result of both Alfven Wave Heating and DC Joule Heating?:* **J W Meriwether**, M F Larsen, L Navarro, D Hampton, A J Gerrard

1982173 *Aurora-like Emissions Driven by Local Ionospheric Parallel Electric Fields: Observations and Modeling:* **L C Gasque**, B J Harding, M D Zettergren, P R Vaggu

1947202 *Auroral Bead Propagation: Explanation based on the Conservation of Vorticity:* **S Ohtani**, T Motoba

1932937 *Auroral Omega Bands as Signatures of Magnetosphere-Ionosphere Coupling: MAGE Simulations of Two Distinct Morphologies:* **S Bao**, J Liu, F Toffoletto, K Sorathia, V G Merkin, D Lin, M J Wiltberger

1989612 *Comparisons of Field-Aligned Currents under CME and CIR Regimes:* **Y Han**, M He

1952208 *Vertical Evolution of Antarctic Gravity Waves from 30-110 km and comparison of LIDAR Observations with a GW-resolving Model:* **J Jandreau**, X Chu, S Vadas, E Becker

1874043 *A New Spacecraft Design Challenge: Minimizing the Atmospheric Impacts of Re-entry:* **D Karwat**, J Hollander, L Schulz, K H Glassmeier, J Wang, T Harrison

1906351 *From Meteoroids to Space Emissions: The Lithium Story in the Mesosphere:* **M Gerding**, R Wing, G Baumgarten, W Feng, J Höffner, J Mielich, Y A Morfa Avalos, J M C Plane, T Renkwitz, L Schulz, C Stephan, C Stolle, J M M Urco, Y Yamazaki

1973163 *Connection of Plasma Sheet Flow Bursts with Region-2 Field-aligned Currents (R2 FACs) and Associated Shielding Electric Fields:* **S Yadav**, L R Lyons, S Tian, J Liu, Y Nishimura

1977043 *Corotational Interaction Region (CIR) effects over the equatorial, low and mid latitude ionosphere-thermosphere during the May 2025 ISR World Day campaign:* **L Navarro**, B G Fejer, L Goodwin, L P Goncharenko, D Billett, Y Cai, X Yue, P J Condor P, K Kuyeng, C De La Jara, C E Valladares, D Scipion, R Kerr, J Souza, S Kapali, M A Migliozzi, J Riccobono, C Mauricio

1874761 *Data-Informed Conductivity Profiles: Their Evolution in Three Dimensions Over Time During a CME Main Phase:* **C Gabrielse**, Y Nishimura, M Chen, J H Hecht, S R Kaeppler, D M Gillies, Y Deng, E Spanswick, E Donovan, J S Evans, L R Lyons

1997098 *Dynamic spectral characterization of caustics waves observed in Mexico:* **M R Rodriguez-Martinez**, E Aguilar-Rodriguez, E Romero-Hernandez, K S Caballero-Mora, E G Perez-Tijerina, R V Julio Cesar, E Andrade-Mascote, G Z Raul, P Villanueva-Hernandez, I A Peralta-Mendoza, D L H Hugo, A R Roberto, M O Oscar Gustavo, C R Claudio Yahir

1950003 *Effect of Soft Electron Precipitation on Cusp Neutral Density Structuring:* **B Sadler**, M Lessard, A Otto

1931444 *Electron Backscatter in Energetic Particle Precipitation: Data Analysis and Simulation:* **J Claxton**, R A Marshall

1947878 *Exploring Stormtime Geospace as a Complex System: Recent Developments from the Center for Geospace Storms:* **V G Merkin**, K Sorathia, J Lyon, A Sciola, K H Pham, D Lin, H Wu, S Bao, S Roy, M J Wiltberger

1972058 *GITM simulation of I-T response to reversed two-cell convection during large-scale auroral precipitation in the polar cap:* **S Hill**, A N Jaynes, D S Ozturk, A J Ridley, T I Pulkkinen

1948592 *GITM Simulations of Ionosphere and Thermosphere Response to an Idealized Subauroral Ion Drift Channel:* **C Sheng**, Y Deng, J Liang, Y Nishimura, L R Lyons, B J Harding

1904536 *High-latitude Conductance Modeling under Solar EUV Forcing:* **Y Zhang**, R H Varney, D Ma

1968808 *High-Latitude Thermosphere Energy-Tracking Framework for Identifying Sources of Temperature and Density Structures:* **A Buynovskiy**, J P Thayer, A Coleman

1919593 *IMAP Student Collaboration: 3UCubed Concept of Operations, Flight Software, and Testing:* **D Flynn**, A Santos, S Mehta, N Lugaz, J Schneider, J Brannan, D Phyllides, E Quenneville

1919805 *IMAP Student Collaboration: 3UCubed Instruments, Calibration, Science, and Science Operations:* **D Phyllides**, E Quenneville, D Flynn, N Lugaz, S Mehta, M Lessard, L M Peticolas, M Alfred

1891326 *Impacts of Neutral Wind-induced Currents on Geomagnetic Disturbances and Magnetospheric Dynamics During the May 2024 Gannon Storm:* **Y Deng**, Y Hong, C Sheng, D T Welling, C L Waters

2000782 *Intriguing phase Reversals in the Main Phase of Geomagnetic Storms: Insights from major Geomagnetic Storms with Intense Substorms:* **S Hajra**, P R Fagundes, V G Pillat

1929029 *Investigating Intense Plasma Drifts and Associated Optical Emissions Using Swarm and TREx RGB All-Sky Imager Observations:* **S Madlangbayan**, L C Gasque, B J Harding

1954663 *Investigating Magnetosphere-Ionosphere Coupling During STEVE and STEVE-like Events:* **L V Goodwin**, S Derghazarian, P KC, G W Perry, B Gallardo-Lacourt

1922406 *Isolated substorm effect on magnetosphere-ionosphere system:* **S Kumar**, K Pandey, Y Zheng, Y Miyoshi, D Chakrabarty

1933772 *Low-latitude auroral activity and ionospheric convection – their dependence on geomagnetic storm activity:* **N Nishitani**, T Hori, K Hosokawa, A Shinbori, Y Obana, M Teramoto, S Kazuo, R Kataoka

1884334 *Meso-scale Polar Cap Flows and their Impact on Polar Cap Patch Evolution:* **A Lee**, Y Nishimura, K Davidson, W Younas, T I Pulkkinen, N Nishitani, S Kazuo

1904969 *Multiple Bands of Enhanced Nitric Oxide (NO) Overtone Vibrational Emissions in Sub-Auroral Ion Drift (SAID): A Likely Significant Source of STEVE Continuum Emission:* **A W Yau**, W K Peterson, A D Howarth

2003113 *Multiscale Signatures of the Feedback-Unstable Ionosphere Alfvén Resonator: Observations from the ACES-II Sounding Rockets and a First Look from TRACERS:* **K Greene**, J W Bonnell, D Miles, S R Bounds, T Ervin, C Feltman, K Goodrich, J S Halekas, G B Hospodarsky, C Kletzing, M Oieroset, R Roglans, S R Shaver, R J Strangeway, A V Streltsov

1991205 *Nitric oxide intensification associated with STEVE: TIMED/SABER observations and comparison with GITM simulation:* **J Liang**, C Sheng, B Kunduri, B J Harding, M G Mlynczak, E Donovan, E Spanswick

1908468 *Plasmaspheric Response to Periodic Solar Wind High-Speed Streams:* **Q Li**, M He, Y Hao, F He, X Zhang

1881183 *Quantifying the Contributions of Neutral Winds to Auroral Current Closure Simulated in GEMINI:* **C Acomb**, R Magee, J van Irsel, K Lynch, M D Zettergren

1941809 *Quantitative Comparison of Sudden Impulse Signatures between MAGE Global modelling and Observations during a Negative Solar Wind Pressure Pulse:* **G Kakoti**, S Kazuo, D Lin

1937635 *Resolving Multi-Scale Plasma Perturbations During the March 2014 Substorm Using GITM Simulations Driven by High-Resolution SuperDARN Convection:* **Y Hong**, C Sheng, Y Deng, B Bristow, Y Nishimura

1912062 *Revealing a New Source of Traveling Atmospheric and Ionospheric Disturbances: Global Impacts of Ultra-Low-Frequency Waves:* **X Shi**, H Wu, W Wang, D Lin, M Hartinger, S Chakraborty, PhD, J B H Baker

1965462 *ROARS: Research Observatory for Atmospheric Responses to Sun-magnetosphere interactions:* **R T Desai**, B Hnat, J Blake, M W Dunlop, M Brown, T Daggitt, M T Walach, J Coxon, E V Panov, R Nakamura

1921714 *Statistical Distribution of Dawnside Auroral Polarization Streams:* **J Liu**, C Forsyth, L R Lyons, C P Wang, V Angelopoulos, A Runov, S Tian, Y Shen, J K Burchill, M Stephen

1907638 *The Role of Downward Plasma Diffusion in the Ionospheric Nighttime Weddell Sea Anomaly:* **Q Li**, M He, W Wang, S Zhang, L Qian, E Aa, D Wang

1966501 *The STEVE continuum emission: constraints from vibrational kinetic modeling:* **B J Harding**, L C Gasque

1935242 *Thermospheric density variations during the 2024 Gannon Storm: An integrated observational and modeling study:* **Q Zhu**, S K Vines, M R Hairston, Y J Chen, P C Anderson, C Sheng, Y Deng

1926539 *Unraveling the relationship between meso-scale ionospheric flow channels and auroral phenomena:* **K Davidson**, Y Nishimura, L R Lyons, E Donovan, V Angelopoulos, N Nishitani

1861013 *Unveiling Turbulence within STEVE: Insights into its Microphysics:* **F Di Mare, PhD**

250365
Models, Observations, and Data Assimilation for Orbital Space Weather Forecasting *(joint with SM)*

Conveners: **Aaron Bukowski**, University of Michigan; **Jeffrey Thayer**, University of Colorado at Boulder; **Thomas Berger**, University of Colorado; **Pauline Dredger**, University of Texas at Arlington

1901608 *Impact of sudden stratospheric warming on satellite reentry predictions during solar minimum:* **J Yue**, S Bruinsma, J Wang, N M Pedatella, W Yu, M M Kuznetsova

1961124 *Advancements in Modeling the Ionosphere-Thermosphere System's Response to Extreme Geomagnetic Storms:* **A Bukowski**, A J Ridley, C Wu, S Jayaraman

1958313 *AI Challenge for Satellite Tracking and Orbit Resilience Modeling (STORM-AI): Dataset, Design, and Results:* **S Sanchez-Hurtado**, H E Solera, W Parker, R M Tian, R Qian, E Chen, E M Zucchelli, R Ridha, D Bruno, C Yeung, J Gmys, B Tran, C Emre Çeliker, V Rodriguez-Fernandez, M Mitchell, J P How, G Lavezzi, R Linares

1892749 *Assessing Modeled High-Latitude Ionospheric Electrodynamics Using DMSP Observations:* **S Jayaraman**, A Bukowski, A J Ridley, T I Pulkkinen

1980264 *Assessing the Impact of Ground-Based Wind Measurements on Mesospheric and Lower Thermospheric Weather Through Assimilation in a Whole Atmosphere Model:* **C T Hsu**, N M Pedatella, A Chartier, F Sassi, G Liu

1863518 *Balancing Seasonal and Local Time Dependencies for ML-Based Sporadic-E Occurrence Prediction:* **D K Shin**, K Choi, S J Oh, Y Kim

2000111 *Characterizing Altitude Kernels for SuperDARN Wind Products for Data Assimilation:* **R Poffenbarger**, R L Araujo de Mesquita, A Chartier, N M Pedatella, H Liu, B J Harding, M Kirshtein

1962941 *Comparative Evaluation of Thermospheric Density Models Using the Satellite Observations:* **J H Kim**, Y S Kwak, Y Kim, G Jee, I S Song, W K Lee, T Y Yang

1885910 *Correcting Empirical Model Densities During Geomagnetic Storms Using Commonly Available Two-Line Element Orbital Data:* **H Christiansen**, A J Ridley

1975702 *Variation of Atomic Oxygen Far Ultraviolet Emission Intensities in the Cusp:* **J Burgett**, B Fritz, K Dymond, M Lessard

1910165 *Delivering Near Real-Time Space Weather Observations: The I-ALiRT Cloud Architecture and International Ground Station Integration for IMAP:* **L Sandoval**, E R Christian, C O Lee, K W Larsen, M Bourque, J Knuth, G Lucas, T Marbois, M Mantey, D Matlin, D J McComas, E J Smith, D L Turner, B Williams

1979601 *DYNAMIC - A Mission Concept to Advance Our Understanding of Orbital Space Weather:* **T Matsuo**, L P Goncharenko, O P Verkhoglyadova, J H Yee, L J Paxton, B Drouin, C Cantrall, K Bossert, M Conde, H Liu, S Mrak, J Oberheide

1981058 *Efforts Toward a Thermospheric Reanalysis during Storm-Time through Coupled Ionosphere-Thermosphere Data Assimilation:* **N Dietrich**, T Matsuo

1927477 *Evaluating the Climatological Behavior of NSF NCAR TIEGCM Over the 2014-2024 Solar Cycle:* **J Vila-Perez**, K H Pham, H Wu, M Salichs, A Hernandez, W Wang

1957027 *Filling in the global MHD model gap region: Enabling predictions of magnetic field perturbations at Low-Earth Orbit:* **S Burne**, M O Archer, M Heyns, A LaMoury, D J Southwood, J Chittenden, J P Eastwood

1933879 *Forecasting Total Electron Content During Geomagnetic Storms Using Convolutional Long Short-Term Memory(ConvLSTM) : Performance and Limitations:* **S H Jeong**, H Kil, W K Lee, J H Kim, Y S Kwak

1851064 *High-resolution Physics-based Model of the Middle and High Latitude Ionosphere: AROTHRON – ARctic Over-The-Horizon Radar ONtic Model:* **J V Eccles**, J M Retterer, J Holmes

1905223 *Impact of Assimilating GOLD Disk Observations on Thermospheric Neutral Density:* **F I Laskar**, N M Pedatella, R Eastes, M Codrescu, J L Anderson, N Peterson, T E Berger

1879426 *Introducing Reflected GNSS TEC Data into ANCHOR Ionospheric Data Assimilation Model:* **B Royersmith**, V Forsythe, M Burleigh, B Breitsch, J Morton

1899666 *Investigating the Role of Thermospheric Tides in Modulating Pre-Reversal Enhancement Variability Using Coupled Whole Atmosphere and Electrodynamo Models:* **G Malhotra**, T J Fuller-Rowell, A I Maute, S Karol, A Kubaryk

2000671 *Long-Term Environment and Anomaly Forecast – Geomagnetic Field (LEAF-GMF):* **B A McCuen**, T P O'Brien

2002606 *Machine Learning Forecasting of Thermospheric Neutral Density Using 3D Ionospheric Electron Densities:* **G A Hajj**, Y Marchetti, O P Verkhoglyadova, A Komjathy, S Krishnamoorthy, U Rebbapragada

1918381 *Model Assessment of Thermospheric Neutral Density Variability: From Quiet to Storm-Time Conditions:* **J Wang**, J Yue, S Bruinsma, J Sypal, M Kuznetsova, R Mullinix, C Wiegand, C Siemes, S Laurens, M Y Chou, P Dimarzio, M Petrenko

1975462 *Modeling the Gannon Superstorm with M3SDA:* **A Newheart**, S Thaller, R Stutz, I Collett, J Steward, J Hughes, C Nasr, J Noto, W Wilson

1899279 *Optimal Binary Prediction of Solar Flares: Probabilistic Theory and Empirical Results:* **V Verma**, S Stoev, Y Chen

1983748 *Progress Update on The Next Generation of Flare Irradiance Spectral Models, FISM-3 and FISM-OP:* **P C Chamberlin**, S Bahauddin, T Berger, B Schwab, E Thiemann

1887425 *Quantifying atmospheric density and orbital attenuation during geomagnetic storms based on Swarm-C:* **X Bian**, C Xiao

250225
Observational and Modeling Studies of Ionospheric Irregularities and Scintillation

Conveners: **Sebastijan Mrak**, University of Colorado at Boulder; **Romina Nikoukar**, Johns Hopkins Applied Physics Laboratory; **Matthew Zettergren**, Embry-Riddle Aeronautical University; **Anton Kascheyev**, University of New Brunswick

2000444 *Longitudinal and Local Time Variability of Pre-midnight Equatorial Plasma Bubbles During Geomagnetic Storm Recovery:* **G González, PhD**, T J Immel, Y J J Wu, L C Gasque, B J Harding, C C Triplett, C E Valladares

1923288 *A Machine Learning Emulator of Data-Driven Regional Simulations of Equatorial Spread F:* **A Kirchman**, D L Hysell, S Palacios

1939807 *Analysis of Scintillation-Induced Phase Unwrapping Errors in GNSS TEC Measurements:* **A K Sun**, J Park, J Lee

1951818 *Canadian High Arctic Scintillation Model: Status Update:* **A Kashcheyev**, M Bazargani, K Meziane, P T Jayachandran

1873006 *Coincident Tri-TIP and GOLD Nightside 135.6 nm Airglow Observations of the Equatorial Ionization Anomaly and Equatorial Plasma Bubbles:* **V Adkins**, A W Stephan, B Fritz, K Dymond

1925893 *Sensitivity of Storm-Time Ionosphere–Thermosphere Response to Solar Irradiance:* **S Zhang**, L Qian, N M Pedatella, N Peterson, E K Sutton, T Berger

1911251 *Starlink Satellite Re-entries in the Context of Increasing Solar Activity During Solar Cycle 25:* **D M Oliveira**, E Zesta, K Garcia-Sage

1989416 *The DAPHNE DYNAMIC mission:* **A W Merkel**, B J Harding, S Curry, W E McClintock, S A Budzien, S Vadas, N M Pedatella, E Becker, M Jones Jr, M Dhadly, R S Lieberman, L Qian, X Lu, S E Palo, J Huba, J S Evans, C Y Cullens, Q Gan, R Eastes, M H Stevens, G Holsclaw, A Hoskins

1974071 *The DYNAMIC-X Mission:* **S M Bailey**, V L Harvey

1862728 *Transparent Predictive Modelling of Radiation Belt Electron Fluxes Using Nonlinear System Identification and Machine Learning Techniques:* **H L Wei**, M A Balikhin, R Boynton

1971774 *Using GOLD Data to Improve the GITM Upper Atmosphere Simulation:* **R Schmaltz**, A J Ridley, A Bukowski

1868291 *Correlation Analysis of Ionospheric Scintillations and their Drivers:* **B Peterson**, J Johnson, S Wing, N Koliadko, C Inae, Y Nishimura, S Mrak

1977893 *Determining The Spatial Variations Of Ion Neutral Collision Frequency And Its Impact On Ionosphere Instabilities:* **P Chowdhury**, E A Spencer, P Adhya

1916318 *Does the Farley-Buneman Instability Affect Ionospheric Scintillation?:* **M Young**, M M Oppenheim, Y S Dimant, A Green, W J Longley

1873526 *Effect of Equatorial Plasma Bubbles on High-Frequency Wave Propagation:* **I Scafffidi**, J Johnson, E H Kim, K Hozumi, S Wing, N A Frissell

1974028 *Evaluation of PlanetiQ High Rate Data Products Using Advanced Radio Propagation Techniques:* **C S Carrano**, T Modesto Surco Espejo

1914198 *Finite-Difference Time-Domain Modeling of Scintillation from E-region Instabilities:* **A Green**, W J Longley, M Young, M M Oppenheim

1910045 *High-Latitude Ionospheric Irregularities - A Unified Approach:* **P T Jayachandran**, K Song, M F Ivarsen, L Spogli

1973595 *Investigating Particle Precipitation's Role in Polar Cap Patch Dynamics:* **A Dalton**, G W Perry, M D Zettergren, L Goodwin

1962099 *Investigation of the Physical Mechanisms of the Formation and Evolution of Equatorial Plasma Bubbles During a Moderate Storm on 17 September 2021:* **L Qian**, K Wu, W Wang, X Cai

1868462 *Ionospheric Irregularities and Their Impact on Position Accuracy in the Antarctic Region:* **W Younas**, Y Nishimura, W Liao, J L Semeter, S Mrak, J Morton, K M Groves, Y Ogawa

2003243 *Ionospheric Irregularities Observed During the SEED Sounding Rocket Campaign:* **T Modesto Surco Espejo**, K M Groves, A Barjatya

1941918 *Ionospheric monitoring over the ocean by a shipborne GNSS scintillation receiver:* **J Hong**, J K Chung, W K Lee, C Lee, H Kil, B K Choi, D H Sohn

1950511 *Kinetic Theory of the Thermal Farley-Buneman Instability in the E-region Ionosphere:* **Y S Dimant**, M M Oppenheim

1869175 *Neutral Wind Impact on Polar Cap Patch Instability:* **B Halter**, D Malaspina, P A Roddy, N Maruyama, L Andersson

1945045 *Nonlinear interaction of primary modes in the equatorial electrojet ionosphere:* **J Atul, PhD**, R Singh, S Sarkar, I Gulati, P K Chattopadhyay

1881108 *Observations of Multifrequency Transionospheric Scintillation from HAARP Artificial Heating with LEO Signals of Opportunity:* **J Li**, N Sonth, H Bourne, S Taylor, C Yang, J Morton

248842
Recent Advances in the Understanding of Equatorial Plasma Dynamics and Ionospheric Irregularities - Observations and Simulations
(joint with A, G, SH, SM)

Conveners: **Olusegun Jonah**, INPE National Institute for Space Research; **Chigomezyo Ngwira**, Catholic University of America; **Cesar Valladares**, Boston College; **Babatunde Rabiu**, 1Centre for Atmospheric Research, National Space R & D Agency, Anyigba, Nigeria. 2African University of Science and Technology, Abuja, Nigeria; **Gbadebo Adeniran**, INPE National Institute for Space Research

1865733 *150-km Echoes: A testbed for understanding ionospheric turbulence:* **W J Longley**, C Skolar, L Goodwin

1891395 *A Global Vertical ExB drift model; Combining Ground-Based Magnetometer, Radar and Satellite Datasets:* **J B Habarulema**, D I Okoh, E Yizengaw, V Habyarimana, M Pezzopane, P R Fagundes, Z T Katamzi-Joseph, M B Moldwin, C Cesaroni, D Scipion

1871622 *A study of the effect of equatorial plasma bubbles on GNSS positioning by PPP-AR:* **Y S Hsu**, J Y G Liu, T Y Hsiao

1919647 *Plasma irregularities in the high and low latitude bottomside ionosphere from the VortEx and SEED sounding rocket campaigns:* **S Debchoudhury**, A Barjatya, R Clayton, N Graves, H Valentine, G A Lehmacher, M F Larsen

1958185 *Scintillation Case Studies Utilizing New Resources in the CEDAR Madrigal Database:* **A Coster**, N Aponte, K Cariglia, K M Groves, T L Beach, Y Ye

1915475 *Searching for Scintillation in Impulsive Radio Frequency Events Recorded by the FORTE Satellite:* **N S Wolfenbarger**, E H Lay, T E L Light

1971838 *Simulations of Ion Thermal Farley-Buneman Instability in Topside Electrojets and Comparisons with Large-Scale Simulations Spanning High-Latitude Turbulent Electrojets:* **R Koontaweepunya**, M M Oppenheim, Y S Dimant, A Green, S Evans

1847433 *The Occurrence Variability of Severe Scintillation and Range Spread F from the Varying Nature of Large-to-Meso-Scale-Wave-Structures: Observations and Simulation:* **B C Amadi**, E A Kherani, E R De Paula

1901161 *Unusual SuperDARN backscatter associated with extreme red aurora observed during the May 11, 2024 super storm:* **J M Ruohoniemi**, B Kunduri, J B H Baker, J P St-Maurice, Y Nishimura, P J Erickson, J C Foster, M Stephen, K T Sterne, E G Thomas

1880424 *Exploration of occurrence and plasma properties of super EPBs:* **A M Cardenas OToole**, S Zou, M Smirnova, G Kwon

1852047 *Forecast simulations of convective instability leading to equatorial spread F (ESF):* **D L Hysell**, A Kirchman

1946971 *Identifying the Generation Mechanism of Equatorial Scintillations in the American Sector:* **C E Valladares**

1897189 *Impact of Quiet Time Ionospheric Irregularities on Radio Frequency Propagations:* **E Yizengaw**, C E Valladares, T Modesto Surco Espejo

1912827 *Ionospheric Model Validation of Equatorial Ionization Anomaly Crests:* **D A Hickey**, A M Cardenas OToole, A G Burrell

1897740 *Modeling Super Plasma Bubbles during the 2024 Gannon Storm Using NASA CCMC SAMI3 Runs-on-Request Service:* **M Y Chou**, J D Huba, J Wang, J Yue, M Petrenko

1986812 *On the Physical Processes Controlling Equatorial Plasma Bubble Dynamics During the January 2025 Geomagnetic Storms:* **G Picanço**, I A Galkin

1909574 *On the Seeding and Day-to-day Variability of Equatorial Plasma Bubbles:* **J D Huba**, N M Pedatella, H Liu

1908108 *Predicting Equatorial Plasma Bubble Occurrence Using TEC measurements from C/NOFS-CERTO Observations Over Southeast Asia:* **S K Das**, C Stolle, Y Yamazaki, T Yokoyama, M Yamamoto, S Perwitasari

1855752 *Predictions of Equatorial Vertical Plasma Drift Using TEC Data and a Neural Network Model:* **S Reddy**, X Pi, C Forsyth, A L Aruliah, A W Smith

1855199 *Recent Developments and Future Directions of Instrumentation and related Tools for Optical Aeronomy:* **S Chakrabarti**, S Mukherjee, T Cook

250930
Resolving the Spatiotemporal Characteristics of the Ionosphere and Thermosphere *(joint with SM)*

Conveners: **Phillip Anderson**, University of Texas at Dallas; **Douglas Rowland**, NASA Goddard Space Flight Center; **Jeffrey Thayer**, University of Colorado at Boulder; **Eftyhia Zesta**, NASA Goddard Space Flight Center

1913989 *Assessing the Accuracy of GDC Measurements Using ADELPHI and Weimer 2005:* **J S Shim**, R M Robinson, K Garcia-Sage, D E Rowland, F Di Mare, J Klenzing, G Liu

1917531 *Comparing Northern Hemisphere Mid-Latitude Termosphere-Ionosphere Response to Two Recent Geomagnetic Storms:* **L Perrone**, D Sabbagh, A Ippolito, C Scotto, L Spogli, M Regi, P Bagiacchi

1962731 *Cusp ion acceleration and outflows: Initial results from TRACERS:* **Y Shen**, R J Strangeway, H Cao, S A Fuselier, J W Bonnell, J S Halekas, D Miles, G B Hospodarsky, J Wu

1966629 *Enhancing Geospace Dynamics Constellation (GDC) Science ThroughEphemeris Validation and Kamodo-Powered Data Visualization:* **F Di Mare**, D E Rowland, K Garcia-Sage, J Klenzing, G Liu, J S Shim

1891570 *F-region Neutral Wind Response to Multiscale Geomagnetic Forcing During the March 27th, 2014 Substorm Event:* **Y Deng**, C Sheng, W A Bristow, Y Nishimura, L R Lyons, M Conde, C Gabrielse

1967943 *Getting Decadal-Class science from multipoint ionosphere/thermosphere measurements:* **D E Rowland**, L Kepko, K Garcia-Sage

1985616 *Study on the Formation\Evolution of Equatorial Plasma Bubbles Based on Multi-Ground-Based Instruments over China:* **L Sun**, J Xu, W Yuan

1886312 *Unraveling Super Equatorial Plasma Bubbles (EPBs) Development During the April 23, 2023 Storm: Multi-instrument Observations and GITM-SAMI3 Simulation:* **S Zou**, Y Peng, M Smirnova, G Kwon, X Wang, Z Wang, J Huba, A J Ridley

1952142 *Interhemispheric Asymmetries in the Polar Cap in Response to Solar Wind Driving:* **S K Vines**, W Mo, R C Allen, B J Anderson, J Coxon, A Chartier, A I Maute, G Lu, D Knipp, J Mukherjee

1973849 *Investigation of Evening Time Mid-latitude Ionosphere Anomalies with COSMIC-1 Radio Occultation Data from Solar Minimum to Solar Maximum.:* **P DeMarco**, N Zaremba, I Azeem

1957833 *Quantifying the temporal and spatial scales in the thermosphere and ionosphere for multi-satellite mission designs:* **A J Ridley**, A Alhothali

1963841 *Resolving the Temporal Coherence of Auroral Forms and Electrodynamics Using Multiple Spacecraft:* **P C Anderson**

1911973 *Tomographic Reconstructions of High-Latitude Ionosphere-Thermosphere Variability from DMSP SSULI Data:* **M Zheng**, A W Merkel, B Fritz, S E Palo, K Dymond

1951306 *TRACERS twin-spacecraft mission to resolve spatiotemporal variations of the ionosphere and upper thermosphere during CME-driven storms:* **L J Chen**, D Miles, J W Bonnell, K H Pham, W Wang, V G Merkin, J S Halekas, S A Fuselier, S Petrinec, B L Burkholder, D da Silva, D Lin, R J Strangeway, H Cao, K Goodrich, H K Connor, G B Hospodarsky

1949173 *Transient Features of Geomagnetic Forcing during Substorms and Their Impacts on the I-T System:* **C Sheng**, Y Deng, Z Wang, V Bhandari, B Bristow, Y Nishimura, L R Lyons, C Gabrielse

1970293 *Why NASA's GDC Mission Matters: Lessons from the15 May 2005 Geomagnetic Storm:* **E Zesta**, K Delano, D Oliveira, D J Gershman, M Samara, A J Ridley, H U Frey, P C Anderson

251509

Space Weather R2O2R: Real-World Experiences from Researchers and Users *(joint with SH, SM)*

Conveners: **Patrick Dandenault**, Johns Hopkins University Applied Physics Laboratory; **Mangala Sharma**, National Science Foundation; **Eric Adamson**, NOAA Space Weather Prediction Center; **James Spann**, NOAA National Environmental Satellite, Data, and Information Service

1918693 *Advancing NOAA's Space Weather R2O2R: Progress, Lessons Learned, and Path Forward:* **N Y Wang**, I Azeem, T W Fang, E T Adamson, J F Spann

1886497 *Enhanced Data Products for Science and Space Weather from the Energetic Heavy Ion Sensors (EHIS) on GOES-16, -17, -18 and –19:* **J J Connell**, C Lopate, J Rodriguez, B Kress, R Allsopp, K Hallock

1994665 *Enhancing Aurora Watch Planning of Arctic Cruises During Polar Tourism Peak Seasons:* **L McKaig**, P Mahlin, S Turner, C Ramos

252259

The MacGyver Session: The Place for Novel, Exciting, Self-Made, Hacked, or Improved Sensors and Software Solutions to Understand Space Weather *(joint with A, AE, H, SM)*

Conveners: **Vincent Ledvina**, Predictive Science Inc.; **Francesca Di Mare**, NASA Goddard Space Flight Center; **Nathaniel Frissell**, Virginia Polytechnic Institute and State University

1926181 *A Large Aperture, Apochromatic Lens based Fabry-Perot Interferometer for Dual Measurements of Exosphere and Thermophere Neutral Wind Velocity and Temperature:* **C Unick**, T S Trondsen, J W Meriwether, L Navarro, A J Gerrard, D Wyatt, K Herrera

1988988 *Auroral Reconstruction and Correlated Magnetometry Using an Array of Low-Cost Portable Detectors:* **J Rivera**, S Mackie, S Dannhoff, T Evans, J Ball, L Nichols, A Klipfel, N Wolfe, K F Chen, V Berger

1953202 *Capturing the Aurora: Low-Cost, Low-Power Devices to Track Local GeoMagnetic Disturbances:* **A Landis**, D T Welling, J Van Noord, C Breslow, K Punniyamoorthy, K W Chen, K Otte, S Liu

1997444 *Doppler Radio Observations of the April, 2024 Solar Eclipse Analyzed by Citizen Scientists:* **M L West**, M Denton, G Mikitin, G Popelas, R Spalletta, R Wilcox, N A Frissell

1887012 *Harnessing AI for Geospace Science and Space Weather: The AIMFAHR Project:* **H K Connor**, B Michotte de Welle, G Cucho-Padin, S G Valluri, J Uddin, K R Murphy, A Halford, C Bard, M Blandin, M Coughlan, E Berndt, C J Schultz

1952203 *Lessons Learned from the Solar Tsunamis Project: Perspectives from Magnetospheric Modelers:* **D T Welling**, P M Dredger, M Kruglyakov, C J Rodger, A Renton

1951745 *Navy Space Weather Modeling Transitions to Operations:* **E Morgan**, M Hami, S E McDonald, V Forsythe, A G Burrell, D A Hickey, M Burleigh, K Zawdie, E J Wagner, J Tate, C Metzler, R K Schaefer, G Romeo

2003119 *Statistical and Real-time Observations of TEC Latitudinal Profiles, S4 Indices, and Equatorial Plasma Bubbles:* **C E Valladares**, T Modesto Surco Espejo, C De La Jara

1910372 *Striking a Balance Between R & O in Adapting SuperDARN HF Research Infrastructure to Space Weather Operations:* **J M Ruohoniemi**, S Chakraborty, PhD, S Byun, J B H Baker

1994398 *GNSS Smartphone Capabilities Across Ionospheric Spatio-Temporal Scales:* **N Servan-Schreiber**, V Ledvina, J Kuzub, J L Semeter, M Hirsch, M LeMay

1974182 *Statistics of Radio JOVE Solar Radio Observations:* **C A Higgins**, S F Fung, D Typinski, N Gugliucci

1946035 *The HamSCI Personal Space Weather Station Network in 2025: Citizen Science From Sun to Mud:* **K Collins, PhD**, N A Frissell, W Engelke, G Mikitin

1863616 *Toward Automated Analysis of Ionospheric Doppler Spectrograms:* **G Griffiths**, N A Frissell, R S Robinett

1883581 *Analysis, Waveform, and Processing Upgrades in the TDOA Method of Measuring Ionospheric Layer Height Using Amateur Radios and Audio Waveforms Sensitive to Multipath Time Difference of Arrival (TDOA):* **S Cerwin**, J McMahan, A Papadopoulos, G Piccini, N A Frissell

1884766 *Novel Radio Instruments and Accessories to Support the HamSCI Personal Space Weather Station Project:* **P Elliott**, G Ellmore, N A Frissell, R S Robinett, C Turner

1887368 *Orbital Debris as a Distributed Sensor for Earth's Thermosphere:* **W Parker**

1892183 *Developing New and Novel Ways to Access and Analyze HamSCI Data:* **W Engelke**, N A Frissell, T Atkison, K Collins, PhD

1895031 *A Multispectral Dual-Polarized Imaging Riometer for D-Region Absorption:* **F Sandoval**, M Cohen

1900817 *EPB Impacts on HF Propagation Observed by HamSCI with GOLD and GIRO Support:* **K Hozumi**, N A Frissell, D Sanchez, A M Duque, E Aa

1913526 *Maryland Space Weather UnderGround Research and Outreach Program: Pushing the Boundaries of Next-Generation Low-Cost Ground Magnetometers:* **K Sukhina**, F Erinfolami, G Poh, H K Connor, J Holt, C Chism, J Gruesbeck

250339
Unveiling the Ionosphere: Synergizing LEO and Ground-Based Observations for TEC, Scintillation, and Enhanced GNSS Corrections *(joint with A, IN, NH)*

Conveners: **Tibor Durgonics**, CU/CIRES NOAA/SWPC; **Tzu-Wei Fang**, University of Colorado at Boulder; **Sarah Beeck**, DTU Space

1984376 *Calibration and Validation of the PlanetiQ Pyxis Absolute Slant Total Electron Content Observations:* **J Brandmeyer**, A Botnick, S R Gooch, B Houle von Behren, R Kursinski, B Geisinger, P McGaugh, C Pawlowski, T Triolo, M White, J McGhee

1956909 *Characterizing Spatial Gradients in Ionospheric Total Electron Content and Their Impacts on GNSS Navigation Performance in Low Earth Orbit:* **W Li**, Y Wang

1861447 *First Comprehensive Climatology of Apex Altitudes for Intermediate-Scale Irregularities: Evaluation of Geospace and Ionospheric Background Conditions:* **J Sousasantos**, A D O Moraes, J F Galera Monico, R Eastes

1984841 *Investigating ionospheric TEC variations during the 2023 solar eclipse using radio observations and GPS measurements:* **K Frederick**, L Goodwin, S Mondal, B Chen, D E Gary, S Zhang

1870068 *Ionospheric Effects of the May 2024 Superstorm in the south of South American Sector and Antarctic Peninsula:* **E Macho**

1858060 *Ionospheric Response to Intense Geomagnetic Storms Using NavIC/IRNSS VTEC Observations Over the Indian Region:* **D Shetti**, P Chougule, S Chougule

247350
Whole-Atmosphere Coupling and Ionosphere-Thermosphere-Magnetosphere Responses to Terrestrial and Space Weather Forcing *(joint with A, SM)*

Conveners: **Federico Gasperini**, Orion Space Solutions; **Xian Lu**, CIRES, CU Boulder; **Shantanab Debchoudhury**, Embry-Riddle Aeronautical University; **Xueling Shi**, Virginia Tech; **Haonan Wu**, University Corporation for Atmospheric Research

1919663 *A Deep Learning-Based Model for High-Latitude Electrodynamics:* **M LI**, Y Deng, M Jin, A J Ridley, D E Rowland

1909677 *Precision of Total Electron Content Estimated Using GPS Observables:* **P T Jayachandran**, M Maica, A M McCaffrey

1981277 *PyVALION Expanded: Incorporating Jason TEC into an Open-Source Ionospheric Model Validation Tool:* **M Evans**, V Forsythe, M Burleigh, K Zawdie, J Morton

1967954 *Revisiting TEC Tomography Across Scales: Nonlinear Fitting, Neural Radiance Models, and Gravity Wave Signatures from Ground and LEO Data:* **M McKean**, E L A Rojas Villalba

1988821 *Seasonal and Solar Activity Performance of TIE-GCM's TEC Over a Solar Cycle:* **M Salichs**, K H Pham, J Vila-Perez

1889173 *SNIPE and Multiple LEO Spacecraft Observations of the Topside Ionosphere during the May 2024 Mother's Day Superstorm:* **H Song**, J Park, T Y Yang, J Sohn, J Lee

1868246 *Spatio-Temporal Evolution of Mid-Latitude GPS Scintillation and Position Errors During the May 2024 Solar Storm:* **W Younas**, Y Nishimura, W Liao, J L Semeter, S Mrak, J Morton, K M Groves

1911541 *Synergizing Ground-Based GNSS Networks and LEO Observations for Ionospheric Storm Studies in the Eastern Mediterranean:* **H Nooreldeen**, A S Abdalla, A H Hussein, B Nava, A Kashcheyev, A M Ahmed

1878194 *The variation of high density region TEC maxima with daily F10.7 and its dependence upon season and solar cycle:* **S C Chapman**, M Cafolla, N W Watkins

1935143 *Validation of IGS Global Ionospheric Maps Over Oceanic Regions Using Jason-3 Altimeter-Derived TEC:* **W Jeon**, W K Lee, Y J Moon

1929006 *Atmospheric Tides in the Thermosphere: Forcing from Above vs. Forcing from Below:* **M Neogi**, J Oberheide, B Martinez, X Lu

1863538 *Characteristics of the Solar Flare Effects (SFE) during Major Flares in various Geomagnetic Components:* **R Okubo**, K Watanabe, S Kitajima, S Masuda, A Ieda, H Jin, C Tao, M Nishioka

1956686 *Connections between Stratospheric GWs, the Polar Vortex, and MSTIDs during nine Arctic winters:* **S Derghazarian**, L P Goncharenko, V L Harvey, S Zhang, A Coster, E Becker, G Kwon

1850465 *CO_2-Driven Changes in the Migrating Diurnal Tide from the Troposphere to the Lower Thermosphere:* **M Kogure**, I S Song, H Liu, H Liu

1970309 *Discovery of a New Form of Variability in the Equatorial Thermosphere Anomaly:* **A Prakash**, L Navarro, J P Thayer, C Y Cullens

1982576 *Effects of Tides Originating in the Lower Atmosphere Across the Ionospheric Dynamo Regions:* **S Khadka**, F Gasperini

1919884 *Exploring DYNAMIC's Potential: A Synthetic Data Analysis of SSW impacts on Thermospheric Zonal Winds:* **F Di Mare, PhD**, K Garcia-Sage, J Klenzing, D E Rowland, J S Shim, G Liu

1968154 *GEOS-MLT: NASA's Next Generation Global Model Extended through the Lower Thermosphere:* **J Pettit**, A Lee, F Sassi, G Liu, R Todling, W Putman, R S Lieberman, S Pawson

1925175 *Global Observation of the Connection between MSTIDs and Gravity Waves (2006-2024):* **S Zhang**, J Liu, PhD, A Coster, S Derghazarian, P J Erickson, L P Goncharenko

1859015 *Impact of increasing greenhouse gases on the ionosphere and thermosphere response to a May 2024-like geomagnetic superstorm:* **N M Pedatella**, H Liu, H Liu, A R Herrington, J M McInerney

1852188 *Ionospheric Signatures of SpaceX Falcon 9 Deorbit Maneuvers Over the United States:* **P Inchin**, K Deshpande, S Egan, E H Lay, K Obenberger, M D Zettergren, J B Snively

260048
Aeronomy Student and Early Career GeoBurst Session

Conveners: **Scott England**, Virginia Tech; **Scott England**, Virginia Tech

1916345 *Learning Cross-Variable Dynamics in the Upper Atmosphere with Diffusion Models Trained on WACCM-X:* **J Hu**, W Dong, A Liu

1990098 *Multi-Satellite Assimilation Quantifies Global MLT Tidal Day-to-day Variability:* **C Xiao**, H Li, X Hu

1959198 *On The Accuracy of Estimated TID parameters from GNSS TEC Images:* **S Mrak**, G Starr

1954424 *The Influence of Tides on the Longitudinal Variation of ExB Drift over the African Sector:* **V Habyarimana**, M B Moldwin, J B Habarulema

1879447 *Understanding MJO-Ionosphere Coupling Through Tidal Variability Using COSMIC-2 and TIEGCM:* **D Aggarwal**, J Oberheide, B Martinez

1916053 *Vertical coupling induced by primary and secondary gravity waves and their spatiotemporal variability in the thermosphere:* **E Yiğit, PhD**, A S Medvedev, A Gann, G P Klaassen, D E Rowland

1921857 *Wave forcing from above and below: detecting traveling atmospheric disturbances and defining gravity waves under differing geomagnetic and terrestrial forcing conditions:* **K Bossert**, E Becker, D S Ozturk, S Vadas, T Karasinski, A J Ridley

1997346 *Whole-Atmosphere Data Assimilation of GOLD FUV Observations:* **T Matsuo**, B diLorenzo, C Cantrall

1982489 *Imposters Among the Northern Lights: Emission Spectra Reveal 'Aurora-like Forms' not Driven by Particle Precipitation:* **L C Gasque**, B J Harding

1977882 *Variation of thermospheric ΣO/N_2 Transition Latitude During Geomagnetic Storms:* **E Lo**, Y J J Wu, Q Gan, T J Immel

1851916 *Assessing Transformer Risk from Geomagnetically Induced Currents in Spain Using Extreme Value Analysis:* **J M Torta**, S Marsal

1969985 *Brace for Impact: A Review of Mitigation Decisions of Critical Infrastructure Operators During the 2024 Solar Maximum:* **L Wilkerson**

1972591 *Brace for Impact: A Review of Mitigation Decisions of Critical Infrastructure Operators During the Gannon Storm and the 2024 Solar Maximum:* **C LaNeve**, E Oughton, N Rivera, S Blumenthal, L Wilkerson, R S Weigel, T Gaunt, D Thomas

1982598 *Comparing solar wind drivers of large geomagnetically induced currents in Alberta, Canada during the intense May and October geomagnetic storms of 2024:* **H G Parry**, D Cordell, I R Mann, R MacMullin

SPA-MAGNETOSPHERIC PHYSICS

248461
Down to Earth with Space Weather: Magnetic Storm–Induced Geoelectric Fields, Currents, and Impacts (cosponsored by AMS: American Meteorological Society) *(joint with NH, SA, SM)*

Conveners: **Jeffrey Love**, USGS Geologic Hazards Science Center; **Chigomezyo Ngwira**, Catholic University of America

1963309 *Assessing the Economic Benefits of Space Weather Mitigation Investment Decisions: Evidence from Aotearoa New Zealand:* **E Oughton**, A Renton, D H Mac Manus, D Bor, C J Rodger

1955568 *Comparison between Complex Image Method, Magnetotelluric Impedances, and Finite-Difference Time-Domain Methods- Predicted Geoelectric fields:* **P Sharma Paneru**, D R Cordell, J J Simpson, M B Moldwin

1907722 *Evaluation of Geomagnetically Induced Currents during the SSC of the October 2024 in Europe.:* **M Piersanti**, S Zurzolo

1993005 *Examining the Quantitative Connection Between Field-Aligned Current and Geomagnetic Field Variability Using Swarm and SuperMAG Data:* **S Thaller**, C Nasr, J Hughes, C M Ngwira, J M Weygand, PhD

1959042 *Extreme geomagnetically induced currents due to 1-in-100 year geoelectric fields in Alberta, Canada:* **D R Cordell**, I R Mann, H G Parry, S Dimitrakoudis

1966031 *GIC--Related Observations During the May 2024 Geomagnetic Storm in the United States:* **L Wilkerson**, R S Weigel, D Thomas, D Bor, E Oughton, T Gaunt, C C Balch, M J Wiltberger, A A Pulkkinen

1960699 *The Effect of SWMF Configuration on Ground Magnetometer Power Spectra Predictions:* **P M Dredger**, D T Welling, M Burleigh, A Mukhopadhyay, T I Pulkkinen

1917606 *Validating SCUBAS Forecasts of GIC in Submarine Cables Using Legacy Superstorm Observations:* **S Chakraborty, PhD**, M Hartinger, D H Boteler, X Shi, J B H Baker, E Lawrence, M Macalester

1855379 *What drove the Carrington event? An analysis of currents and geospace regions:* **D Thomas**, R S Weigel, A A Pulkkinen, P W Schuck, C M Ngwira, D T Welling

248053
2025 Van Allen Lecture *(joint with SA, SH)*

Conveners: **Katharine Reeves**, Smithsonian Astrophysical Observatory; **Michael Liemohn**, University of Michigan Ann Arbor; **Brianna Isola**, University of New Hampshire Main Campus

248736
Artificial Intelligence (AI) for scientific discovery in Solar Wind-Earth Interaction

Conveners: **Xiangning Chu**, University of California Los Angeles; **Sai Gowtam Valluri**, NASA GSFC/CUA; **Matthew Argall**, University of New Hampshire; **Banafsheh Ferdousi**, University of California, Los Angeles; **Brianna Isola**, University of New Hampshire Main Campus

1953641 *2D Reconstruction from Measurements Along a Space Trajectory Using SIREN-Enhanced Physics-Informed Neural Networks (PINNs):* **E Choi**, H Hasegawa, K J Hwang, K Dokgo, J Burch

1983449 *Automated Detection of Electron-Scale Magnetic Reconnection in Earth's Magnetosheath Using Machine Learning Tools:* **Y Qin**, C Dong, X Li, R Lama

1936484 *Can We Predict Super Substorms? IRANNA: An Imbalanced Regression Neural Network for Auroral Electrojet Indices:* **X Chu**, L Jia, R L McPherron, X Li, J Bortnik

1879200 *Characterizing Earth's Plasma Sheet through Multi-Spacecraft Observations and Machine Learning:* **S Raptis**, C O'Brien, K Sorathia, V G Merkin, L Richard, S Wing

1895542 *Enhancing Thermospheric Forecasts using Ensemble Models in the ROPE Framework:* **A Tapedia**, P Mehta

1934343 *Evaluating Auroral Boundary Predictions Using Machine Learning–Based Particle Precipitation Model:* **A Refat**, S G Valluri, H K Connor, Y He, M C Damas

1991829 *Heating and Cooling process of Plasma sheet at lunar plasma environment: Inferred from ARTEMIS Observation:* **E T Desta, PhD**, D T Strauss, N E Engelbrecht

1967232 *High Latitude Ionospheric Prediction and Forcing Deconvolution: A Tree-Based Machine Learning Approach using PFISR and SD-WACCM-X / MERRA2:* **B Martinez**, X Lu, L Goodwin, C Arcaro

1857125 *Implementation of a Regression Model for Ion Fluxes in the Low-Altitude Earth's Northern Cusp Using In-Situ DMSP/SSJ Data and a Residual Neural Network:* **G Cucho-Padin**, S Al-Zaman, D G Sibeck, D da Silva, C Ferradas, H K Connor, S G Valluri, X Wang, X Li, B Shen, Q Li

1897717 *Innovative Integration of Deep Learning and Physics-Based Models for Simulating Global Electron Precipitation Driven by Whistler-mode Waves:* **F Fatmasiefa**, W Li, L Capannolo, X Shen, Q Ma, S Huang, X Chu

1851153 *Integration of Kinetic Effects into Multi-Moment Multifluid Models through Machine Learning:* **C Dong**, Z Huang, Y Qin, L Wang

1937273 *Interpretable Machine Learning for ICME Identification: Leveraging Solar Wind Helium Abundance, Compressibility, and Cross Helicity:* **B L Alterman**, A Weiss, F Carcaboso, S Pal, Y , PhD, B M Randol, M Martinovic, M L Stevens, M M Pandya, B Maruca, L Ofman, L B Wilson III, L Chen, A Szabo, T Nieves-Chinchilla, C Möstl

1963377 *Investigating Tidal Effects in Earth's Plasmasphere Using a Machine Learning Model:* **J Mellina**, X Chu

1921287 *Modeling Storm-Time Ionospheric Outflows Using FAST/TEAMS Observations and Machine Learning:* **T Lim**, L M Kistler, C Mouikis, J Liao, N Nowrouzi

1847920 *Noise Analysis of Geosynchronous Global-Scale Observations with AI method of the Limb and Disk (GOLD) Mission Far Ultra Violet (FUV) Image Data:* **J Lee**

1964261 *Predicting The Plasma Density In The Magnetosheath Using Machine Learning:* **Z Islam**, B Michotte de Welle, M C Damas, H K Connor

1883958 *Prediction of Global Ionospheric TEC in response to the Solar Flares:* **Y Pan**, Z Wang, M Jin

1935942 *Real-Time Estimation of Cross Polar Cap Potential from IMEF: A Machine Learning Approach to Dayside Reconnection Diagnostics:* **A Motazedian**, M R Argall, B Isola

1871546 *Reconstruction of two-dimensional magnetohydrodynamic and Hall magnetohydrodynamic equilibria in space using physics-informed neural networks:* **H Hasegawa**, E Choi, K J Hwang, K Dokgo

246877
Comparative Planetary Magnetospheric Processes *(joint with P, SA)*

Conveners: **Wen Li**, Boston University; **George Clark**, NASA Goddard Space Flight Center; **Robert Marshall**, Stanford University; **Ryan Dewey**, University of Michigan

1907426 *A Non-Diffusive Framework for Rapid Particle Losses in Planetary Radiation Belts.:* **A Osmane**, E Roussos, P Kollmann

1868188 *Evolution of the Flux Tube Instability Parameters in Plasma Injections at Saturnian Magnetosphere:* **S Wing**, B Peterson, J Johnson, X Ma, P A Delamere, R C Allen

1861528 *Jupiter's Complex Downward Current Region: Comparisons with Earth and Saturn:* **A H Sulaiman**, R L Lysak, N Kruegler, S Elliott, G B Clark, W S Kurth, B Mauk, S J Bolton

1924152 *Revealing the global morphology of the magnetosphere during substorms by mining three decades of multi-mission space magnetic field data:* **G K Stephens**, M I Sitnov, R S Weigel, N A Tsyganenko

1986437 *Solar Wind Structure Decipher Clustering Using iSAX-pipeline Composed of iSAX Compression, and HDBSCAN:* **J Kobayashi**, D Martin, V Moraes Filho, J Hong, C O'Brien, A Muñoz-Jaramillo, E Samara, J Gallego

1984987 *Substorm Prediction with LSTM: Key Solar Wind Drivers and a Comparative Study of SuperMAG Onset Lists as Reference Labels:* **P Adhya**, R Yasmin, P Chowdhury, M Shaban, E A Spencer

1893563 *Summary of Efforts towards Operationalizing Physics-based Ionosphere-Thermosphere Models:* **P Mehta**, A Tapedia, D Sicoli

1892322 *Towards an Interpretable Machine Learning Model of Localized Geomagnetic Disturbances in Terms of Solar Wind Drivers:* **R Mukundan**, A M Keesee, M Coughlan, V A Pinto, J P Marchezi

1873072 *Using Machine Learning Explainability Techniques to Examine Drivers of Ground Magnetic Field Localization:* **M Coughlan**, A M Keesee, V A Pinto, R Mukundan, J P Marchezi, M Adewuyi, J Tibbetts, J W Johnson, H K Connor, D L Hampton

1927187 *Utilizing Machine Learning to Predict High-Latitude Ionospheric Electrodynamics:* **J Uddin**, S G Valluri, H K Connor, Y He, M C Damas

1946427 *JWST Reveals the Vertical Structure of Saturn's Aurora in 3D:* **P I Tiranti**, H Melin, T Stallard, L Moore, O Agiwal, J O'Donoghue, K Knowles, K Roberts, E M Thomas

1986331 *Leveraging Knowledge of Radiation Belt Dynamics at Earth to Gain Insight into Voyager 2 Observations of Uranus:* **R C Allen**, S K Vines

1866433 *Magnetic Reconnection and Whistler Mode Waves at Mars and the Moon:* **Y Harada**, J S Halekas, T Cravens, D A Brain, R Sawyer, K Ogino, S Kurita

1906487 *On the link between quasi-monoenergetic electron distributions and dispersive Alfvén waves in the Jovian and terrestrial magnetospheres:* **P A Damiano**, S Wing, J R Szalay, N Kruegler, A H Sulaiman, P A Delamere, Y Sarkango, A J Hull, C C Chaston, J Johnson, V Palmer, E H Kim

1938734 *Properties of Energetic Proton Precipitation at Jupiter:* **X Shen**, W Li, Q Ma, M Qin

1921656 *Reconstructing global planetary magnetospheres from magnetometer data: Comparing and contrasting Mercury, Earth, and Saturn:* **G K Stephens**, D G Mitchell, H Korth, M I Sitnov, N A Tsyganenko

1915197 *Results on the Dynamics of Outer Planets Electron Radiation Belts (OPERBs) from Comparative Magnetospheric Studies:* **D Santos-Costa**

1927227 *Saturn-like Auroral Mode Conversion at Earth:* **J Chen**, Z Yao, B Zhang, B A Hubert, D C Grodent, R Guo

1867628 *Statistical Properties of Interchange Events in the Jovian Magnetosphere Using Juno Observations:* **A Daly**, W Li, Q Ma, X Shen

1868330 *Statistical survey of magnetic flux integral quantities in Saturn's magnetosphere:* **X Ma**, S Wing, P A Delamere, R C Allen, R J Wilson, J Johnson, J Z Wang, B L Burkholder, B Seo

246937
Dayside Magnetosphere Interactions *(joint with SA, SH)*

Conveners: **Shan Wang**, Peking University; **Hui Zhang**, Shandong University at Weihai; **Colin Forsyth**, University College London; **Brian Walsh**, Boston University; **Kun Zhang**, University of California, Los Angeles

1957858 *A Comprehensive Model for Maximum Velocity Shear at the Earth's Magnetopause:* **K Dokgo**, K J Hwang, E Choi, H Hasegawa, C P Wang, J Burch

1919765 *A Large Scale Survey Quantifying Energy Flux Across the Dayside Magnetopause Utilizing in-situ Measurements from the MMS Spacecraft:* **M M Ala-Lahti**, N Tribu, T I Pulkkinen, D G Sibeck

1907568 *Amplitudes of Magnetopause Surface Waves: Comparison of THEMIS Observations with MHD Theory:* **A Pöppelwerth**, N Grimmich, MSc, R Nakamura, F Plaschke

1979295 *Bursty Magnetosheath Plasma Entry through High-Latitude Magnetopause Reconnection:* **H Liang**, L J Chen, C P Wang, B L Burkholder, N Bessho, R Rice, H Gurram, Y Zou, J R Shuster

1939286 *Control of Solar Wind on Magnetic Field Fluctuations in the Subsolar Magnetosheath:* **Y Zou**, B Walsh, Y Chen, H Zhou, S Raptis

1865235 *Dawn-Dusk Asymmetry of Auroral Beads Associated with Kelvin-Helmholtz Vortices at the Magnetopause Boundary Layers:* **S Wing**, E A Ccopa Rivera, J Johnson, A Navarro, Y Nurhan, S Kavosi, X Ma, Y L Liou

1861598 *Dayside dispersive field-aligned warm ion flux enhancements (DFAWIFEs) driven by transient magnetopause intrusion:* **C P Wang**, X Wang, S Tian, Y Lin

1885588 *Direct Observations of EMIC Waves Modulating Falling-Tone Chorus:* **Z Xie**, Q Zong, J Li, Z Liu

1981975 *Temporal variability in the Martian magnetosphere during delay conjunctions of MAVEN and Mars Express:* **J Bergfalk**, D A Brain, R Ramstad, Y Dong, D Mitchell, S Xu, K G Hanley, J S Halekas, J P McFadden, J R Espley, S Curry, M Holmstrom, Y Futaana

1917619 *The Tumble Cycle: Highly Turbulent Structures in Jupiter's Dawnside Outer Magnetosphere:* **J Montgomery**, P A Delamere, A Smith, C E Spitler, R J Wilson, G B Clark

1896685 *Universal Energy Limits of Radiation Belts in Planetary and Brown Dwarf Magnetospheric Systems:* **D L Turner**, S Raptis, A Osmane, A Egan, G B Clark, T Nordheim, L Regoli, S Ukhorskiy

1956574 *Distribution of Characteristic Heat Frequency during Drift Mirror Instability and Kelvin-Helmholtz Instability at the Earth's Magnetopause:* **Y L Liou**, K Nykyri, K A Blasl, X Ma, G Le, D J Gershman

1848158 *Dynamic Test Particle Simulations of X-ray Emissions at Dayside Magnetopause Under Time-varying Solar Wind Conditions:* **Q Xu**, D Koutroumpa, R Modolo, B Tang

1863175 *Energetic Electron Enhancements Near the Dayside Magnetopause: Outward Radial Transport Due to Asymmetric Drift-Orbit Bifurcation:* **S Kamaletdinov**, A Artemyev, V Angelopoulos

1993519 *Ensemble Modeling to Quantify Input Uncertainty Estimation in MAGE:* **C O'Brien**, K Sorathia, S Raptis, V G Merkin

1877120 *Evidence for the Saturation of the Reconnection Rate at the Magnetopause during Strongly Southward Interplanetary Magnetic Field and High Solar Wind Pressure Conditions:* **T Phan**, M Oieroset, V Angelopoulos, Y Nishimura, D G Sibeck, A Pöppelwerth

1969322 *Impact of 3-D Geometry on Ion Beam and ULF Wave Evolution in the ion Foreshock:* **A Mousavi**, S E Dorfman, K Zhang, X Li, V Roytershteyn

1932095 *Impact of density and temperature gradients on energy conversion associated with non-equilibrium velocity distribution functions during asymmetric reconnection:* **H Gurram**, H Liang, P Cassak, M H H Barbhuiya, PhD, M R Argall

1926926 *Kinetic Particle Energization and Wave Generation across the Dayside Bow Shock: A 2D Global FLEKS Simulation:* **H Zhou**, C Dong, Y Chen, C Zhang, Y Zou, B Walsh

1972937 *Magnetic Ground Based Signatures of Poleward Moving Auroral Forms:* **A Robison**, M Lessard, L B N Clausen

1986326 *Magnetic Pumping as a Source of Relativistic Electrons at the Radiation Belt Boundary:* **J Egedal**, K Nykyri

2001352 *MMS Observation of Electromagnetic Energy Conversion in Kelvin-Helmholtz Event at Low-Latitude Boundary Layer Magnetopause.:* **T Aiamsai**, M R Argall, P Pongkitiwanichakul, N Tepasak, Y Kitboontem, K Puprasit

1977919 *Observations and simulations of Kelvin-Helmholtz Waves under radial IMF conditions:* **K J Hwang**, E Choi, K Dokgo, J Burch, X Li, X Wang, S Kavosi, H Hasegawa, D K V R, C P Wang, V G Merkin, K Nykyri, R Nakamura, A Settino, H Kim, H Fu, C P Escoubet, R O Kieokaew, S Aizawa, X Ma, Y L Liou

1883608 *Periodic Density Structures Around the Plasmaspheric Plume Boundary and Their Association with ULF Waves:* **T Y Xiang**, J Ren, Q Zong, Z Feng, X Ai

1960093 *Polarization of ULF Waves in the Earth's Ion Foreshock at Lunar Distances:* **S E Dorfman**, K Zhang, L Turc, U Ganse, V Roytershteyn, M Palmroth

1881686 *Properties of Magnetic Reconnection in the Turbulent Magnetosheath:* **Y Qi**, A Chasapis, R Ergun, T Vo, N Ahmadi, S J Schwartz

1947045 *Repeated acceleration of energetic ions deep in the magnetosphere at the sudden commencement of the May 2024 magnetic storm:* **T Hori**, A Shinbori, Y Miyoshi, K Yamamoto, K Keika, S Kasahara, S Yokota, Y Kasaba, S Matsuda, Y Kasahara, A Matsuoka, I Shinohara

247623
Earth's Ionospheric Electrojets

Conveners: **Jesper Gjerloev**, University of Bergen; **Larry Kepko**, NASA/GSFC

1887785 *Auroral Electrojet Response to Solar Wind Density Pulse:* **T I Pulkkinen**, A Gottesman, D T Welling, A Brenner, M M Ala-Lahti

1852614 *Auroral Electrojets Under Pressure: Multi-Event Analysis of Substorm Onset and Current System Diversity:* **S Sinha**, M C H Fok, D G Sibeck

1959056 *Combining EZIE Observations with Lompe to Derive Ionospheric Electrodynamics:* **K Laundal**, M Madelaire, M Decotte, F Tesema, S Walker, J W Gjerloev, R L Araujo de Mesquita, J H Yee, S Hatch, H Vanhamaki

1938993 *Current Wedge during Sawtooth Oscillations:* **Y Zou**, S Ohtani, J W Gjerloev, A Chartier, B J Anderson

1961321 *Electrojet Zeeman Imaging Explorer (EZIE) Mission: The Sensing Technique Used to Remotely Measure the Current-Induced Magnetic Field Vectors Around the Electrojets:* **J H Yee**, R L Araujo de Mesquita, F Werner, S Misra, M Schwartz, W H Swartz, J W Gjerloev

1890756 *Seasonal Modulation of Magnetopause KH Instabilities by Earth's Dipole and IMF Orientation:* **J Johnson**, Y Nurhan, A Navarro, S Wing, X Ma, S Kavosi, Y L Liou

1984161 *Signatures of Interplanetary Small Magnetic Flux Ropes Passing through Earth's Magnetosphere: Global Hybrid Modeling:* **X Li**, Y D Jia, X Wang, H Wei, T Z Liu, Y Lin, K Zhang

1855854 *Statistical Study of Foreshock Ion Properties near Earth Bow Shock:* **R Liu**, T Z Liu, K Zhang, V Angelopoulos

1905675 *Strong magnetopause erosion observed by the Arase satellite during the May 2024 super geomagnetic storm:* **K Yamamoto**, Y Miyoshi, N Kitamura, A Shinbori, A Matsuoka, M Teramoto, S Yokota, S Kasahara, K Keika, T Hori, K Asamura, Y Kazama, S Y Wang, C W Jun, N Higashio, I Shinohara

1888148 *The Comprehensive Response of the Magnetopause to the Impact of an Isolated Magnetosheath High-Speed Jet:* **J Ma**, B Tang, X Gao

1925278 *The phase relation among microinjection, thermal plasma, and electric field:* **S Tian**, J Li, J Bortnik, C P Wang, S Wang, J Burch, O Le Contel

1848950 *The Role of Shock-Generated Transients in Particle Acceleration at Planetary Bow Shocks:* **S Raptis**

1987091 *First EZIE comparisons and magnetic field retrievals using JPL's Observing System Simulation Experiment:* **F Werner**, M Schwartz, S Misra, S Padmanabhan, R L Araujo de Mesquita, J H Yee

1865540 *NASA EZIE: an Innovative Mission to Resolve Decade Old Mysteries:* **J W Gjerloev**, J H Yee, R L Araujo de Mesquita, S Misra, P Kangaslahti, S Padmanabhan, L Kepko, K Laundal, M Madelaire, V G Merkin, P Alken, A I Maute, H Vanhamaki, O P Verkhoglyadova, W Wang, R Larsson, P J Espy, K Sorathia, W H Swartz, D L Wu

1965105 *The EZIE Mission: Overview, Results, and How EZIE Data Can Address Outstanding Science:* **W H Swartz**, J H Yee, J W Gjerloev, R L Araujo de Mesquita, S Misra, K Laundal, M Madelaire, N Mosavi, S Padmanabhan

1919239 *The EZIE OSSE: Mission Design and Retrieval Algorithms Readiness:* **R L Araujo de Mesquita**, J H Yee, J W Gjerloev, H Nair, S Misra, V G Merkin, W H Swartz, D Stephens, B C Wolven

248197
Fifty Years of the Burton Equation *(joint with SA)*

Conveners: **Michael Liemohn**, University of Michigan Ann Arbor; **Consuelo Cid**, Organization Not Listed; **Shasha Zou**, University of Michigan Ann Arbor

1866520 *A Knowledge-Guided Deep Gaussian Process Model for Global Geomagnetic Perturbation Forecasting:* **H Chen**, G Toth, S Zou, Y Chen, X Huan

1883689 *A New Local-Prediction-Based Approach for Forecasting Global Geomagnetic Kp and Hpo Indices:* **G Kervalishvili**, I Michaelis, J Rauberg, M Korte, J Matzka

1915835 *Alfvénic Contribution from the Solar Wind to Magnetospheric Dynamics:* **C Cid**, E Saiz

1859747 *Challenging ring-current models of the Carrington storm:* **J J Love**, K Mursula

247366
From the Sun to the Earth: Exploring The Impacts of Plasma Waves and Instabilities on Solar-Terrestrial Interactions *(joint with SH)*

Conveners: **Hava Turkakin**, Utica University; **Eun-Hwa Kim**, Princeton University; **Syed Ayaz**, University of Alabama in Huntsville; **Sung Jun Noh**, New Jersey Institute of Technology

1859166 *Solar Coronal Heating by MHD Waves Emitted Along Supra-Arcade Downflows(SADs) by Kelvin—Helmholtz Instability:* **H Turkakin**, I R Mann, R Rankin

1890713 *A Self-Consistent Approach to Electron Precipitation and Ionospheric Conductivity in Auroral Bead Structures:* **J Johnson**, Y Nurhan, E A Ccopa Rivera, A Navarro, S Wing, S Kavosi

1871656 *Cumulative effects of drift, temperature anisotropies, and suprathermal populations on the right-hand proton instabilities in the young solar wind:* **S M S Hamd**, M Lazar, H Fichtner, R Lopez, S Poedts

1961066 *Cylindrical and Spherical Dust Ion Acoustic Solitary Waves in Non-Maxwellian Space Plasmas:* **K H Shah**

1981159 *Flare-Induced Fast-Mode and Slow-Mode MHD Waves in the Solar Corona: Recent Observations and Modeling Advances:* **T Wang**, L Ofman, W Liu, X Sun, M Jin, S J Bradshaw

1959683 *Integrating multi-cycle solar wind data analysis and physics-guided machine learning for quantitative assessment of Alfvénic plasma wave dynamics:* **S Haldar**

1847245 *Ion-Scale Cyclotron Waves in the Inner-Heliospheric Solar Wind:* **L Jian**, S A Boardsen, L Ofman, Y , PhD, J Huang, M L Stevens, D Larson, H Wei

1860947 *Forecasting Local Geomagnetic Activity: Beyond Global Indices for regional impacts:* **A Collado-Villaverde**, P Muñoz Sr, C Cid

1862015 *Prediction of Geomagnetic Storms Using Deep Learning and Solar Images:* **C Xu**, H Lee, J T L Wang, H Wang, Y Xu, X Bai, E Park, J Son

1905986 *Prediction of the Dst Index Using Explainable Artificial Intelligence and Physics-Informed Neural Networks:* **T Nishino**, Y Miyoshi

1884248 *The Early History of the Burton Equation:* **R L McPherron**

2001204 *The Optical b2i:* **E Donovan**

1908821 *The prediction of local geomagnetic activity: A system science approach:* **R Boynton**, M A Balikhin

1986967 *Universal Lévy Filter in Magnetospheric Response to Solar Variability: A New Paradigm for Space Weather Prediction:* **J A Wanliss**

1892931 *Numerical Survey of EMIC Wave Properties 1: Heavy Ion Effects on EMIC Wave Propagation:* **D Holbrook**, E H Kim, J Johnson, S J Noh, K H Kim, S Shiraiwa, W Martin, M J Engebretson, H Kim

1893862 *Numerical Survey of EMIC wave Properties 2: Energization of Cold Ions by EMIC waves:* **E H Kim**, K H Kim, D Holbrook, J Johnson, S Shiraiwa, W Martin

1997804 *Reconstructing High-Cadence Ion Velocity from MMS Trigger Mode Data: Enabling Extended Analysis of Magnetosheath Wave Phenomena:* **R Kessel**, S A Boardsen, G Le, W R Paterson, K Nykyri, H E Laakso, M M Pandya

2004568 *Shear-flow Ballooning, Substorm Onset, and Destablisation of the Stetched Terrestrial Magnetotail: New Evidence and Constraints from Energetic Proton Temperature Anisotropy and Auroral Imaging:* **I R Mann**, S S Babu

1853465 *Solar coronal heating: role of kinetic and inertial Alfvén waves in heatingand charged particle acceleration:* **S Ayaz**, G P Zank

1898751 *Statistical Characteristics of Multiband Ion-Scale Waves Observed in the Inner Heliosphere:* **S J Noh**, X Fu, F Guo, D Y Lee, I Kuzichev, L Jian, M Cowee, J Seough, J T Steinberg, R M Skoug, D B Reisenfeld, J Huang, K E Choi

1900153 *The effect of inertial Alfvén wave nonlinearity on acceleration of electrons in the inner magnetosphere:* **I DesJardin**, J Dorelli, G V Khazanov

1938339 *The role of kinetic Alfvén waves on electron energization, energy transport, and energy conversion in the near-Earth magnetotail:* **A J Hull**, P A Damiano, C C Chaston, J Johnson

1910443 *The role of parametric decay instability in ionospheric plasmas perturbed by Alfvén waves:* **D Recchiuti**, L Matteini, L Franci, E Papini, G D'Angelo, R Battiston, M Piersanti

1861244 *ULF Wave-Driven Generation of Magnetospheric Plasma Waves: Statistical Characterization and Empirical Modeling:* **M F Bashir**

250423
Geospace Research from the Polar Regions: Preparing for the Next International Polar Year (IPY) *(joint with A, GP, SA, SH)*

Conveners: **Hyomin Kim**, Virginia Polytechnic Institute and State University; **Andrew Gerrard**, New Jersey Institute of Technology; **Gareth Perry**, New Jersey Institute of Technology; **Lindsay Goodwin**, New Jersey Institute of Technology

1928614 *A Multi-year Analysis of Polar-cap F-region Plasma Dynamics with RISR-N:* **A Thayer**, G W Perry, L Goodwin

1902169 *Effects of Ion-Neutral Coupling on the Formation and Evolution of Polar Cap Electron Density Structures:* **R H Varney**, K H Pham

1914267 *Evolution of Ionospheric Upflow Flux During CME- vs. CIR-driven Geomagnetic Storms:* **G Kwon**, S Zou

1926906 *F-layer parameters derived by airglow emissions at Pituffik, Greenland:* **J Norrell**, I Molina, M Negale, J Holmes

1908184 *First observations of ionospheric electric field in polar regions by EFD-02 on board CSES-02 satellite.:* **M Piersanti**, G D'Angelo, P Diego, E Papini, A Parmentier, F De Angelis, D Badoni, G Rebustini, C De Santis, R Battiston, P Picozza, P Ubertini

248593
Global and Micro-Scale Consequences of Mesoscale Magnetotail Dynamics (cosponsored by AOGS: Asia Oceania Geosciences Society,EGU: European Geosciences Union,JpGU: Japan Geoscience Union) *(joint with SA)*

Conveners: **Adam Michael**, Applied Physics Laboratory; **Christine Gabrielse**, The Aerospace Corporation; **Bea Gallardo-Lacourt**, University of Calgary; **Anthony Sciola**, The Johns Hopkins University

1862062 *Wave energy conversion and electron energization in kinetic Alfvén eigenmodes embedded within substorm auroral beads:* **P A Damiano**, J Johnson, A J Hull, S Wing, E H Kim, C C Chaston, P A Delamere

1962246 *Hemispheric Asymmetries Observed in Total Electron Content and Scintillation at High Latitudes:* **A Coster**, A Weatherwax, N Aponte, J D Huba, Y Ye, H Kim, J Liu, PhD

1964977 *Influence of IMF and Solar Wind Characteristics on the Observed Ground Magnetic Field Differences Between Hemispheres:* **G Nowak**, D S Ozturk, Z Xu, H Kim, M J Engebretson, A N Willer

1931893 *Investigating Ultra Low Frequency Pi1B waves as a proxy for substorm onset:* **M Salzano**, M Hartinger, K Collins, PhD, M Lessard, K Shiokawa, Z Xu, J W Gjerloev, A Shinbori, S I Oyama, M G Connors

1905039 *Investigation of Asymmetric Geomagnetic Responses During the Geomagnetic Storm on May 10-12, 2024:* **H Kim**, D S Ozturk, J M Weygand, PhD, Z Xu, M Hartinger, M Lessard, I Kuzichev, A N Willer

1886418 *Multi-Scale Density Structures in the Polar Ionosphere: Progress, Challenges, and Outlook:* **S Zou**

1884627 *Planning for the Fifth International Polar Year (IPY5): Lessons Learned and Opportunities for the Geospace Community:* **A Weatherwax**

1929228 *Polar Geomagnetic Asymmetries Induced by Interplanetary Shocks: Observation–Model Comparison:* **Z Xu**, D S Ozturk, M Hartinger, H Kim, I Kuzichev

1960744 *Reframing High-Latitude F-region Plasma Density Irregularities: Considerations for the Next IPY:* **L V Goodwin**, J Hughes, B Dahal, L J Lamarche, G W Perry

1929701 *Simulations of Polar Cap Ionosphere Lifted F2 Peaks and Comparisons to Observations by Incoherent Scatter Radar.:* **M Lundquist**, R H Varney

1985942 *A Time-Varying, State-Dependent Reformulation of the WINDMI Model for Simulating Magnetospheric Dynamics:* **P Adhya**, E A Spencer, P Chowdhury

1909723 *Are there Ballooning-Interchange Heads in the Midtail?:* **E V Panov**, M V Kubyshkina, V A Sergeev, E Grigorenko, A Malykhin, R Nakamura, W Baumjohann, L J Paxton

1858687 *Characterization of Concurrent Bursty Bulk Flows and Interchange Waves During the Recovery Phase of the Gannon Storm:* **H Turkakin**, I R Mann, A Runov, R Rankin

1892130 *Comparing Field-of-view and Equatorial Projections of Mesoscale Features in TWINS Energetic Neutral Atom Observations:* **M Smith**, J Tibbetts, A M Keesee

1892419 *Connection of Equatorward-Extending Auroral Streamers and Their Ground Magnetic Depressions to Radiation Belt Injections:* **L R Lyons**, S Yadav, H J Kim, S Tian, J Liu, Y Nishimura, Y Zou, V Angelopoulos, E Donovan

1967482 *Evolution of Dipolarization Fronts from the Magnetotail to Inner Magnetosphere Observed by MMS:* **T Metivier**, H Matsui, C J Farrugia, R B Torbert

1955439 *Following Ions from the Magnetotail to the Inner Magnetosphere: July 6, 2017 Case Study:* **R Gorby**, A M Keesee, H Arnold

1929299 *Formation of Auroral Omega Bands Driven by Plasma Transport Flows:* **S Bao**, J Liu, F Toffoletto, K Sorathia, V G Merkin, D Lin, M J Wiltberger

1921682 *Global Hall MHD Simulations of the Earth's Magnetosphere:* **V G Merkin**, J Lyon, K Sorathia, H Arnold, J Garretson

1892653 *HyENA: An Observing System Simulation Experiment (OSSE) for Hypothetical Energetic Neutral Atom Imaging:* **J Tibbetts**, A M Keesee, M Gkioulidou, V G Merkin, R DeMajistre

1916124 *Improving Analysis of Dipolarization Events With Inductive, Radial Electric Fields in the Inner Magnetosphere:* **H Matsui**, T Metivier, C J Farrugia, R B Torbert

1891316 *Link between mesoscale auroral streamers and geosynchronous dispersionless injections:* **T Motoba**, S Ohtani

1869777 *Machine Learning Application to Bursty Bulk Flow Identifications:* **B Powers**, A N Jaynes, S Chepuri

1935685 *Mesoscale Auroral Dynamics in the Nightside Transition Region: A Ground-Based Study of Giant Undulations:* **B Gallardo-Lacourt**, L Kepko, E Spanswick, E Donovan

248740
Heavy Ions as Tracers and Regulators of Plasma Processes in the Solar System *(joint with P)*

Conveners: **Kathleen Hanley**, Space Science Laboratory, UCB; **Mei-Yun Lin**, University Corporation for Atmospheric Research; **Weijie Sun**, University of Michigan; **Jamey Szalay**, Princeton University

1989346 *Bi-ion Hybrid Resonant Frequency Observation and Ion Concentration Evaluation:* **X Liu**, S Gu, L Chen, M Usanova

1994658 *Constraining Species-Dependent Ion Escape Trajectories in Induced Magnetospheres:* **K Putnam**, P C Hinton, R Jarvinen, R Ramstad, D A Brain

1933085 *On Recurrent Substorms And Their Dependence on Magnetospheric Conditions.:* **E A Spencer**, P Adhya, P Chowdhury

1861698 *Partition of Energy Flux Transport at Bursty Bulk Flows:* **S Chepuri**, P H Reiff, A N Jaynes, D L Turner, C Gabrielse, D J Gershman, I J Cohen, D N Baker, T W Leonard

1925651 *Quantifying the Impact of Meso-scale Flow Channels on Magnetosphere-Ionosphere Coupling Sequences:* **K Davidson**, Y Nishimura, L R Lyons, E Donovan, V Angelopoulos, N Nishitani

1900793 *Simulating the 5 November 2023 Geomagnetic Storm with the Rice Convection Model-Inertial (RCM-I):* **S Sadeghzadeh**, F Toffoletto, R Wolf

1892170 *Statistical Analysis of Stormtime Bursty Bulk Flows:* **A Devanandan**, A M Keesee, S Raptis, S Ohtani, V G Merkin, M Gkioulidou

1877497 *Statistical Study of Interhemispheric Asymmetries in Field-Aligned Currents During Bursty Bulk Flows:* **V Lanabere**, A P Dimmock, S C Buchert, O Marghitu, A Blagau

1917073 *Stormtime Magnetospheric Processes Associated with the Dawnside Current Wedge:* **S Ohtani**, S Raptis, A Devanandan, T Motoba, Y Zou, J W Gjerloev, V G Merkin

1911623 *The Influence of the Ring current/Plasmasphere System on the Growth of Kelvin-Helmholtz Instability at the Earth's Dayside Magnetopause:* **G Peyrichon**, J F Ripoll, H El-Rabii, A Michael, V G Merkin, M Cosmides, K Sorathia, F Toffoletto, A Ukhorskiy

1953112 *The Role of Mesoscale Convection in Transport and Acceleration of Ring Current and Radiation Belt Particles:* **A Y Ukhorskiy**, A Michael, K Sorathia, V G Merkin, R M Millan

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1869238 *Detection of negative carbon and oxygen pickup ions from dust orbiting Jupiter:* **F Allegrini**, J R Szalay, D J McComas, R W Ebert, S J Bolton, G B Clark, J E P Connerney, W S Kurth, P Louarn, B Mauk, A Pontoni, J Saur, P W Valek, J Z Wang, R J Wilson

1891442 *Heavy ions in the solar wind as tracers of solar sources and radial dynamics:* **Y Rivera**

1969979 *Impacts of Mid-Latitude Ionosphere-Thermosphere Electrodynamics on Ion Outflow During Geomagnetic Storm: HIDRA-TIEGCM Coupled Simulations:* **Y Hong**, K H Pham, R H Varney

1953579 *Long-term Variations of He++ Ions in the Inner Magnetosphere: Observations by Arase LEP-i:* **Y Nishida**, Y Miyoshi, K Asamura, L M Kistler, I Shinohara

1897433 *Temporal Variations of Jupiter's Plasma Disk Observed by Juno:* **J Wang**, F Bagenal, R J Wilson, L C Ray, P A Delamere, J P Morgenthaler, R Ebert, P W Valek, F Allegrini, J R Szalay

252048
Influence of Space Weather on Solar-Terrestrial Interactions

Conveners: **Gerard Fasel**, Pepperdine University; **SUN Lee**, University of Alaska Fairbanks; **David Sibeck**, NASA GSFC; **Nick Omidi**, Solana Scientific Inc

1985463 *AI and Dayside Aurora BACC Data:* **J Press**, G J Fasel, F Scalzo, S Lee, J C Mann, F Sigernes, D A Lorentzen

1982851 *Dayside Auroral Pulsations:* **K McElfish**, G J Fasel, S Lee, B Eecklor, J C Mann, F Sigernes, D A Lorentzen

1986486 *Dayside Magnetic Reconnection During Various IMF Configurations from Pre-Magnetic through Post-Magnetic Noon:* **A N Kamaal**, M Swenski, G J Fasel, S Lee, D G Sibeck, J C Mann, F Sigernes, D A Lorentzen

1945626 *Distance-Dependent Spectra of Magnetic and Plasma Fluctuations Upstream of Earth's Bow Shock:* **S Lee**, D G Sibeck, N Omidi, G J Fasel

1986556 *Evolution of North-South Aligned Dayside Auroral Arcs:* **T Ramirez**, G J Fasel, S Lee, D G Sibeck, J C Mann, F Sigernes, D A Lorentzen

1868116 *Exploring the Unusual Day Side Aurora of January 3, 2020:* **D T Welling**, A Rewoldt, A Gottesman, P M Dredger, G J Fasel

1928469 *Gannon Storm Sudden Impulse Geomagnetic Disturbances, Geoelectric Fields, and Geomagnetically Induced Currents:* **J M Weygand, PhD**, D S Ozturk

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Magnetosphere-Aurora Connection: New Perspectives on Magnetospheric Dynamics and Auroral Evolution *(joint with SA)*

Conveners: **Shipra Sinha**, NASA Goddard Space Flight Center; **Yukitoshi Nishimura**, University of California Los Angeles; **Andrei Runov**, University of California Los Angeles; **Shinichi Ohtani**, Inst Statistical Mathematics

1904953 *Tracing Lunar Metallic Ions into Earth's Inner Magnetosphere:* **M Y Lin**, A R Poppe

1925106 *Using He++ to Determine Solar Wind Access to the Plasma Sheet:* **L M Kistler**, M N Mia, C Mouikis, J Liao, M L Stevens

1961038 *Using Wind-STICS to Study Heavy Ions and Alpha Particles in Earth's Magnetosphere:* **S A Colón Rodríguez**, M W Liemohn, J M Raines

1989413 *IMPACT OF LONG PERIODS OF HIGH DENSITY SOLAR WIND ON DAYSIDE AURORA:* **T Carel**, G J Fasel, S Lee, J C Mann, F Sigernes, D A Lorentzen, D G Sibeck, J Taylor, C Ardito

1885037 *Investigation of ion fluxes in the high-to-low altitude cusp and their response to solar wind conditions using a machine learning approach:* **G Cucho-Padin**, D G Sibeck, X Wang, D da Silva, C Ferradas

1986496 *Ionospheric Anatomy of a Hot Flow Anomaly:* **M Swenski**, A N Kamaal, A Black, G J Fasel, S Lee, D G Sibeck, J C Mann, F Sigernes, D A Lorentzen, N Omidi

2001961 *Observations of an Unusual Reconnection Event on 3 January 2020:* **A N Kamaal**, G J Fasel, D T Welling, T Ramirez, M Swenski, C Jiang, S Lee, D G Sibeck, J Press, W Farrar, A Yang, J C Mann, S Akalin, F Sigernes, M Woolfolk, D A Lorentzen, G Fergesen, S Medina

1984906 *Origin of Throat Aurora and the PMAF Connection:* **T Ramirez**, G J Fasel, S Lee, D G Sibeck, J C Mann, F Sigernes, D A Lorentzen

1861646 *Spatiotemporal Variability of Ionospheric TEC and Magnetic Energy Density During Solar Wind-Driven Geomagnetic Storms in April and May 2024:* **C Idosa**, D L Gallagher, G P Zank

1983997 *Survey of Transient Magnetic Field Signatures Observed Under the Equatorial Electrojet:* **S Y W Hsieh**, D G Sibeck

1945962 *The Dayside-Nightside Auroral Connection:* **D Csonge**, A Black, G J Fasel, J C Mann, F Sigernes, D A Lorentzen, S Lee

1903379 *Time-Resolved Causal Analysis of Geomagnetic Storms by Information Theory:* **J Son**, Y S Kwak

1971442 *Auroral Boundary Identification from IMAGE FUV Imagery: A Comparison of FTA and Global UV Imaging Methods:* **S Kumar**, C Wu, A J Ridley, A Ohma, M Madelaire, K Laundal

1930397 *Conjugate Observations of Faint Diffuse 557.7-nm Emission at Subauroral Latitudes Using Ground Cameras and the Arase Satellite:* **M Gomi**, S Kazuo, Y Miyoshi, Y Otsuka, S I Oyama, M G Connors, A Shinbori, T Hori, C W Jun, K Yamamoto, I Shinohara, K Asamura, S Kasahara, K Keika, S Yokota, F Tsuchiya, A Kumamoto, Y Kasahara, Y Kazama, S Y Wang, S W Y Tam, A Matsuoka

1931564 *Connecting stormtime SAR arc variability to mesoscale ring current-plasmasphere evolution via global geospace modeling:* **A Sciola**, K Sorathia, V G Merkin, M Shumko, C R Martinis, J Garretson

1858804 *Correlative Analysis of Bursty Bulk Flow Dynamics, Solar Wind Drivers, and Substorm Behavior Across Selected Geomagnetic Storm Events in Solar Cycles 23 and 24:* **S Kinsella**

1951654 *Effects of Improved Electron Precipitation on Substorm Magnetotail Dynamics:* **A Gottesman**, D T Welling, M X Bui, A Mukhopadhyay, T I Pulkkinen, M W Liemohn

1972044 *Impact of collocated auroral precipitation on ionospheric dynamics:* **S Hill**, A N Jaynes, D Chaddock, E Spanswick, J Liang

1851541 *Low Frequency Oscillation Observed in the Ionosphere prior to substorm onsets:* **S Wing**, J Johnson, E A Ccopa Rivera, A J Hull, P A Damiano

1921002 *Magnetosphere and Aurora – Inward Mapping or Outward Mapping:* **X Zhou**, D L Hampton, D Costanzo

1887588 *Modeling of the Nonlinear Evolution of Ionospheric Alfven Resonator Using Multi-Fluid MHD Simulation:* **K Kawakami**, A Yoshikawa, K Fukazawa, H Higuchi

1921366 *Modulation of Lower-Band Chorus During Pulsating Aurora Events:* **L Daneshmand**, A N Jaynes, K Vidal, I Christopher

1942508 *On the role of turbulence in the Magnetosphere-Ionosphere coupling via concurrent electric field measurements by CSES-01 and Cluster.:* **E Papini**, G D'Angelo, M Piersanti

1964112 *Perpendicular Plasma Dynamics, Energy Transport and Energization Derived from the Inversion of Auroral Imagery:* **C C Chaston**

1875798 *Properties of Auroral Beads Observed during Non-Substorm Times:* **V Ledvina**, C Gabrielse, M Chen, D L Hampton, J Derr

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Magnetosphere-Ionosphere-Thermosphere Coupling Using Observations, Physics-based Model Simulations, and Machine Learning

Conveners: **Amani Reddy**, University of Alaska Fairbanks; **Vikas Sonwalkar**, University of Alaska Fairbanks; **Joseph Huba**, Naval Research Laboratory; **Gang Lu**, National Center for Atmospheric Research

1901299 *A new approach to map high-spatial resolution plasma convection using SuperDARN:* **J M Ruohoniemi**, B Kunduri, J B H Baker, B Bristow

1898141 *Quantifying Auroral Acceleration Mechanisms in Relation to Small-Scale Auroral Features Above a Discrete Auroral Arc:* **R Loewe**, J W Bonnell, C C Chaston, R Michell, M Samara

1936115 *Recent Insights on Magnetospheric Dynamics from Combined Low- and High-Altitude Observations.:* **V Angelopoulos**, A Artemyev, C Wilkins, J Liu, Y Shen, X Shi, V A Sergeev

1967773 *Results from the GIRAFF Sounding Rocket Mission:* **E R Mirizio**, R Michell, M Samara, D Chen, E Zesta, M Martínez Ledesma, A Hoffmann, R F Pfaff Jr, E C Sittler Jr, K Lynch, D Hampton, M G McHarg, M Finley, A W Breneman, A Mule, P A Bernhardt, K Ketchell, M M Pandya, D Baldwin-Bott

1952206 *Solar Flares, Solar Eclipses, and Auroral Substorms: Ionospheric Conductivity's Influence on MI Coupling:* **S Coyle**, M Hartinger, J B H Baker, Z Xu, C R Clauer

1992345 *Study on the Impact of Plasma Pressure and Auroral Dynamics on Relativistic Electron Acceleration in the Outer Radiation Belt during Geomagnetic Storms:* **A Inostroza**, M V Stepanova, J M Diaz Pena, V A Pinto, M Coello, M Martínez Ledesma, R Navarro, E Kolomiytseva, E E Antonova

1850643 *The auroral substorm: Are our basic electrojet schematics correct?:* **J W Gjerloev**, S Ohtani, Y Zou

1857015 *The Pioneer Cluster Mission and the Upcoming SMILE Mission:* **A Masson**, C P Escoubet, M Taylor, B Grison, H R Middleton

1994463 *Unique Solar Wind and Magnetospheric Drivers of Omega Band Events:* **V Cribb**, T I Pulkkinen, L Kepko, B Gallardo-Lacourt

1956859 *Using Global Auroral Imaging to Combine Ionospheric Measurements and Infer Magnetospheric Dynamics:* **K Laundal**, M Madelaire, F Tesema, B J Harding

1938117 *Advancing Modeling of Magnetosphere-Ionosphere Coupling with the Enhanced OpenGGCM-GITM Framework:* **L Wang**, K Germaschewski, D S Ozturk, C M Um, J Liao, C Dong, H K Connor, J Raeder

1969885 *Assessing High-latitude Electrodynamics: Validation and Characterization of Perturbations in the Coupled Ionosphere-Thermosphere System:* **D S Ozturk**, K Bossert, A J Ridley, T E Berger

1991435 *Coupling of the Lightning Energy to the Ionosphere and Magnetosphere as MR, SR, SP, and SR-SP Whistlers:* **V S Sonwalkar**, A Reddy

1896090 *Dynamic responses of ionosphere and plasmasphere during 2024 October super storm by GITM-SAMI3:* **Y Peng**, S Zou, Z Wang, A J Ridley, J Huba

1908459 *Evidence of the role of solar wind electric field on thermospheric mass density variations during strong geomagnetic storms:* **G D'Angelo**, M Piersanti

1959525 *Exploring Cross Polar Cap Potential in Global Simulation of the Gannon Storm:* **A Brenner**, T I Pulkkinen, D G Sibeck, E M T São Sabbas, D T Welling, A J Ridley, S G Valluri, N Sivadas

1974802 *Hemispheric Asymmetries in Field-Aligned Currents: Principal Component and Assimilative Mapping Analysis of AMPERE, SuperMAG, and SuperDARN Data:* **N Bartel**, T Matsuo

1853312 *Improved Quantification of Energetic Electron Precipitation for MIT Coupling via Data Assimilation and Realistic Instrument Response Modeling:* **W Tu**, Z G Li

1923662 *Influence of Dynamic Magnetospheric Shielding on Solar Energetic Proton Precipitation and the resultant Atmospheric Ionization:* **M Qin**, W Li, B T Kress, X Fang, M Hudson, L Capannolo, X Shen

1902371 *Investigating EMIC Wave Conjunctions: Linking Ground-Based and Space Observations Using Machine Learning:* **M Moura**, H Kim, S Noh, M Lessard

1935268 *Joule heat energetics of non-extreme magnetic storms in 2023-2024 using SuperDARN data assimilated AI emulator:* **B Nilam**, R Kataoka, S Nakano, S Reddy, T Bag, S Yukimatu

1938533 *ML-IMEF: A Machine Learning Approach to Global Modeling of the Inner Magnetospheric Electric Field and Potential for Evaluating Stormtime Dynamics:* **B Isola**, M R Argall, J A Edmond, A Motazedian, R B Torbert

1854944 *Model Validation of M-I Coupling in SWMF:* **T James**, A Glocer

247753
Magnetosphere of Jupiter: Multiple Views of a Dynamic System

Conveners: **Sadie Elliott**, University of Minnesota; **Yasmina M. Martos**, British Antarctic Survey; **George Clark**, NASA Goddard Space Flight Center; **Robert Ebert**, Southwest Research Institute San Antonio; **Jayasri Joseph**, Organization Not Listed

1931998 *A Global View of Reconnection and Heating in Jupiter's Magnetosphere:* **A Smith**, P A Delamere, C E Spitler, D S Ozturk, J Montgomery, V Palmer, M Franciscovich, A Otto, Z Williams, J Caggiano, K Sorathia, A Sciola, J Wang, R J Wilson, F Bagenal

1985476 *Observations and Physics-Based Model Understanding of Electron Auroral Precipitation Mechanism and Backscatter Characteristics:* **J P Dombeck**, A Giraldo, B Ackerman, S Ooi, J H Magnus

1960144 *OpenGGCM's Coupling Framework and its Postprocessing and Visualization Library ggcmpy:* **K Germaschewski**, L Wang, C M Um, D S Ozturk, J Liao, C Dong, H K Connor, J Raeder

1953791 *Simulation of the Gannon Storm with the Comprehensive Inner Magnetosphere-Ionosphere (CIMI) Model:* **M C H Fok**, G V Khazanov, J Dorelli, C Ferradas, S B Kang, S Kumar, Y Zheng, M I Sitnov, G K Stephens, N Buzulukova, A Glocer

1882624 *Storm-time Electric Field Effects on Early Morning Ionospheric Plasma Drift During the June 2015 Geomagnetic Storm:* **T J Mathew**, B Varghese

1863209 *Super Fourtain Effect during May 2024 Storm: GITM-SAMI3 Simulation:* **Z Wang**, J D Huba, G Lu, S Zou, Y Deng, C Sheng

1931312 *The impacts of different types of auroral precipitation on the thermosphere and ionosphere:* **W Wang**, D Lin, H Wu

1868378 *Universal Time Variability in the Open/Closed Boundary and Cusp Geometry: Insights from Tsyganenko T96 Field-Line Tracing:* **D A Smith**, J J Sojka

1967631 *Using Machine Learning for Estimating Chorus - Driven Energetic Electron Precipitation:* **A Bibeau**, J Pettit, L Capannolo, J Peyton Bernardo Morales, S Elliott

1948969 *Using Multiple Satellite Traces to Interpret Bottomside Ionospheric Structure: A Case Study from May 10, 2024:* **A Manjrekar**, S Tulasi Ram

1927861 *Whistler Mode Sounding and SAMI2 Simulations of Dayside and Nightside O+/H+ Transition Height:* **A Reddy**, V S Sonwalkar

1937877 *A Mid-to-Low Latitudes Field Aligned Current System at Jupiter Revealed by Juno MAG:* **W Zhang**, H Cao, J E P Connerney, J Bloxham, K K Khurana, O Agiwal

1894074 *A Multi-Instrument Analysis of Electron Density Depletions above Jupiter's Auroral Zones:* **N Kruegler**, A H Sulaiman, S Elliott, W S Kurth, B Bonfond, Y Sarkango, G B Clark, R L Lysak, S J Bolton

1848757 *A New Plasma Regime in Jupiter's Polar Regions:* **R L Lysak**, A H Sulaiman, S Elliott

1883558 *A Statistical Analysis of Returning Flux Tubes and Related Plasma Waves Observed by Juno at Jupiter:* **D He**, C Yue

1879437 *A Survey of Jovian Long and Medium Dispersion Lightning Whistlers as detected by Juno Waves:* **G B Hospodarsky**, A J Milne, W S Kurth, M Imai, I Kolmasova, O Santolik, J E P Connerney, S J Bolton

1895615 *Electron instabilities in the Jovian magnetodisc and implications for Alfvén wave excitation:* **Y Sarkango**, A H Sulaiman, R L Lysak, J Saur, J R Szalay, R Bandyopadhyay, F Allegrini, R Ebert, W S Kurth, P A Damiano

1951239 *Energy Deposition Associated with Jovian Auroral Proton Precipitation:* **T Cravens**, S Houston, O Q Hamil, J H Waite, D Schultz

1955712 *Exploring the energy transfer of Alfven waves from the Io torus to the ionosphere of Jupiter:* **D A Coffin**, P Withers, D Buccino, M Parisi, A Caruso, P A Delamere, P A Damiano, R S Park, P G Steffes, S J Bolton

1937398 *Flow of Mass and Energy in the Magnetosphere of Jupiter: Update from Juno:* **F Bagenal**, P A Delamere

1884568 *High-Energy Electron Precipitation in Jupiter's North Polar Auroras observed by Juno MWR:* **Z Zhang**, J H Waite, A Bhattacharya, S Levin, P G Steffes, V Adumitroaie, F A Oyafuso

1920942 *In situ observations of the topside polar ionosphere by Juno/JADE-I:* **P W Valek**, F Allegrini, F Bagenal, S J Bolton, R Ebert, S Elliott, W S Kurth, J R Szalay, R J Wilson

1889477 *Investigating Field Line Resonances in the Jovian Plasma Sheet: Findings from Continuous Wavelet and Hilbert-Huang Transform Analysis of Juno Mission Data:* **V Palmer**, P A Damiano, P A Delamere, C E Spitler, A Smith, J Montgomery, M Franciscovich, C Maxim, C S Ng, J R Szalay, Y Sarkango, A H Sulaiman

1970388 *Juno Witnesses Extreme Compression of Jupiter's Magnetosphere:* **R J Wilson**, F Bagenal, M J Brennan, J Connerney, S Eriksson, T Greathouse, W S Kurth, B Mauk, P J MacNeice, C Paranicas, C Piker, R Ramstad, M J Rutala, M F Vogt

1889417 *Juno's Second Extended Mission: Exploring the Inner Radiation Belts, Moons, Rings and Magnetospheric Boundaries:* **S J Bolton**

1864531 *Jupiter's Diffuse Aurora: Species- and Energy-Dependent Precipitation Shaped by Loss Cone Evolution:* **D Freund**, G B Clark, L W Blum

1911234 *Local-time Variations In The Jovian System And Possible Connections To Solar Wind/Magnetosphere Interactions:* **M Devinat**, M F Blanc, Z Y Liu, Y Nakamura, Y Wang, S Al-Saati, N Clément, C Yuan, A Kamran, N André

1897860 *Magnetic Reconnection in the Plasma Disk at 23 Jupiter Radii:* **J Wang**, F Bagenal, S Eriksson, R Ergun, P A Delamere, R J Wilson, R Ebert, P W Valek, F Allegrini, L C Ray

1992165 *Mass and Magnetic Flux Transport in Jupiter's Magnetodisc: Juno Observations with Global Insight from GAMERA:* **C Spitler**, P A Delamere, A Smith, J Z Wang, R J Wilson, F Bagenal, G B Clark, M Franciscovich, J Montgomery

1897808 *New Models of Jupiter's Magnetopause and Bow Shock: Probabilistic Locations, Shapes, and Internally-Driven Variation:* **M J Rutala**, C M Jackman, C Louis, A Azari, F Bagenal, S P Joy, W S Kurth, T B Keebler, R Giles, R W Ebert, C Bowers, M F Vogt

1883996 *Plasma Densities in the Inner Io Torus at Low to Mid-latitudes:* **W S Kurth**, G B Hospodarsky, F Bagenal, T Hagerman, J E P Connerney, S J Bolton

1873010 *Plasma Injections and Electron Precipitation at Jupiter: Insights from Juno Observations:* **W Li**, Q Ma, A Daly, X Shen

1917297 *Reconstructed electron energy spectra in Jupiter's radiation belts using Juno-JEDI:* **X Zhu**, I Jun, P Kollmann, C Paranicas

1972566 *Searching for Evidence of Magnetic Reconnection at Jupiter's Mid-to-High Southern Latitude Magnetopause:* **R W Ebert**, F Allegrini, F Bagenal, S J Bolton, J E P Connerney, P A Delamere, G Fuller, J Montgomery, J R Szalay, P W Valek, R J Wilson

1896521 *Simulations of the interaction of Electrons with Ionospheric Alfvén Resonator in the Jovian Aurora:* **W W Eshetu**, R L Lysak, A H Sulaiman

1862788 *Solar Wind Interactions at Jupiter's Dusk Magnetopause:* **J Montgomery**, P A Delamere, R W Ebert, F Allegrini, F Bagenal, R J Wilson, G B Clark, A Smith, C E Spitler, G Fuller

1925055 *Spatial Mapping of the Inner Structure of Io's Plasma Torus from Juno Data:* **T Hagerman**, F Bagenal, R J Wilson, W S Kurth, E G Nerney, PhD, P W Valek

1915625 *Statistical characteristics of the Jovian S-bursts from Juno-supporting LWA and NDA radio observatories:* **A Boudouma**, M Imai, E Mauduit, C Fournier, A Lecacheux, L Lamy, C A Higgins, T Clarke

1956417 *Survey of Bow Shock and Magnetopause Boundaries Observed by Juno:* **G Fuller**, F Bagenal, R J Wilson, F Allegrini, R W Ebert, G B Hospodarsky, W S Kurth, C Louis

1869979 *The Juno SRU's Unprecedented View of Jupiter's Upper Atmosphere and Aurorae at Visible Wavelengths:* **H N Becker**, M J Brennan, M Florence, T Greathouse, J H Waite, S K Atreya, S J Bolton, J W Alexander, M Rubio

1987699 *Turbulent Heating in Jupiter's Middle Magnetosphere from Juno Data:* **M Franciscovich**, C S Ng, P A Delamere, P A Damiano, C E Spitler

1977778 *Unraveling the Role of the Magnetic Field in Shaping Jupiter's Enigmatic Ionosphere:* **O Agiwal**, L Moore, T Bloch, D Coffin, M Felici, K Mohamed, I C F Mueller-Wodarg, P Withers

247004
Magnetospheres in the Inner Solar System *(joint with P, SA, SH)*

Conveners: **Shaosui Xu**, University of California Berkeley; **Ryan Dewey**, University of Michigan; **Moa Persson**, IRF Swedish Institute of Space Physics Kiruna; **Yuki Harada**, University of Iowa

2000881 *A Case for DC and AC Vector Electric Field Measurements at Unmagnetized Planets:* **H Akbari**

1933931 *A MAVEN case study of plasma dynamics during radial IMF and low solar wind dynamic pressure:* **K G Hanley**, S Xu, C M Fowler, J P McFadden, D Mitchell, J S Halekas, J R Espley, L Andersson, S Shuvalov, S Curry

1913576 *Analysis of Mercury's Magnetic Cusp and its Dependence on Solar Wind Conditions:* **R Zywczok**, D Heyner

1904495 *Behavior of Closed Magnetic Fields on Mars Under Varying Upstream Conditions:* **J Qin**, S Curry, S Xu, D Mitchell, R J Lillis

1914383 *Coexisting Cold Heavy Ions and Bouncing Ion Clusters in Mercury's Hot Plasma Sheet:* **L Hadid**

1938653 *Contributions of Ion Impacts to Mercury's Exosphere During Average and Extreme Solar Wind Conditions:* **P S Szabo**, A R Poppe, S Carberry Mogan, S Fatemi, A Mutzke, J Huang, W Sun, J Zhao

1856050 *Dawn-Dusk Asymmetry of Oxygen Ion Loss Above Martian Crustal Magnetic Fields:* **K Fan**

1869911 *Dawn-Dusk Asymmetry of the Kelvin-Helmholtz Instability at Earth's Magnetopause: One Solar cycle data:* **S Kavosi**, J Johnson, X Ma, N Grimmich, MSc, Y L Liou, S Wing

1905384 *Dipolarization Regions in Mercury's Magnetosphere: Observation of Flux Pile-up and Formation of a Substorm Current Wedge:* **A Cushen**, W Sun, J A Slavin, R M Dewey, X Jia, J Zhao

1921709 *Electromagnetic Fields, Plasma Distributions, and Energy Conversion in Mars' Induced Magnetosphere:* **C Zhang**, C Dong, H Zhou, J Gao, X Li, H Nilsson, X D Wang, J S Halekas, Y Harada, H W Shen, C X Mazelle, R Ramstad, L Wang, S Xu, A Tadlock, K G Hanley, S Curry, D Mitchell

1930412 *Untangling magnetic flux circulation in the giant planet magnetospheres:* **P A Delamere**, X Ma, J Montgomery, A Smith, P A Damiano

1858101 *Energization and transport of electrons by high frequency waves at Mercury:* **F Sahraoui**, D Manzini, S Aizawa, L Mirioni, G M Chanteur, N André, M Rojo, K E J Kilpua, R O Vainio, M Grande, L Edwards, J Gieseler, E Esko, A Lehtolainen, P Oleynik, C Palmroos, M Ozaki, S Yagitani, Y Kasahara, S Matsuda, H Kojima, Y Saito, G Murakami

1854343 *Evaluating Martian Ion Plume Variation Based on the Bow Shock Asymmetry:* **L Chai**, M Guo

1937255 *First Direct Observations of Atmospheric Sputtering at Mars.:* **S Curry**, T Hara, J G Luhmann, F Leblanc, R Jolitz, D Mitchell, R Modolo, J R Espley, D A Brain, M Benna, J S Halekas

1950724 *Fully-Kinetic Simulations Reveal Foreshock-Driven Plasma Structuring and Differential Ion Transport at Mars:* **H Zhou**, C Dong, C Zhang, Y Chen

1991268 *Global Multifluid Simulations of Planetary Magnetospheres:* **K Bradshaw**, A Hakim, J Juno, J M TenBarge, A Bhattacharjee

1909443 *Green-line aurora detection attempts from the surface of Mars with the Perseverance rover:* **E W Knutsen**, T H McConnochie, M T Lemmon, S Viet

1969952 *Heavy Ion Aurora at Mars:* **J Deighan**, K G Hanley, C M Fowler, K Chirakkil, R J Lillis, N M Schneider, S Jain, M Chaffin, M O Fillingim, G Holsclaw, J P McFadden, M Mayyasi, S Curry, N Alsaeed

1934034 *Interpreting energy-latitude dispersions in Mercury's northern magnetospheric cusp with MESSENGER:* **R M Dewey**, J M Raines, J Jasinski, J A Slavin

1914721 *Investigation of the Low-Latitude Boundary Layer in Mercury's Magnetosphere using MESSENGER spacecraft data:* **X WANG**, L Hadid, S Aizawa, F Sahraoui, J M Raines, B Lavraud

1894501 *Mercury's Alfvén Wing-Magnetosphere under Sub-Alfvénic Upstream Conditions Driven by ICMEs:* **C Bowers**, X Jia, C M Jackman, L Hadid, W Sun, L Hayes, R M Dewey, H Huybrighs, B Burkholder, D Hollman, M J Rutala, S Cervantes

1974955 *Minute-Scale Periodic Pulsations of Martian Hot Electron Aurora:* **A Gandhi**, N M Schneider, J Deighan, J Cessna, R Lillis, K Chirakkil, S Jain

1923775 *Mirror Mode Instability at Mercury and Mars: A Comparative Study:* **C A Vaquero-Bautista**, D I Rojas-Castillo, C Simon Wedlund, M Volwerk, C X Mazelle

1941451 *Mission Updates and Initial Results of BepiColombo Mercury Flybys:* **G Murakami**, G Jones

1893406 *Multi-Point Observations of the Dynamic Magnetotail of Mars: Exploring the Potential Mechanism for Magnetotail Current Sheet Flapping:* **Y Wen**, J S Halekas, H W Shen, C Zhang, J Gao, J R Espley, J P McFadden, D Mitchell, N Romanelli, C Dong, C X Mazelle, R J Lillis, D Brain, Y Ma, Y Dong, S Curry

1991722 *New Evidence for Current Systems in the Venusian Induced Magnetosphere:* **J Gao**, C Dong, J G Luhmann, S W Bougher, C Zhang

1951257 *Plasma Acceleration by Magnetic Tension Forces in the Martian Magnetotail: MAVEN Observations:* **N Romanelli**, R Modolo, G A DiBraccio, J Gruesbeck, S Xu, C M Fowler, E Dubinin, S Curry, R Lillis, J R Espley, K G Hanley, Y Ma, J S Halekas, S Ruhunusiri, D Mitchell, C X Mazelle, J P McFadden

247397
Magnetospheres in the Outer Solar System *(joint with P)*

Conveners: **Xianzhe Jia**, University of Michigan; **Yasmina M. Martos**, British Antarctic Survey; **Chris Paranicas**, Applied Physics Laboratory Johns Hopkins; **George Hospodarsky**, Univ. of Iowa

1999857 *A study of the Jovian current sheet in the Juno era, using a combined modelling approach:* **A Santos**, N A Achilleos, D Millas, W Dunn, P Guio

1849854 *Asymmetric Magnetosphere-Ionosphere-Thermosphere Coupling at Uranus:* **M Acevski**, N Achilleos, A Masters, C Smith

1963415 *Heavy-ion Plasma Properties During Interchange Transport Events: Juno and Cassini Observations:* **A Roosnovo**, M W Liemohn, T K H Kim, J Z Wang

1880401 *Investigating Saturn's Upstream Solar Wind Conditions Using Cassini CAPS-IBS:* **R J Wilson**

247095
Magnetospheric Physics: General Contributions

Conveners: **Weichao Tu**, West Virginia University; **Hazel Bain**, CU/CIRES NOAA/SWPC; **Scott England**, Virginia Tech; **Eduardo Perez Macho**, INPE National Institute for Space Research

1921429 *A Statistical Parameterization of SEP Cutoffs Using Multi-Decade POES Observations:* **Z Coombs**, M Qin, W Li

1927333 *An SDR Dongle Based Two-Channel Riometer with Temperature Stabilized Electronics for Wide-Beam Riometry in Diverse Environments:* **C Unick**, D Wyatt, T S Trondsen

1919543 *Statistical Analysis of Ion Properties in the Martian Magnetosheath Based on MAVEN Observations: A Comparison of Core and Total Ion Populations:* **H W Shen**, J S Halekas, S Curry, C Zhang, Y Wen, J R Espley

1961665 *Statistical Investigations of the Radial IMF Component Impact on the Magnetotail Current Sheet Structure of Mars:* **Y Wen**, Z Rong, H Nilsson, C Zhang, H W Shen, J Gao

1962065 *Topological Changes of Mars' Crustal Magnetic Fields:* **D Oparko**, D Mitchell

1887046 *ULF Waves in the Nightside Martian Magnetosphere: Comparing InSight and MAVEN Observations:* **K Webster**, Y Ma, H Cao

1922236 *What can 10 years of MAVEN data reveal about electron acceleration in the Martian magnetotail?:* **M Nauth, MS**, D Mitchell, C M Fowler, S Xu, Y Harada, R J Lillis, I De Pater, C O Lee, C X Mazelle

1966913 *Measuring the Neutral H2 Temperature in Jupiter's Auroral Atmosphere:* **J T Clarke**, J D Nichols, J C M C Gerard

1927212 *Quantifying the Solar Wind Conditions Upstream of Uranus' Highly Non-Axisymmetric Magnetosphere:* **J Crump**, A H Sulaiman, X Jia, S Zomerdijk-Russell

1896604 *Structure and Dynamics of Jupiter's Plasma Disk Observed by Juno:* **J Wang**

1861174 *The Nature of Currents in Rotationally Dominated Magnetospheres:* **N A Achilleos**

1883146 *Transient, Localized Flux Transport Revealed by Electron Microsignatures Downstream of Saturnian Moons.:* **Y Wu**, X Zhou, Z Yin, Y Sun, Y Hao, C Yue, S Wang, Q Zong

1931345 *Utilizing Mutual Information Theory to Analyze Nonlinear Relationships in a Global Magnetohydrodynamic Simulation of Saturn:* **Z Williams**, P A Delamere, B Mino, A Smith, J Caggiano, J Johnson, S Wing

1873987 *Classifying 10 Years of Solar Wind Observations from MMS: A Data Mining Approach:* **M J Starkey**, J Mukherjee, J Sokół, K Dokgo, S A Fuselier

2001107 *Data-Model Comparison of Geomagnetic Disturbances During the May 2024 Gannon Storm using the SWMF:* **R Lott**, Z Xu, Y Deng, Y Hong

1933169 *Detection of dayside plasmaspheric plume using CIMI simulations:* **D Sur**, M C H Fok

1864268 *Electron Energization System for Spacecraft Survivability in the Auroral Ionosphere:* **R M Albarran**

1968093 *Magnetospheric Physics Data Support Through NASA Space Physics Data Facility (SPDF) Data Archives and Services:* **R Candey**, S A Boardsen, A A Cruz, C Butterfield, S Fooks, L N Garcia, E W Grimes, B T Harris, T Helvey-Kasulke, D Hall, L Jian, R C Johnson, A Koval, T J Kovalick, H A Leckner, M H Liu, S I Lyatsky, P A Makela, K Marshall, J Smith, J B Sun, R Woodland

246622
Moon-Plasma Interactions Throughout the Solar System

Conveners: **Sven Simon**, Georgia Institute of Technology; **Lucas Liuzzo**, Space Sciences Laboratory; **Quentin Nenon**, Space Sciences Laboratory, University of California at Berkeley; **Paul Stefan Szabo**, TU Wien; **Randy Ruch**, Georgia Institute of Technology

1850655 *A Modeling Framework for the Analysis of ENA Images from Cassini's Titan Flybys:* **C M Haynes**, S Simon, T Tippens

1848958 *ARTEMIS Observations of Electron Cyclotron Harmonics in the Lunar Plasma Environment:* **A R Poppe**, J S Halekas, D Malaspina, X Zhang, V Angelopoulos

1862882 *ARTEMIS observations of electrostatic shocks inside the lunar wake:* **T Z Liu**, X An, V Angelopoulos, A R Poppe

1850052 *Detectability of Asymmetries in Europa's Atmosphere Using Ion Energy Spectrograms from the Pickup Tail:* **N Baker**, S Simon, C M Haynes

1845727 *Detectability of ENA Emissions from the Magnetosphere-Atmosphere Interactions at Europa, Ganymede, and Callisto: Providing Context for the JUICE Mission:* **C M Haynes**, S Simon, L Liuzzo

1883964 *Electron dynamics in the lunar wake potential: penetration, reflection, and velocity distribution imprints:* **X An**, V Angelopoulos, T Z Liu, A R Poppe

1937314 *Extended Observations of Solar Wind Scattering from the Lunar Surface by IBEX:* **P S Szabo**, I Thomas, A Galli, L Upson, A R Poppe

1850047 *Influence of Europa's Interaction with Jupiter's Magnetospheric Plasma on the Detectability of Induction Signals:* **A Tello Fallau**, C M Haynes, S Simon

1982857 *On a Propagation of Gendrin-Mode Waves in the Magnetosphere:* **A V Streltsov**, S Nejad

1973078 *On the Dynamics of the Whistler-Mode Waves in Density and Magnetic ducts:* **S Nejad**, A V Streltsov

1882992 *Super Nonlinear Density Waves in Partially Ionized Environments with (r,q) Distributed Electron Populations:* **M N S Qureshi, PhD**

1943767 *Interaction Between Callisto's Neutral and Ionized Environments and Jupiter's Magnetosphere: Observations and Simulations:* **T Le Liboux**, N André, R Modolo, F Leblanc

1932053 *Ion-driven Charging on Lunar Surface Cavities Dependent on Solar Wind Conditions: Parametric Study via the PIC Approach:* **Y Miyake**, J Nakazono, W J Miloch

1973682 *Linking Europa's Atmosphere, Plasma, and Magnetic Environments: Preparatory Simulations for Europa Clipper:* **L Liuzzo**, A R Poppe, S Simon, S Carberry Mogan, P S Szabo, C M Haynes, A Tello Fallau, N Baker

1939025 *Low-Energy Plasma Flux and Magnetic Field Oscillations Associated with ULF Waves in the Lunar Wake:* **S M Baek**, K H Kim, J Seough, J Lee, H Jin

1901268 *Plasma refilling of the Lunar Wake: 2D particle-in-cell simulation:* **D Ma**, X An, T Z Liu, A Artemyev, V Angelopoulos

1936671 *Revisiting discrete energy bands in Galilean moon's footprint tails: remote signals of particle absorption:* **X Zhou**, F Yang, Y Liu, Y Sun, Z Yin, Y Hao, Z Liu, M F Blanc, J Zhao, D He, Y Wu, S Wang, C Yue, Q Zong

1926729 *Role of Particle Gyrophase Bunching in Ion Pickup Processes and Associated Electromagnetic Instabilities near Europa and Io:* **M Chang**, X An, H Cao, X Jia, K K Khurana

1996062 *Secondary Electron Generation by Sub-keV Ion and Energetic Neutral Particle Impacts on a Surface:* **S Gopalakrishnan**, X Wang, H W Hsu, M Horanyi

1876800 *Statistical Survey of Whistler-Mode Waves in Lunar Plasma Environment: 11 Years of ARTEMIS Observations:* **A Prasad**, W Li, Q Ma, X Shen, A Artemyev, A R Poppe, Y Harada, M Qin, V Angelopoulos, M Y Lin

1858192 *Triton's Highly Inclined Orbit Broadens the Inducing Magnetic Field Signal from Neptune:* **L Wivell**, M K Dougherty, A Masters

257378

Multi-scale Physics of Magnetic Reconnection: Advances in Observations, Experiments, Modeling, and Theory *(joint with SH)*

Conveners: **Bayane Michotte de Welle**, NASA Goddard Space Flight Center; **Kevin Genestreti**, University of Texas at San Antonio; **Hyunju Connor**, NASA/GSFC; **Jongsoo Yoo**, Princeton Plasma Physics Laboratory; **Yu Lin**, Auburn University; **Nehpreet Walia**, University of Tokyo; **Matthew Blandin**, University of Alaska Fairbanks; **Yi Qi**, Brown University; **Steven Heuer**, University of New Hampshire Main Campus

1932983 *A New X-line Model: Comparison to MHD Magnetic Separator:* **B Michotte de Welle**, H K Connor, D G Sibeck, A Glocer, S Fuselier, K J Trattner, S Petrinec, A Brenner, F Bagheri, S Y Lee

1885034 *A statistically-based method to reconstruct soft X-ray emissivities in the dayside magnetosheath based on simulated observations from the SMILE mission.:* **G Cucho-Padin**, H K Connor, J Jung, D G Sibeck

1997703 *Analysis of Ionospheric Conductivity using TRACERS Observations:* **R Roglans**, J W Bonnell, H Cao, R J Strangeway

1993729 *Canonical vorticity dynamics during magnetic reconnection: MMS observations:* **Y D Yoon**, K C Barik

1954689 *Dayside Local Reconnection Rates in global hybrid simulation: Impact of IMF, Probe Methodology, and Reconnection Configuration:* **H Przygocki**, Y Lin

1985244 *Decoding the global structure of magnetic reconnection from low Earth orbit:* **J Dorelli**, D da Silva, N Buzulukova

1929453 *Energy transfer and conversion in magnetic reconnection:Observation and Simulation:* **S Roy**, R Bandyopadhyay, S Adhikari, PhD, Y Yang, W H Matthaeus

1999396 *Fine Structure of Reconnection with a Strong Guide Field:* **S V Heuer**, K J Genestreti, J R Shuster, X Li, J Burch, R B Torbert

1914133 *First Electron Observations from the TRACERS Analyzer for Cusp Electrons:* **J S Halekas**, S R Bounds, I Christopher, S Henderson, A Moore, S Ruhunusiri, D Miles

1956427 *First Observations of Alfvén Wave-Driven Electron Acceleration from TRACERS:* **S R Bounds**, D Miles, J S Halekas, G G Howes, G B Hospodarsky, J W Bonnell, R J Strangeway, S A Fuselier

1925596 *First Results from the TRACERS Double Probe Electric Field Instrument (EFI):* **J W Bonnell**, K Goodrich, M Oieroset, J W Labelle, I H Cairns, S R Bounds, G B Hospodarsky, R J Strangeway, D Miles, J S Halekas, S A Fuselier, L Chen, R Roglans

1929833 *High Latitude Electric Fields Across Altitudes: Statistical Trends from FAST and the Road to TRACERS:* **S R Shaver**, K Goodrich, J W Bonnell, R F Pfaff Jr, R Ergun, J P McFadden, R J Strangeway, J M McTiernan, C C Chaston, J S Halekas, S A Fuselier, H Cao, G B Hospodarsky, D Miles, E J Lund

1898475 *Initial Electron Pitch Angle Distributions from the TRACERS Mission:* **S Henderson**, J S Halekas, R J Strangeway, S R Bounds, I Christopher, A Moore, S Ruhunusiri, D Miles

1923476 *Initial Results from the Magnetic Search Coil (MSC) on the TRACERS mission:* **G B Hospodarsky**, D Hartley, O Santolik, J W Bonnell, R J Strangeway, S R Bounds, D Miles

1930649 *Initial Results from the TRACERS Fluxgate Magnetometer (MAG):* **R J Strangeway**, H Cao, R Caron, D Pierce, H Gonzalez, J Wu, H Wei, Y Shen, D Miles

1957797 *Initial Results of TRACERS MAGnetometers for Innovation and Capability Technology Demonstration (MAGIC) Technology Demonstration:* **M Blandin**, D Miles, A Lasko, A Washington, S Hisel, M Finley, A Flores, C Kletzing, K Steele, C Piker, R J Strangeway

1942936 *Investigating Electron Energizations in Ion-scale Flux Rope Chain in Turbulent Plasma using MMS Data:* **N Agarwala**, W Sun, G Poh, J A Slavin, G Le, J L Burch

1977148 *Ion Dispersion in the cusp region and their relation to the dayside reconnection region:* **K J Trattner**, S A Fuselier, S R Bounds, R G Gomez, K Goodrich, D Miles, M Oieroset, P M Steven, J W Bonnell, J S Halekas, G B Hospodarsky, R J Strangeway

1919122 *Magnetic Pressure and Tension Effects on Null Point Dynamics in the TREX Experiment:* **X Yu**, J Egedal, P Gradney, C T Kuchta, J Olson, J Schroeder, C B Forest

1984681 *Magnetic Reconnection in Asymmetric Current Sheets: Conditions for Onset:* **S Ghosh**, Y D Yoon

1910755 *Magnetopause X-line Extent and Dayside Convection During IMF Southward Turning: Global MHD and MHD-AEPIC Comparisons:* **W Zhang**, Y Nishimura, Y Chen, P Cassak, G Poh, N Nishitani

1992527 *MMS observations of ions and electrons in an ion-scale flux rope chain in Earth's plasma sheet:* **W Sun**, J A Slavin, T Phan, M Oieroset, A W Smith, Q Hu, D J Gershman, G Le, G Poh, J Burch

1984025 *Modeling Fast Magnetic Reconnection in Solar Flare Current Sheets:* **S Shankar**, C Dong, H Zhou, L Wang, Y Chen, Y M Huang, X Xie, C Shen

1856622 *Modeling the "Electron-Only" magnetic reconnection rates at sub-ion-scales:* **Y H Liu**, P Sharma Pyakurel, X Li, M Hesse, N Bessho, K J Genestreti, S Thapa

1975102 *Multi-scale physics controlling the rate of magnetic reconnection: MMS observations:* **K J Genestreti**, Y H Liu, S Heuer, P Sharma Pyakurel, J Burch, R B Torbert, D J Gershman, R Ergun

1925381 *Non-Active Flow Reversals in the Magnetotail Plasma Sheet: Implications for Magnetic Reconnection:* **A Rogers**

2002498 *Plasma Dynamics and Nonthermal Particle Acceleration in 3D Nonrelativistic Magnetic Reconnection:* **Q Zhang**, F Guo, W S Daughton, X Li, H Li

1855092 *Properties of Earthward and Tailward High-Speed Plasma Flows in Earth's Distant Magnetotail: Solar Cycle and Geomagnetic Activity Dependence:* **M Oieroset**, A Pokorny-Yadav, T Phan, A Runov, V Angelopoulos

1876074 *Revealing Reconnection Dynamics with TRACERS: Overarching Science Goal of the Mission and First Results from the TRACERS Analyzers for Cusp Ions (ACIs):* **S A Fuselier**, S R Bounds, J Furman, R G Gomez, K Goodrich, K LLera, D Miles, J Mukherjee, M Oieroset, S Petrinec, J Sokół, K J Trattner, S K Vines, J W Bonnell, J S Halekas, G B Hospodarsky, R J Strangeway, H Cao

1946729 *Scaling of Ion Bulk Heating and Acceleration in Lobe Reconnection and its Relation to Shear Flow:* **H Koike**, S Taguchi

1914569 *Simulating Centrifugally Driven Magnetic Reconnection in Magnetospheric Contexts:* **D O'Donnell**, M A Shay, M B Khan, A ud-Doula, S Owocki, S Fordin, S Adhikari, PhD, P Cassak

1946188 *SMILE: Science Goals and Mission Status:* **C P Escoubet**, C Wang, C Forsyth

249506
Natural or controlled interactions of Electromagnetic Waves, Plasmas, and Energetic Particles within Geosynchronous Orbit

Conveners: **Jean-Francois Ripoll**, CEA/DAM- ILE DE FRANCE; **Jay Albert**, Air Force Research Laboratory Albuquerque; **Weichao Tu**, West Virginia University; **Richard Horne**, NERC British Antarctic Survey

1911697 *Chorus Wave within Wavelength-scale Density Irregularities:* **W Gu**, L Chen, D Hartley, X Liu, Z Xia, J He

1931161 *The New FLARE Facility to Study Multiscale Reconnection: Capabilities and Initial Results:* **H Ji**, J Yoo, P Shi, S Bose, S Avrutsky, K Maheshwari, J Pawlak, E Gilson, A Robbins, E Jung, S Song, Y Ren, T Rhee, M Yamada, W S Daughton, A Le, A Stanier, S K Antiochos, L J Chen, J Karpen, C Dong, R Ergun

1979088 *The Role of the Parallel Electric Field in Energy Conversion During Electron Only Reconnection Events in Earth's Magnetosheath:* **V D Wilder**, R Ergun, N Ahmadi, J E Stawarz, A Chasapis, J Burch, T Phan, R B Torbert, L Chen

1979384 *The TRACERS Small Explorers Mission:* **D Miles**, C Kletzing, S A Fuselier, K Goodrich, J W Bonnell, S R Bounds, H Cao, I H Cairns, L Chen, I Christopher, K Cleveland, H K Connor, D Crawford, J Dolan, J Dorelli, R T Dvorsky, M Finley, R H W Friedel, J S Halekas, G B Hospodarsky, A N Jaynes, J W Labelle, A Lasko, Y Lin, M Oieroset, S Omar, S M Petrinec, M Phillips, B Powers, R Prasad, A Rospos, O Santolik, R J Strangeway, K J Trattner, A Washington

1916126 *Tracing the Subsolar Magnetopause in Simulated SMILE Soft X-ray Images:* **J Jung**, H K Connor, H Kim, A Read, S Wharton

1936487 *Upcoming Multi-Mission Conjunction Opportunities for Investigating Magnetopause Magnetic Reconnection:* **S M Petrinec**, D Miles, J Burch, V Angelopoulos, S Fuselier, S R Bounds, K J Genestreti, G Le, R J Strangeway, H Cao, J W Bonnell, J S Halekas, G B Hospodarsky, K J Trattner, K Goodrich, I Christopher, S Omar, J Dorelli, T Williams

1980293 *Weibel Instability and Electron Scattering in Magnetic Reconnection:* **H MA**, J F Drake, M Swisdak

1929553 *"Remote Sensing" the Magnetopause Reconnection Electric Field with the TRACERS Electric Field Instrument and the Tsyganenko Magnetic Field Model:* **K Goodrich**, S R Shaver, J W Bonnell, D Conner, R Patil, D Miles, J S Halekas, S Fuselier, G B Hospodarsky, R J Strangeway, M Oieroset, K J Trattner, S Petrinec, I H Cairns, J W Labelle, K Greene, R Roglans, T Ervin

1910744 *Effects of the Earth's magnetic field in ray tracing simulations:* **J F Ripoll**, L Cerfolli, A Dubois, A Marchaudon, R B Horne

1871962 *Energy distribution of electromagnetic waves generated by an electron beam:* **J Dargent**, J F Ripoll, A Beck, T Chust, G Belmont, O Le Contel, L Cerfolli, T Farges, A Retino

1899854 *Evolution of NWC Transmitter Wave Power Distribution During the Propagation from the Topside Ionosphere into the Inner Magnetosphere:* **Z Xia**, L Chen

1977929 *Explaining Rapid Ultra-Relativistic Electron Loss at Low-L in the Outer Radiation Belt: Swarm Observations of Large-Amplitude EMIC Waves:* **L Ozeke**, I Mann, I Pakhotin

1875105 *Information theoretic analysis of the solar wind drivers of the inner magnetospheric waves:* **S Wing**, D Feitosa, J Johnson, A Drozdov, A Saikin, W Li

1983004 *Investigating Space Radiation and Atmospheric Climate Impacts with the Canadian RADICALS Mission:* **I R Mann**, C M Cully, R Fedosejevs, S Knudsen, D K Milling, G Enno, M Lipsett, R E Zee, R Rankin, M G Connors, K A McWilliams, W E Ward, R A Fiori, L Olifer, L Ozeke, R A Marshall, D Cullen, D Barona, A D Howarth, A Yau

1961412 *Lightning-induced precipitation as a probe of MeV electron dynamics in the inner radiation belt and slot region:* **L W Blum**, M Feinland

1891616 *MAGE-RB: A Global Cross-Scale Model for Natural and Artificial Radiation Belts:* **A Michael**, A Y Ukhorskiy, K Sorathia, J Albert, W Li, X Shen, V G Merkin

1869214 *Microburst Electron Precipitation Driven by Ducted Lightning-Generated Whistlers in the Magnetosphere-Ionosphere System:* **L Gan**, W Li, Q Ma

1853463 *Modeling Magnetopause Shadowing of Outer Radiation Belt Electrons Using an MLT-Resolved Drift-Diffusion Model:* **J Huang**, W Tu, S Lejosne

1926792 *Modelling the Outer Radiation Belt Electron Dynamics During the May 2024 Storm Using the VERB Code:* **D Wang**, X Lyu, Y Y Shprits, B Haas, Y Miyoshi, A Shinbori, C Katsavrias, S Aminalragia-Giamini, Y Sun, A Drozdov, Y Kasahara, F Tsuchiya, A Kumamoto, A Matsuoka, I Shinohara

247425
Nonlinear Processes in Collisionless Space Plasmas: Bridging Theory, Modeling, and Observations

Conveners: **Longzhi Gan**, Organization Not Listed; **Jay Albert**, Air Force Research Laboratory Albuquerque; **Solene Lejosne**, University of California, Berkeley; **Robyn Millan**, Dartmouth College

1938811 *3D Time-Domain Nonlinear Multifluid Simulations of Alfvenic Filamentation Processes Through Ion Convection in Planetary Magnetospheres:* **A F F West**, R L Lysak, A H Sulaiman

1917917 *Multi-Spacecraft Investigation of Energetic Particle Transport from the Plasma Sheet to Inner Magnetosphere During Consecutive Substorms:* **M Pandya**, G Le, S B Kang, A T Bhaskar, D G Sibeck, G D Reeves, M C H Fok, R Rice, L Chen, Y Ebihara, S A Boardsen, C Ferradas, R Kessel, G Poh, J W Manweiler, M G Henderson

1866254 *Plasma Wave Identification Near Shallow Plasmapause Gradients Using Unsupervised Machine Learning:* **S Buckler**, D Malaspina, D Hartley, E Tyler, S Thaller, J F Ripoll

1852404 *Spacecraft Environment Discharges: Radio Signatures and their Relationship to Geostationary Plasma Population and Geomagnetic Indices:* **T Anderson**, A Nag, E H Lay, B Larsen, P A Fernandes

1939314 *Stimulated Brillouin Scattering of Satellite Signals Induced by a High-Power Ground-Based HF Transmitter:* **J Ruszkowski**, K Myren, P A Bernhardt, A L Renshaw, E A Bering III

1985367 *Variation and Evolution of Microburst Event Properties as Seen by BARREL:* **K Cantwell**, R M Millan, E Engel, B Griffith, W Wetzel

1979878 *VLF Waves from Ground to Space: new and future insights from modeling, ground, and space-based observations:* **R A Marshall**, A M Wold, A Shane, D Malaspina, H George, S Wankmueller, T Dudok de Wit

1883552 *Whistler Wave Amplification with Satellite Rocket Exhaust in Space for Reduction of Energetic Particle Fluxes Harmful to Operational Satellites:* **P A Bernhardt**, B E Eliasson, A D Howarth, J Bortnik

1870965 *Whistler wave generation mediated by a plasma contactor for radiation belt remediation:* **O Chapurin**, G L Delzanno, Q Marksteiner, M A Holloway

1913203 *Whistler-Mode Waves in Hard and Soft Plasmapause Gradients and Impacts on Electron Scattering Rates:* **D Hartley**, D Malaspina, J F Ripoll, S Thaller, E Tyler, S Buckler, O Santolik

1891370 *Broadband electron acceleration via nonlinear Landau resonance with kinetic Alfvén waves in Earth's magnetosphere:* **K Saito**, Y Katoh, Y Kawazura, A Kumamoto

1895677 *Determining the global impact of nonlinear wave-particle interactions in the radiation belts:* **W J Longley**, S R Elkington, A A Chan, S Aldhurais

1862847 *Diffusive and Nonlinear Scattering of Ring Current Protons by Electromagnetic Ion Cyclotron Waves in the Earth's Magnetosphere:* **Q Ma**, W Li, J Bortnik, M Hanzelka, L Gan, A Artemyev, X Shen

1932715 *Direct Measurement of Pitch Angle Scattering in EMIC Waves–Proton Interactions Utilizing the WPIA Method:* **K Takeuchi**, Y Miyoshi, K Asamura, K Terasawa, C W Jun, Y Kasahara, Y Kasaba, S Matsuda, F Tsuchiya, A Kumamoto, T Hori, A Shinbori, A Matsuoka, M Teramoto, K Yamamoto, I Shinohara, N Kitamura

1911718 *Evaluating Methods for Extraction of Diffusion and Advection Coefficients from Nonlinear Wave-Particle Resonance Simulations:* **M Hanzelka**, Q Ma, O Allanson, B Haas, L Gan, Y Y Shprits, W Li, O Santolik

1855811 *Markov Chain Modeling of Nonlinear Electron Scattering by Rising-Tone Chorus Waves:* **S Gu**, L Zheng, L Chen

246969
Particle Energization and Loss in Earth's Nightside Magnetosphere: A Low-Altitude Perspective *(joint with SA)*

Conveners: **Xiaojia Zhang**, UCLA; **Aleksandr Ukhorskiy**, JHU/APL; **Anton Artemyev**, University of California Los Angeles; **Yuto Katoh**, Tohoku University; **Oliver Allanson**, University of Birmingham

1962147 *A Localized Burst of Relativistic Electrons Produced in Earth's Plasma Sheet During a Substorm:* **I J Cohen**, M Shumko, D L Turner, S Ukhorskiy, G K Stephens, A Artemyev, X Zhang, C Wilkins, E Tsai, C Gabrielse, S Raptis, M I Sitnov, V Angelopoulos

1991071 *Bridging high-energy particle precipitation and their effects in the Earth's atmosphere: An integrated TREx-ATM and WACCM model:* **J Liang**, Y Pan, E Spanswick, X Fang, X Zhang, A Artemyev, E Donovan

1859563 *Correlated Discontinuous Energetic Electron Precipitations and Aurora Arcs in the Polar Cap:* **S Wang**, H Chang, Y Sun, L Cai, C Yue, B Wang, Q Zong, X Zhou, H Zou, Y G Ye, Y Liu, Z Xiao

1875000 *Drivers and Properties of Relativistic Electron Precipitation Across Midnight:* **L Capannolo**, W Li, R M Millan, D M Smith, N Sivadas, J G Sample, S Shekhar

1907077 *Empirical model of energetic electron precipitations: ELFIN and DMSP observations:* **Z Zhang**, A Artemyev, V Angelopoulos, X Zhang

1880400 *Energetic electron precipitations within region 2 field-aligned current:* **J Liu**, A Artemyev, V Angelopoulos

1860158 *Energetic Electron Spectra at Low Altitudes: Transition from the Plasma Sheet to the Outer Radiation Belt:* **W Sun**, X Zhang, A Artemyev, X Li, X LU, Y Mei, Z Xiang, D O'Brien

1853840 *Quantifying the relative importance of microburst precipitation as a loss process:* **S Elliott**, A W Breneman, C A Colpitts, J Pettit, K Cantwell

1985277 *Relativistic Electron Microburst Precipitation from ELFIN Observations: Distinguishing EMIC and Chorus Wave Drivers:* **M F Bashir**, A Artemyev, X Zhang, V Angelopoulos

1959061 *Temporal Evolution of Electron-Scale Magnetic Holes:* **R Patil**, K Goodrich, J Bowman, T Arshad

1889679 *What is a Nonlinear Wave-Particle Interaction? How do I know When an Interaction is Nonlinear? What Can I do About it? What Questions Remain Un-Answered?:* **O Allanson**, A Osmane, D Ratliff

1900215 *Experiments for Remotely Sensing the Magnetosphere from Low-altitude:* **R M Millan**, K Cantwell, T Sotirelis, J G Sample, E Engel, A Ukhorskiy, W Li, L Capannolo, J Li

1913723 *Exploring Energetic Electron Losses from the International Space Station: A Low-Altitude Perspective:* **X Zhang**, A Artemyev, Y Katoh, Y K Hsieh, V Angelopoulos, Y Akaike, S Torii, S Nakahira, R Kataoka

1898925 *High-Energy Electron Precipitation Associated with Auroral Arcs:* **Y Nishimura**, A Artemyev, X Zhang, V Angelopoulos

1916444 *Low-altitude observations of whistler-driven precipitations from plasma sheet:* **D Vainchtein**, A Artemyev, X Zhang

1864498 *Microbursts around isotropy boundary: colocation of curvature and whistler-mode scattering mechanisms:* **A Artemyev**, P Klimov, X J Zhang, V Nikolaeva, V Angelopoulos, K Shchelkanov

1866668 *Nightside Subauroral Energetic Ion Precipitation: SAPS Observed by ELFIN and DMSP:* **S Kamaletdinov**, A Artemyev, V Angelopoulos, X J Zhang

1971111 *On the spatial relationship between the aurora and relativistic electron precipitation during a storm-time substorm:* **D L Turner**, M Shumko, A Artemyev, S Raptis, Y Zou, A Ukhorskiy, C Gabrielse, G K Stephens, I Cohen, C Wilkins, S Ohtani, B Gallardo-Lacourt, K Sorathia, V A Sergeev, J W Gjerloev, E Donovan, E Spanswick, V Angelopoulos, A N Jaynes

1887359 *Preliminary Analysis of MLT distributions of Bounce Loss Cone, Drift Loss Cone, and Trapped electrons:* **A Saikin**, Y Y Shprits, A Drozdov

1868658 *Relative Positioning of the Ion Isotropy Boundary and the Plasmapause: Insights from ELFIN and Swarm Observations:* **D Tonoian**, X J Zhang, A Artemyev

1921333 *Streamer-like red line diffuse auroras driven by time domain structures associated with electron injection and braking ion flows:* **Y Shen**, X Zhang, J Liang, A Artemyev, V Angelopoulos, E Spanswick, L R Lyons, Y Nishimura

251901
Physics of Current Sheets in Planetary Magnetospheres and Solar Wind: Plasma Kinetics, Magnetic Reconnection, and Particle Acceleration *(joint with SH)*

Conveners: **Xin An**, University of California Los Angeles; **Anna Tenerani**, The University of Texas at Austin; **Anthony Sciola**, The Johns Hopkins University; **Ivan Vasko**, University of California Berkeley; **Sergei Kamaletdinov**, Space Research Institute RAS

1997156 *A Self-Regulating Feedback Mechanism Between Ring Current Pressure and Magnetic Field Geometry Driven by Field Line Curvature Scattering:* **S B Kang**, A Glocer, M C H Fok, C Ferradas, N Buzulukova, G Cucho-Padin

1885882 *Alfvén Eigenmodes in Harris Current Sheet:* **X An**, Y H Liu, A Artemyev, V Angelopoulos, V A Frantsuzov

1905537 *Do Mercury's Dipolarization Fronts Originate From Flux Ropes? MHD-AEPIC Simulations of Mercury's Magnetosphere:* **A Cushen**, X Jia, J A Slavin, W Sun, G Toth, Y Chen

1906959 *Energetic particle scattering by thin current sheets in solar wind: determination of transport coefficients:* **Z Zhang**, A Artemyev, V Angelopoulos

1996195 *Energized Oxygen in the Magnetotail: Current Sheet Bifurcation From Speiser Motion:* **D E George**, J M Jahn

1868775 *Ion Interactions with Polarized Current Sheets:* **D Tonoian**, X J Zhang, A Artemyev

246650
Radiation Belt Dynamics: Wave-Particle Interactions and Radiation Belt Modeling

Conveners: **Homayon Aryan**, University of California Los Angeles; **Oleksiy Agapitov**, Space Science Laboratory, UCB; **Harriet George**, Organization Not Listed; **Kyung-Eun Choi**, University of California Berkeley

2000643 *A Fast Algorithm to Calculate Quasilinear Diffusion Coefficients for Use in Space Physics:* **G Cunningham**, J M Broll, O Allanson, J Tyrrell, T Kappas, J Holmes

1980558 *A Ground-Up Investigation of Nonlinear Physics in EMIC Waves: Validations to Global Hybrid Simulations:* **G Costanzo**, H Zhao, E H Kim, J Johnson, M L Adrian

1878642 *The Characteristics of Energetic Electron Precipitation Based on Low Altitude FY-3E Satellite Measurements:* **C Yue**, Y Li

1912731 *Whistler-mode wave duct propagation caused by ultralow frequency wave: event analysis and ray-tracing simulation:* **K Tachi**, Y Katoh, O Santolik

1998093 *Kinetic-scale current sheets in pristine solar wind: multi-spacecraft analysis and assessment of single-spacecraft techniques:* **R Wang**, I Vasko, T Phan, F Mozer

1911177 *Reconnection Onset in the Magnetotail: Overstretching, Plasma Watersheds, External Driving and Buoyancy Effects:* **M I Sitnov**, H Arnold

1860329 *Role of Earth's magnetotail current sheet in radiation belt losses:* **A Artemyev**, V Angelopoulos, X J Zhang, J Bortnik, Y Miyoshi, C Wilkins, S Kasahara, T Hori, A Matsuoka, T Mitani, T Takashima, M Teramoto, K Yamamoto, I Shinohara

1916991 *Scalable Machine-Learning Detection of Magnetospheric Reconnection Events via Physics-Constrained Synthetic Datasets:* **D Ghuge**, V Uritsky, D J Gershman

1970745 *Spectral Features of Magnetic Fluctuations from Inertial to Kinetic Scales in Mercury's Magnetotail Current Sheet:* **X Li**, C Dong, L Wang, S Aizawa, L Hadid, J A Slavin, H Zhou, C Zhang

1860208 *Substorm Magnetotail Dynamics at Low Altitudes: Insights from ELFIN and CIRBE Observations with RCM Simulations:* **W Sun**, X Zhang, A Artemyev, R Nakamura, X LU, X Li, Y Mei, Z Xiang, D O'Brien, V Angelopoulos

1916903 *The Cause of Non-Gyrotropic Distribution Functions in Compressed Magnetotail Current Sheets:* **A M DuBois**, C E Crabtree, E R Lichko, G Ganguli

1853912 *Thin Current Sheet Formation in the Magnetotail: a Global-scale Kinetic Process:* **A Runov**

1926045 *A Quantitative Analysis of Chorus Wave Dynamics Near the Kennel-Petschek Limit:* **S Walton**, L Olifer

1849120 *An Analysis of Electron Fluxes Throughout the Radiation Belts:* **I Panfil**, R Boynton

1874091 *Bounce-Averaged Atmospheric Backscatter Effects in Modeling of EMIC Wave-Driven Precipitation:* **Z G Li**, W Tu, R Selesnick, L Capannolo, G Berland, Q Ma

1974297 *Chorus wave generation during geomagnetic storms: insights from Van Allen Probes observations:* **I Thomas**, S Walton, L Olifer

1945463 *Classifying radiation belt increases and decreases using geomagnetic and solar wind parameters through contingency table analysis:* **B Sathe**, C Forsyth, C Watt, A Boyd

1931623 *Comparison of Radial Diffusion Coefficients using Initial Conditions from the Van Allen Probes:* **J Doucette**, A N Jaynes

1962248 *Diffusion coefficients for resonant relativistic wave-particle interactions using the new open-source PIRAN code:* **O Allanson**, T Kappas, J Tyrrell, G Cunningham, A Garcia, S Elvidge

2001084 *Electron Microburst Observations from the REAL and FIREBIRD-II CubeSats:* **E Engel**, J G Sample, R M Millan, T Sotirelis

1875030 *Electron Precipitation Driven by Whistler-mode Chorus Waves in the Earth's Inner Magnetosphere:* **H Chen**, X Wang, R Chen, L Chen, Y Omura, Y K Hsieh

1935488 *EMIC Wave Generation and Properties under Different Solar Wind Drivers in the Outer Radiation Belt Region:* **K Ferreira**, L R Alves, L da Silva, D G Sibeck, D L Turner, V Deggeroni, J P Marchezi, G M Nobrega, P Fister, E Rockenbach, T Sant'Anna, L Rosales

1939123 *Energy Analysis of Electron Precipitation Detected by REPTile-2 on CIRBE:* **D Miller III**, L W Blum

1972426 *Enhanced Radiation at Aviation Altitudes:* **H Aryan**, D G Sibeck, J Bortnik, W K Tobiska

1876339 *Equinoctial and solstitial averages of magnetospheric relativistic electrons: Strong semiannual modulation revisited:* **D N Baker**, S G Kanekal

1898200 *Estimating Storm-Time Maximum Fluxes of Outer Radiation Belt Electrons: Combining Van Allen Probes and GPS Satellite Observations:* **M Hua**, J Bortnik, N P Meredith, T Cayton

1926286 *Estimating the Radial Diffusion Coefficient of off-Equatorial Relativistic Electrons in the Radiation Belts due to Geomagnetic Latitude-Dependent ULF Waves:* **T E Sarris**, X Li, H Zhao, W Tu, G Riggs, S Tourgaidis, K Papadakis, W Liu, L Yan

1974177 *Evolution of dayside chorus into nightside plasmaspheric hiss:* **J Bortnik**, L Chen, X Zhang, N P Meredith

1929784 *Exploring Microburst-Whistler Chorus Relationship with BARREL and Van Allen Probes: Two case studies on January 26, 2013 and August 25, 2016:* **J Li**, R M Millan, K Cantwell

1878666 *Four electron belts observed after the super geomagnetic storm of 11 May 2024:* **V Pierrard**, A Winant

1910895 *High Latitude Distribution of Lightning Generated Whistler Waves through Ray Tracing:* **A D Shane**, R A Marshall

1925621 *Identifying and Quantifying Wave Cross-scale Coupling in the Earth's Magnetosphere and the Solar Wind:* **C A Colpitts**, S Elliott, C A Cattell, K Seebaluck, S D Bale, D Malaspina

1962395 *Impact of high-intensity long-duration continuous auroral electrojet activity (HILDCAAs) on relativistic electrons in Earth's outer radiation belt during Van Allen probes era:* **A Nema**, A T Bhaskar, K N Pathak, S V Thampi, A Datta

1901541 *Importance of Temperature of Energetic Electrons to the Generation and Propagation of Chorus Waves:* **J H Shue**

1925572 *Investigating Radiation Belt Electron Dynamics During 2017 Using VERB-3D: A Contribution to the COSPAR ISWAT Challenge:* **X Lyu**, D Wang, M Hanzelka, S Teng, A Drozdov, A M M Castillo Tibocha, Y Y Shprits

1905216 *Investigating Radiation Belt Flux Dropouts Drivers Through a Comparative Analysis Using WINDMI and CIMI Models:* **P G Srinivas**, E A Spencer

1974009 *Investigating the Origins of Plasmaspheric Hiss Using Computer Vision–Guided Wave Classification:* **P Vankawala**, R A Marshall

1947964 *Low-Density Plasma as a Key Catalyst for Electron Acceleration in the Van Allen Radiation Belts:* **Y Shprits**, D Wang, B Haas

1901066 *Modeling the LEO Drift-Loss Cone Region with a Physics-Informed Neural Network:* **D L Stumbaugh**, T P O'Brien III, B A McCuen, A Boyd

1888487 *Observation of Equatorial-Propagating Chorus Waves Starting at High Frequencies:* **Q Wang**, J Li, J Bortnik, D Ma

1868632 *Observational analysis on the relationship between Chorus waves and MeV electron precipitation:* **J Romero Minaya**, L W Blum

1869729 *Observations of Localized Whistler Wave Generation in Earth's Outer Magnetosphere:* **C Regan**, O V Agapitov, C M Fowler, A Voshchepynets

1992128 *Overview of the K-RadCube Mission: A CubeSat for Studying the Van Allen Radiation Environment:* **D Lee**, C K Sim, PhD, J Shin, D Song, S M Baek, U W Nam, W Seol, Y J Choi, H Lee, S Lee, C Kim, H Kim

1928633 *Particle Losses in the Radiation Belts Including Nonlinear Wave-Particle Interactions:* **S R Elkington**, W J Longley, A A Chan, D da Silva, S Aldhurais

1983392 *Propagation of Whistler-Mode Waves Transmitted by the DSX Satellite:* **A V Streltsov**, J Albert, M J Starks, S Nejad

1918047 *Quantifying Radial Diffusion Rate Through Multi-MeV Electron Drift Oscillations Driven by Broadband ULF Waves: A Case Study of the September 2019 Geomagnetic Storm:* **H Zhao**, T E Sarris, X Li, D O'Brien, R Chen, Y Mei, Z Xiang, D N Baker

1971778 *Quasi-linear Diffusion Coefficients: How to Calculate Them and How to Use Them:* **J Albert**, W J Longley, A A Chan

1918551 *Radial Diffusion Revisited: Electric and Electromagnetic Diffusion:* **A A Chan**, S Aldhurais, S R Elkington

1961526 *Radiation dose rates reported from a high-altitude balloon:* **B R Hogan**, W K Tobiska, J J Bailey, J Hall-Prior

1885841 *Radiation Impedance of VLF Radio Transmissions in the Radiation Belts: Dependence on Electron Gyrofrequency:* **D Wexler**, J Tu, I A Galkin, P Song

1876756 *Spatial and temporal responses of chorus and hiss waves to CME- and CIR-driven storms: insight from a machine learning model:* **X Chu**, Q Ma, X Shen, J Bortnik, W Li, D Malaspina, D Ma

1931191 *Statistical properties of quasi-periodic electron precipitation:* **X Shi**, L W Blum, V Angelopoulos

1866063 *Statistical Relations Between Pc5 ULF Wave Power and Drift-Periodic Multi-MeV Electron Flux Oscillations in Earth's Outer Radiation Belt:* **R Tezak**, H Zhao, T E Sarris, X Li

252514
Recent Advances in Magnetic Reconnection in Space Plasmas: Theory, Modeling and Experiments *(joint with SH)*

Conveners: **Stefano Markidis**, KTH Royal Institute of Technology; **Maria Elena Innocenti**, KU Leuven; **Gian Luca Delzanno**, Los Alamos National Laboratory

1874355 *A Particle-in-cell Simulation of Energy Transport and Plasma Energization from Magnetotail Reconnection to the Inner Magnetosphere:* **R J Walker**, L Rusiatis

1881970 *Current Dissipation in Asymmetric Guide-Field Reconnection:* **M Hesse**, C Norgren, Y H Liu, N Bessho, J Burch, T Phan

1925857 *Linear Growth Rate of Compressible Tearing Instability in a Force-Free Current Sheet:* **C Shi**, M C M Velli

1910345 *Magnetic flux transport signatures of electron-only and ion-coupled magnetic reconnection in plasma turbulence:* **T C Li**, Y H Liu, Y Qi

248775
Ring Current Particle Sources, Losses, and its Coupling with Other Regions

Conveners: **Qianli Ma**, Boston University; **Cristian Ferradas**, New Mexico Consortium; **Chao Yue**, University of California Los Angeles; **Jacob Bortnik**, University of California Los Angeles

1938377 *Statistical Study of Chorus Element Repetition Time from Van Allen Probes:* **J He**, L Chen, Z Xia

1956146 *The Energy Spectra of Relativistic Microbursts:* **W Wetzel**, J G Sample

1990077 *Trajectory Redistribution in Phase Space (TRIPS): a New Open-source Python Library for Radiation Belt Particle Tracing:* **A R Lozinski**, A C Kellerman, J Bortnik, R T Desai

1885984 *Transient Distortions of the South Atlantic Anomaly Radiation Environments Driven by Electric Fields:* **Z Yin**, X Zhou, Y Sun, Q Zong, Y Liu, Z J Hu

1986178 *Unprecedented views of the LEO Radiation Environment: science applications of the REACH constellation:* **A J Boyd**, T B Guild, T P O'Brien, J C Green, K Lee

1903343 *Whistler Wave Radiation Pattern and Signal Detectability of a Dipole Antenna in the Radiation Belt:* **J Tu**, P Song, I A Galkin, D Wexler

1875922 *Particle Acceleration in Asymmetric Magnetic Reconnection:* **N K Walia**, Q Zhang, F Guo, X Li, Y H Liu

1857284 *Particle-in-Cell Study of Ion Heating in Asymmetric Magnetic Reconnection:* **A Abova-Volkova**, P Cassak, M A Shay, C C Haggerty

1952637 *Probing Proton versus Electron Heating and Energization during Magnetic Reconnection:* **Z Yin**, J F Drake, M Swisdak

1986138 *Studying the onset of reconnection during substorms using an embedded AMR-PIC model:* **T Arshad**, Y Chen, G Toth

1964272 *Topological Bifurcation Triggers Magnetic Reconnection in a Mini-Magnetopause:* **P Gradney**, J Egedal, C T Kuchta, J Schroeder, J Olson, X Yu, J Wallace, K Nykyri, C Forest

1899388 *Whistler waves excited in asymmetric reconnection and the dependence on the mass ratio and the guide field:* **N Bessho**, L J Chen, J Ng, M Hesse

1969997 *A fully self-consistent approach to modeling electric field coupling in the ring current system:* **J Liu**, R Ilie, T Scott

1892505 *Characterizing Proton Injection Signatures and Energy Dynamics in the Ring Current:* **H Yazdi Karimi**, H Kim, I Kuzichev, S Noh, M Lessard

1892682 *Differential Deep Penetration of Electrons, Protons, and Heavy Ions Into the Low-L Region (L<4) in the Inner Magnetosphere:* **R Chen**, H Zhao, S Califf, C Ferradas, M C H Fok

1910184 *Influence of the Weak Intrinsic Magnetic Field on the Development of Magnetic Storms Based on Global Drift-Kinetic Simulations:* **K Osada**, K Seki, T Yamakawa, K Yamamoto, Y Ebihara, T Amano, Y Miyoshi, K Keika

1905633 *Oxygen Dominant Ring Current during Super and Large Geomagnetic Storms at Solar Maximum Observed by the Arase Satellite:* **N Kitamura**, K Yamamoto, S Yokota, S Kasahara, A Shinbori, Y Ebihara, K Keika, L M Kistler, Y Miyoshi, T Hori, C W Jun, A Ieda, A Matsuoka, M Teramoto, I Shinohara

1863234 *Plasmaspheric-Origin Ions in the Plasma Sheet as a Source of the Ring Current:* **S B Kang**, M C H Fok, A Glocer, C Ferradas, J Huba

1904426 *Prediction of Proton Pressure in the Outer Part of the Inner Magnetosphere Using Machine Learning:* **E A Kronberg**, S Li, C Mouikis, A Du, H Luo, Y S Ge

246637
Solar Wind's Coupling with Magnetospheres and Ionospheres and Its Consequential Phenomena (cosponsored by AOGS: Asia Oceania Geosciences Society,EGU: European Geosciences Union) *(joint with P, SA)*

Conveners: **Timo Pitkänen**, Shandong University at Weihai; **Lauri Holappa**, University of Oulu; **Lei Dai**, University of Minnesota Twin Cities; **Ying Zou**, The University of Alabama in Huntsville

1852360 *Comparative Dynamics of Substorms and Sawtooth Events:* **C DiMarco**, T I Pulkkinen, M G Henderson

1958525 *Constructing an Energy Transport Map from the Solar Wind to the Inner Magnetosphere:* **A Brenner**, A Glocer, M C H Fok, C A Bagby-Wright, T I Pulkkinen

1874871 *Dynamical Fourier decomposition of geomagnetic indices:* **E Romashets**, M Vandas, S Karki, T Imam, P Majumder

1921248 *Evidence that polar cap potential does not saturate with solar wind driving:* **N Sivadas**, D G Sibeck, M T Walach, B Michotte de Welle

1930479 *Global Hybrid Simulation of Magnetospheric Cusp Ion Precipitation under High Solar Wind Dynamic Pressure during Geomagnetic Storms:* **X Li**, X Wang, Y Zhang, Y Lin

1921555 *Global Hybrid Simulation of Simultaneous Magnetic Reconnection and Kelvin-Helmholtz Instabilities at the Magnetopause with Associated Cusp Signatures:* **Y Lin**, K Nykyri, X Ma, J Johnson, A J Hull, P A Damiano, X Wang, M L Adrian

1893457 *Impact of Earth's Weakening Magnetic Field on Geomagnetic Storm Response:* **A Rewoldt**, D T Welling, A Brenner, P M Dredger, A Mukhopadhyay, R M Katus

1848488 *Ring current ion scattering by electromagnetic ion cyclotron waves: nonlinear resonance effects:* **X Shi**, V Angelopoulos, Q Ma

1994709 *Stabilizing the Ring Current: The Importance of Inductive Electric Fields in Particle Acceleration:* **R Ilie**, J Liu, L Chen

2000457 *Statistical Properties of Electron Injections From The Space Test Program(STP) Sat-6 Solid-state Energetic Electron Detector (SEED) And The SuperMag SMRIndex:* **J D Williams**, M G McHarg, R Balthazor, C Maldonado, G R Wilson

1886874 *Storm-Time Coupling Across the Upper Atmosphere, Exosphere, and Ring Current:* **H K Connor**, S Y Lee, S B Kang, L Qian

1874926 *Investigating the Properties of Solar Wind Associated with Relativistic Electron Precipitation into Earth's Upper Atmosphere:* **L Capannolo**, Y T Chen, W Li, A Staff, N Sivadas, L W Blum, D Freund, S Vidal-Luengo, X Shen, M Qin, Q Ma, L Gan

1939306 *Ionospheric Current in the Martian Dayside from MAVEN Deep Dip Observations:* **J Qin**, S Curry, W Sun, R J Lillis

1910623 *Ionospheric Signatures of a Bursty Bulk Flow in the 6D Vlasiator Simulations:* **A Workayehu**, M Palmroth, M Grandin, L Juusola, M Alho, I Zaitsev, V Koikkalainen, K Horaites, Y Pfau-Kempf, U Ganse, M Batttarbee, J Suni

2002427 *On the Fundamental Limit to Space Weather Prediction Accuracy:* **P H Reiff**, S Chepuri, C Liebenthal

1929771 *Optimal GNSS LOS Selection for Detecting ULF Wave-driven TEC Disturbances at Mid-latitudes during Sudden Commencements:* **B Bergsson**, M Hartinger, S Debchoudhury, P Inchin, S Chakraborty, PhD, M D Zettergren

1926806 *Piercing the Martian Veil: A Statistical Study of Interplanetary Magnetic Field Reach through Ionospheric Pressure Balance:* **S R Shaver**, L Andersson, B Waghule, R Ramstad, D A Brain, R Lillis, T Cravens, J S Halekas, S Xu, P C Hinton, D Malaspina, M W Liemohn, S A Ledvina, J Gruesbeck, S Curry, K Goodrich, G Collinson, C M Fowler

1937211 *Quantifying the Connection Between the Solar Wind and Earth's Central Plasma Sheet Using THEMIS Observations:* **J Espinoza**, J Borovsky

1903122 *Small-scale Magnetic Flux Ropes in the near-Earth Solar Wind: Statistics and Associated Geospace Responses:* **Y Shin**, H Kim, K E Choi, H Farooki, S Noh, H Wang

1950399 *Solar Wind impacts on Magnetosphere-Ionosphere Current Systems Based on Multi-point Observations:* **E T Desta, PhD**, S Kumar, M B Moldwin, M C H Fok

1952385 *Spectral Index Analysis of Martian Ionospheric Irregularities.:* **P Chougule**, B A Kakad, A Kakad

1911832 *The Geomagnetic Response during Supersubstorms and What it Means for Geomagnetically Induced Currents at Mid-latitudes:* **C M Ngwira**, Y Nishimura, J M Weygand, PhD

247922
Space Plasma Physics Instrumentation and Measurement Techniques *(joint with P, SA, SH)*

Conveners: **Dave Sheppard**, NASA Goddard Space Flight Center; **Michael Starkey**, Southwest Research Institute; **Miguel Martínez Ledesma**, University of Santiago Chile; **Carolina Chism**, ADNET Systems, Inc.

1902684 *Understanding On-Orbit Electric Field Instrument Instabilities using Numerical Simulations of Van Allen Probe and Laboratory Observations:* **K Greene**, J W Bonnell, K Goodrich, E M Tejero, J Bowman, G Gatling, W E Amatucci

1964201 *A high geometric factor spectrometer for fast plasma measurements on future missions:* **D O Kataria**, J Sokół, C Ertley, J Gasser, J Lin, G Grubbs, M J Starkey, K J Hwang

1930091 *A Miniature Solar WInd Sensor (MSWIS) for future low-cost, constellation, and deep-space missions:* **K Ogasawara**, C Schiferl, G Grubbs, C Urdiales, S Rizo Patron

1967422 *A Quantum Diamond Magnetometer for Future Space Science and Space Weather Applications:* **R T Desai**, C Stephen, P Brown, S Graham, I Ruiz-Rodriguez, G Morley

1981153 *Additively Manufactured Plastic Plasma Spectrometer (AMPPS) prototype development:* **Q Larrick**, C J Pollock, D Thorsen, B Smith, M Bolling, J Rayborn, A Eltahir

1927098 *Analysis and Results of LIEFSI Campaign Two:* **J Bowman**, J W Bonnell, E M Tejero, K Greene, K Goodrich, B Amatucci

1906462 *ASIC-based Search Coil Magnetometer Prototype for Various Space Missions:* **Y Jang**, H Jin, M Kim, I Chang, I Song, K H Kim

1892528 *Attitude Determination and Control on a 1U-CubeSat Using Only a Boomless Magnetometer and Three Magnetorquers:* **B Ay**, M B Moldwin, L V Ojeda

1986015 *Contaminated Sweeping Langmuir Probes on Sounding Rocket Platforms:* **R Conway**, A Barjatya, N Graves, R Clayton, S Debchoudhury, I Holland

1886605 *Conversion Surfaces and Their Characterization for Space Applications at SwRI:* **J M Sokol**, J Gasser, G Miller

1873152 *Trials on decoding convection from substorm processes with MLT patterns of SMU-SML indices:* **S Wang**, L Dai, C Yue, C Forsyth, C Lao, Q Zong, C Xiong, B Wang

1940603 *COSMO: A 6U CubeSat Mission for Measuring the Earth's Magnetic Field by Using Vectorized Rubidium Scalars:* **T H Kao**, C Chism, M Ellmeier, S Knappe, J Hughes, R A Marshall

1873450 *Cusp Electron Dynamics Instrument (CuEDI):* **A Moore**, J S Halekas, C Feltman, B Powers, J Homann, A N Jaynes

1967436 *Developing HERT: Instrument Bench Testing and Beam Testing via Beta Ray Spectrometer with a Sr90/Y90 Radiation Source:* **W Teague**, H Zhao, X Li, L W Blum, J Cantilina

1876212 *Double Langmuir Probes Are Where You Find Them:* **D L Cooke**, A Barjatya, R Clayton, V A Davis, M J Mandell

1981162 *Engineering Challenges for New Sounding Rocket Particle Instruments:* **D Chen**, R Michell, M Samara, E R Mirizio, E C Sittler Jr, A Schoenwald, A Risco Patino, A Morilla, L Nguyen

1954723 *Europa Clipper Magnetometer (ECM) Deployment, Checkout, and Early Operations:* **S P Joy**, J Contreras, D Pierce, C Cochrane, M Bouchard, A Rivera, X Jia, M Kivelson, C A Raymond

1846288 *Evolving plasma sensors for future measurements of Earth's magnetospheric cold plasma:* **J H Lee**, J F Fennell, C Lemon, W R Crain Jr, S Crain, S Bell, G A Maul, J Lohser

1920875 *Feasibility of Space-Based Faraday Rotation Measurements for Investigating Solar Wind Plasmas:* **E A Jensen**, S F Fung, L Li, M Deshpande, A Lara, N Gopalswamy

1927995 *Fluxgate Magnetometers New Core Material Experimentation and Performance:* **O Jones**, S Hisel, A Washington, C Hansen, K Morris, Q Smith, A Lasko, G Hinson, D Miles, J Mondoskin

1896985 *Implementation of instrumental noise thresholds of search coil sensors in a dataset of lower band whistler mode chorus and exohiss from the Van Allen Probes and Cluster missions:* **O Santolik**, I Kolmasova, U Taubenschuss, M Hanzelka, D Hartley

1994107 *Improving Precision and Uncertainty Quantification of Specular Meteor Radar Observations:* **J Monaco**, J Marino, K Obenberger, S E Palo

1989064 *Incorporating a 3D-Printed Analyzer for Cusp Ions Sensor in OCHRE Mission:* **K LLera**, S A Fuselier, B Powers, C Feltman, A N Jaynes

1994117 *Magnetic Characterization and Interference Mitigation for the TRACERS Mission:* **M Finley**, M Blandin, A Hoffmann, A Washington, A Flores, R J Strangeway, G B Hospodarsky, D Miles

1921397 *Modernization, Characterization, and Future Engineering and Science Applications of the Mario H. Acuña Magnetic Testing Facility 22ft Braunbek Coil System:* **C Chism**, J Holt, D Sheppard, W Pearson, J Odom, J Gruesbeck

1990771 *Near-continuous Upstream Solar Wind Measurements at Mars by Cross-calibration of MEX/IMA and MAVEN/SWIA:* **R Ramstad**, M Holmstrom, J S Halekas, L Andersson

1989231 *Open Aperture Plasma Measurements on the Lunar Surface with Lunar Vertex MAPS: Plasma and Temperature and Dust, Oh My!:* **J M Jahn**, D Kataria, A Pontoni, P Mokashi, G Miller, D T Blewett, P Kollmann, J S Halekas

1949027 *Pushing CubeSat Limits to Investigate High-Energy Electron Acceleration in Earth's radiation belts:* **T Patel**, H Zhao, W Teague, M Fogle Jr, S Jordan, A Fernandes

1997994 *Signal Processing Techniques to Mitigate Reaction Wheel Interference:* **A Flores**, A Sengupta, D Miles

1899797 *Solid State Detector based Instruments and Techniques for Characterizing Energetic Particles in Space:* **S G Kanekal**, F Gautier

1999448 *The AEPEX Mission: What Coded Aperture Optics can Reveal about Radiation Belt Dynamics:* **W Spies**, R A Marshall, C M Cully, M McCarthy

1949897 *The Assistance Payload for the Resolute Rockets: First Flight Demonstration of a Boomless Quad-Mag array and Wavelet-Adaptive Interference Cancellation.:* **A Hoffmann**, M B Moldwin, E Zesta, G Collinson, J Cutler, C Heckathorn, L V Ojeda, F Saca, J Vata

252307
The low-energy/cold particle populations and the systems science of geospace *(joint with SA, SH)*

Conveners: **Gian Luca Delzanno**, Los Alamos National Laboratory; **Alex Glocer**, NASA Goddard Space Flight Center; **Eric Donovan**, University of Calgary; **David Malaspina**, Laboratory for Atmospheric and Space Physics; **Opal Issan**, University of California San Diego

1975582 *A Case Study of Low-Energy Ion Transport from a Subauroral Source to the Ring Current:* **H Cha**, K Ogasawara, J Goldstein, S Fuselier, K J Hwang, M J Kim, K Dokgo

2003942 *The Current Density Coil: Direct measurements of electrical currents in space plasmas:* **M R Argall**, S Kuliyeva, H Karimi

1998256 *The Magquest Magnetic Test Campaign and Magnetometer Mission Development at NASA Goddard Space Flight Center:* **A Hoffmann**, D E Wendel, M Martínez Ledesma, M Finley, E Zesta, A Mentges, R Broadfoot, F A Tanner, M Wenkel, M Pannicia

1966094 *The Relativistic Electron Atmospheric Loss (REAL) Energetic Electron Instrument:* **T Sotirelis**, R M Millan, J G Sample, A Ukhorskiy, R Nikoukar, B Griffith

1874975 *The Relativistic Electron Magnetic Spectrometer (REMS) Instrument:* **C Gabrielse**, D L Turner, W Chavez, W R Crain Jr, S Crain, T P O'Brien, G A Maul, J B Blake, M D Looper, L W Blum, M Shumko, J H Clemmons, J F Fennell, J Lucas, L Kepko

1971044 *The Space Weather Observations at Lagrange 1 (SOL), Solar Wind Plasma Sensor (SWiPS) - TRL-6 Demo-prototype design and Calibration Results:* **C Mouikis**, L M Kistler, L Davis, C Frost, H Kucharek, V N Coffey, A B Galvin, D Abel

1986242 *The SWFO-L1 and SOL Magnetometers:* **S K Vines**, R B Torbert

1998934 *Using Machine Learning to Generate POES MEPED Electron Flux Maps:* **J Peyton Bernardo Morales**, S Elliott, J Pettit, L Capannolo, A Bibeau

1978402 *VLF Pulse Shaping for High Resolution Plasma Diagnostics at HAARP:* **Q Hunter-Gilbert**, T Lindley, H Burch

1864539 *A Statistical Study of Warm Plasma Cloak Particles Using Van Allen Probe Data:* **B Apte**, H Kim, K V Gamayunov, Y Shin, C P Wang

1958922 *Bursty Bulk Flows to Cold Plasma Structuring and Pulsating Auroras:* **M G Henderson**

1938667 *Cold electron impact on parallel-propagating whistler chorus waves via moment-based quasilinear theory:* **O Issan**

2000425 *Combined TEC Geometry and Multi-Instrument Perspectives on the Genesis, Evolution, and Relaxation of Storm-Enhanced Density Plumes:* **E L A Rojas Villalba**, P J Erickson, S Zhang

1955966 *Conjunction Analysis of Pulsating Aurora and Whistler-Mode Chorus Waves:* **M J Kim**, Y Nishimura, W Li, Q Ma, V Angelopoulos

1924681 *Contributions of Polar Outflows to the Storm-Time Magnetosphere: Insights from Multifluid MHD Simulations.:* **S Roy**, K Sorathia, A Sciola, S Raptis, R H Varney

1865363 *Distributions of High Latitude EMIC Waves in the Earth's Inner Magnetosphere: A Global Understanding of the Wave-Induced Source for Heavy Ion Conic and Warm Plasma Cloak:* **K V Gamayunov**, H Kim, Y Shin

1864256 *Global Modeling of the Circulation and Acceleration of Plasmasphere-originating Plasma:* **K Sorathia**, J Goldstein, J Lyon, V G Merkin, A Sciola, A Michael, D Lin, S Bao, J Garretson, S Ukhorskiy

1884495 *IMPPACT: Invisible Magnetospheric Plasma Pathfinder with Active Charging Techniques:* **G L Delzanno**

1939065 *Investigating the Evolution of Density Ducts Using Joint Van Allen Probe Measurements:* **T Bishop**, L W Blum

247274
Three-Dimensional Magnetosphere Structure and Dynamics During Geomagnetic Storms *(joint with SA, SH)*

Conveners: **Brandon Burkholder**, Embry-Riddle Aeronautical University; **Mykhaylo Shumko**, Applied Physics Laboratory Johns Hopkins; **Andrew Marshall**, Rice University; **Dong Lin**, National Center for Atmospheric Research

1997031 *3D Topology of Substorm Onset:* **D S Cai**, S Fujita, M Watanabe

1875005 *Atomic and Molecular Nitrogen Ions at the Dayside Magnetopause During the 2024 Gannon Storm:* **R G Gomez**, S A Fuselier, S K Vines, J Goldstein, J Burch, R J Strangeway

1971727 *Calculations of the Reconnection Rate from Cusp Dispersion in the TRACERS era:* **D da Silva**, L Chen, B Burkholder, S A Fuselier, K J Trattner, G Cucho-Padin, J Dorelli, D Miles, J S Halekas, J W Bonnell, K Goodrich

1913975 *CCMC Tools for Analysis of the Magnetosphere During Geomagnetic Storms:* **D De Zeeuw**, L Rastaetter, M Kuznetsova

1960424 *Ground-Based Analysis of Magnetospheric Dynamics During the May and October 2024 Storms:* **P De Michelis**

2001251 *Linking Very Near-Earth Reconnection (VNERX) to Mid-Latitude GICs: Evidence from the 7 September 2017 Storm:* **B Waghule**, D Knipp, G K Stephens, D Malaspina

1948424 *Sensitivity of ionospheric outflow solution on field-line geometry: implications to the interpretation of in-situ measurements and mesoscale processes:* **A Majumder**, R Ilie, M Y Lin, A Glocer

1958014 *The Effect of Recirculated Plasmasphere Material: Its Signatures and How it Interacts with the Ring Current . Be consistent with casing in title.:* **C Bagby-Wright**, D T Welling, A Glocer, R M Katus, B Walsh

1889081 *The Plasma Acceleration, Transport, and Heating (PATH) Mission Concept:* **J Goldstein**

1910819 *The Role of Dipolarization in the Formation of the Warm Plasma Cloak:* **J Liao**, L M Kistler, C Mouikis, T Lim

1875705 *Various Factors that Impact Plasmasphere Refilling: Numerical Experiments:* **J Fitzpatrick**, N Maruyama, K Chatterjee, X Chu, T Bishop, L W Blum, J Goldstein, J Bortnik

1931199 *Mesoscale dynamics of the stormtime ring current and their manifestation in ion-driven aurora:* **A Sciola**, K Sorathia, V G Merkin, K H Pham, S Bao, D Lin, F Toffoletto, M Gkioulidou, C R Martinis, J Garretson

1869860 *MMS Observations of a Compressed, Strongly Driven Magnetopause during the 2024 Mother's Day Storm:* **J Beedle**, K J Genestreti, J R Shuster, R Rice, S A Fuselier, T Phan, M Oieroset, W Sun, H Gurram, L Chen, K J Trattner, R G Gomez, B L Burkholder, A Marshall, D J Gershman, S K Vines, M Lindberg, K Cantwell, J Burch, R B Torbert

1959552 *Multi-point measurements to study the dynamic structure of plasma waves in Earth's magnetosphere:* **L W Blum**

1901446 *Prolonged Intervals of Relativistic Electron Storm-time Flux Enhancements in the Magnetotail at Lunar Distance:* **A Runov**, V Angelopoulos, A Artemyev, X Shi, C Gabrielse

1942997 *Recovery Phase O^+ Enhancements in the Outer Magnetosphere and Magnetosheath During the May 2024 Superstorm:* **I Venugopal**, A T Bhaskar, S V Thampi

1956107 *Sustained Reconnection Jet Observed at the Dayside Magnetopause:* **A Moore**, J S Halekas

1919655 *The Day-side Reconnection Rate During the May 2024 Geomagnetic Storm:* **B L Burkholder**, L Chen, J Dorelli, X Ma, D da Silva, I DesJardin, Y M Huang, K Sorathia, K H Pham

1881437 *The May 2024 Storm: dayside magnetopause and cusps in simulated soft X-Rays:* **J Ng**, L Chen, B L Burkholder, D G Sibeck, F S Porter, K H Pham, V G Merkin, H K Connor, J W Bonnell, S M Petrinec, B L Alterman, G Cucho-Padin

1959602 *Universal time dependence of storm time magnetosphere-ionosphere coupling:* **K Ghag**, W Lotko, K H Pham, D Lin, V G Merkin, A Raghav, M J Wiltberger

248838
Understanding the Generation, Evolution, and Impact of Plasma Waves in Various Space Plasma Environments *(joint with SH)*

Conveners: **Rui Chen**, Auburn University; **Huayue Chen**, Auburn University; **Ivan Vasko**, University of California Berkeley; **Maria Usanova**, University of Colorado at Boulder; **Rui Chen**, Auburn University

1912429 *Statistical ULF Wave Latitude Distribution: A Key to Understanding Off-Equatorial Radiation Belt Electron Radial Diffusion:* **G Riggs**, W Tu, T E Sarris

1893465 *A New First-Principles Approach to Predict the Saturation of the Electron Whistler Anisotropy Instability in Magnetosheath Plasmas and Beyond:* **W Ryan**, P Cassak, K G Klein, H Liang, I Svenningsson, G Cozzani, V Roytershteyn

1895288 *An Observational Survey of the Plasmaspheric Notch-Kilometric Continuum Relation:* **M L Adrian**

1982108 *Broadband electrostatic fluctuations in the Earth's magnetosheath:* **I Vasko**, G Datar, Z Shaikh, PhD, X LU

1937735 *Cold proton heating by rising-tone electromagnetic ion cyclotron waves:* **M Usanova**, X Liu, L Chen

1866476 *Cross-Scale Coupling Between Mirror Modes and Ion Cyclotron Waves During an Electron Microinjection in the Dayside Cusp:* **J Johnson**, E A Ccopa Rivera, S Wing, E H Kim, K H Kim, K Nykyri, X Ma

1876133 *Developing Wave Distribution Function Method for RBSP Wave Data Analysis:* **N Kang**, J Bortnik

1852847 *Drift Resonance Excitation of a Fundamental Poloidal Wave in the Plasmasphere:* **K Takahashi**, T Yamakawa, M Gkioulidou, D G Mitchell, J W Manweiler

1931401 *Energy transfer from MHD-scale slow-mode waves to kinetic-scale ion acoustic waves:* **X Shi**, X An, A Artemyev, V Angelopoulos

2002057 *Full Particle-in-cell Simulation of Chorus Waves in a 2D Dipole Magnetic Field:* **X Fu**, V Shankar, F Li

1903972 *Full-Wave Simulation of Multi-Band EMIC Waves in the Oxygen Torus:* **E H Kim**, M F Bashir, J Johnson, S Shiraiwa

1908124 *Generation and Modeling of Intrinsic Hiss Waves:* **A Drozdov**, A Saikin, M Golkowski, R Khatun-E-Zannat, A Sahai, V Harid, D Malaspina

1858592 *Importance of Entropy in Landau Damping of a Langmuir Wave:* **H Perera**, P Cassak, M H H Barbhuiya, PhD, M A Shay, G G Howes, J Juno, E R Lichko

1873248 *Unraveling Three-Dimensional Magnetosphere Structure during Geospace Storms with the MAGE Model:* **M J Wiltberger**

1889260 *Instability analysis of lower hybrid and ion Bernstein waves driven by energetic ions:* **T Kotani**, M Toida, T Moritaka, S Taguchi

1944281 *Interchange instabilities at Saturn: Insight into Rayleigh-Taylor-like Plasma Transport from Waves and Particles:* **E Hathaway**, M W Liemohn, A Azari, G B Hospodarsky, D Pisa

1913479 *Investigating the Characteristics of 3-Second ULF Waves Across Varied Environments in Earth's Foreshock Region:* **P Belbase**, G Poh, G Le, X Blanco-Cano, Y Chen, H Wei, D Oliveira

1846854 *Large Amplitude Chorus Wave Distribution in the Earth's Magnetosphere: Van Allen Probes Waveform Observations:* **Q Ma**, N Kang, W Li, J Bortnik, L Gan, A Artemyev, X Shen

1866221 *Listening to Plasma Waves in the Earth's Magnetosphere:* **L Williams**, L W Blum, T Costello, X Shi, M Hartinger, M O Archer

1979887 *Modeling VLF signals for Lightning Event Detected by the WWLLN on 2016-02-27 17:18:05.707 with Efficient Spectrographic Simulations:* **C R Brown**, A S S Richardson, C E Crabtree, J F Ripoll, R H Holzworth II, G Ganguli, J Huba, T Farges, D Malaspina

1886858 *Nonlinear Evolution of Wave Packets of EMIC Rising-tone Emissions:* **Y Omura**, H Chen, X Wang, Y K Hsieh, Y Lin, H Zhao, L Chen

1891819 *Nonlinear Growth of Chorus Waves Induced by Substorm Injected Energetic Electrons and the Evolution of the Associated Pulsating Auroras:* **R Chen**, Y Miyoshi, H Zhao, H Chen, X Wang, Y Kasahara, S Matsuda, T Hori, F Tsuchiya, A Kumamoto, A Shinbori, S Kasahara, S Yokota, K Keika, T Mitani, T Takashima, A Matsuoka, M Teramoto, K Yamamoto, I Shinohara

1901107 *Nonlinear Wave-Particle Interactions Associated with Falling-tone Chorus Waves:* **H Chen**, X Wang, R Chen, Y Omura, L Chen, Y K Hsieh

1930621 *Parametric Study of Magnetospheric Ducts Limited in Magnetic Latitude:* **R Khatun-E-Zannat**, M Golkowski, V Harid, O V Agapitov, P Hosseini

1889668 *Relativistic Electron Acceleration Inside the Impenetrable Barrier During the May 2024 Geomagnetic Storm: Arase Observations:* **Y Miyoshi**, S Kurita, A Shinbori, K Yamamoto, C W Jun, S Kumar, R Chen, S P Radhakrishna, I Shinohara, T Takashima, T Mitani, N Higashio, A Matsuoka, Y Kasahara, S Matsuda, F Tsuchiya, A Kumamoto, T Hori, M Teramoto, N Kitamura

1898041 *Spatial Extent of Electromagnetic Ion Cyclotron Waves in Earth's Magnetosphere during Geomagnetic Storms:* **T Whitney**, L W Blum

1958491 *The energy-dependent effects of EMIC waves on ring current ions:* **C Ferradas**, S B Kang, M C H Fok, G Cucho-Padin, R Bhanu, PhD, M Usanova

250203
Venus as a Heliophysics Laboratory *(joint with P, SA, SH)*

Conveners: **Michael Chaffin**, University of Colorado Boulder; **Kathleen Hanley**, Space Science Laboratory, UCB; **Joe Caggiano**, University of Oregon; **Candace Gray**, New Mexico State University Main Campus; **Skylar Shaver**, West Virgina University

1967499 *2-D Photochemical Modeling of the Venusian Thermosphere and Ionosphere: Effects of Day-to-Night Transport:* **K Chirakkil**, M Chaffin, B Gregory, E M Cangi, S Correra, K McGouldrick

260062
Magnetospheric Physics Student and Early Career GeoBurst Session

Conveners: **Weichao Tu**, West Virginia University; **Weichao Tu**, West Virginia University

1875181 *Bounce-Phase Dependent Pitch-Angle Diffusion Model with Realistic Atmospheric Backscatter Using Stochastic Differential Equations:* **Z G Li**, W Tu, R Selesnick

1968065 *Combining RBSP and GPS Data Towards Distinguishing Electron Acceleration Mechanisms in the Outer Radiation Belt:* **W Teague**, S Morley, H Zhao, J M Broll

1913614 *Upstream Waves Observed in Mercury's Foreshock Region:* **F Erinfolami**, G Poh, X Blanco-Cano, N Romanelli, G Le, Y Chen, X Jia

1975559 *Whistler Wave Generation at Injections: Role of Multiple Electron Populations:* **I Kuzichev**, I Vasko, S Noh, H Yazdi Karimi

1887073 *Whistler-Mode Waves in Density- and Magnetic-double ducts:* **S Nejad**, A V Streltsov

1962823 *Latitudinal and Local Time Variability of Winds and Super-Rotation in the Venus Thermosphere: Current Understanding and Future Directions:* **S Jain**, A S Brecht, S W Bougher, H Liu, S A Ledvina, S W Stone, S R Shaver, M Chaffin

1995809 *A Twin-Spacecraft Mission Concept to Explore the Venus Thermosphere - Ionosphere - Magnetosphere System:* **M Chaffin**, K G Hanley, C M Fowler, R J Lillis

1854320 *Predicting CO Cameron-Band Auroral Emission at Venus Using VEx Electron Observations:* **S Xu**, R Frahm, Y Ma, D L Mitchell, J G Luhmann, J C Gérard, L Soret, R J Lillis

1950367 *Venus' Ionosphere-Thermosphere-Mesosphere: Characterized by the Venus Thermospheric General Circulation Model:* **A S Brecht**, S W Bougher

1880114 *Local Geomagnetic Response to Ionospheric Perturbations During the 2015 St. Patrick's Day Geomagnetic Storm in Central Mexico:* **C I Castellanos-Velazco**, P Corona-Romero, M A Sergeeva

1993687 *Numerical Experiments Studying Impacts on Plasmasphere Refilling:* **J Fitzpatrick**, N Maruyama, K Chatterjee, X Chu, T Bishop, L W Blum, J Goldstein, J Bortnik

1891956 *Quantifying the Effects of Inward Radial Diffusion and Local Acceleration on Energization of Ultrarelativistic Electrons:* **R Chen**, H Zhao, S R Elkington, A N Jaynes, L W Blum

SPA-SOLAR AND HELIOSPHERIC PHYSICS

249398
Across the Heliospheric Boundaries and Regions: In-situ Observations and Modeling as Tools for Probing the Outer Heliosphere

Conveners: **Marc Kornbleuth**, Boston University; **Parisa Mostafavi**, Johns Hopkins University Applied Physics Laboratory; **Lingling Zhao**, University of Chinese Academy of Sciences; **Jonathan Gasser**, Southwest Research Institute

1895887 *Analysis of SHIELD DRIVE Science Center Publications and Activities: Demonstrating the Value of Team Science:* **S Buxner**, N A Gross, M Opher, J D Richardson

1896554 *The SHIELD Summer School: Training the Next Generation of Researchers to Study the Outer Heliosphere:* **N A Gross**, S Buxner, M Opher, J D Richardson

1974987 *A Global Model of the Entry and Propagation of Galactic Cosmic Rays in a Split-tail Heliosphere:* **S Siegel**, M Opher, J G Alonso Guzmán, V A Florinski, B van der Holst, M Z Kornbleuth

1966247 *A new low-energy cosmic ray population in the very local interstellar medium:* **M E Hill**, R Nikoukar, G Berland, K Dialynas, V A Florinski, L E Brown, A C Cummings, R B Decker, D C Hamilton, M Z Kornbleuth, S M Krimigis, S E Lasley, M Opher, P C Brandt, J Giacalone, M Gkioulidou, P Kollmann, J Kota, R L McNutt Jr, P Mostafavi, J D Richardson, E C Roelof

1956589 *Accurately Modeling the Termination Shock Jump Conditions:* **J Szente**, B van der Holst, G Toth, M Opher, E S Bair

1908286 *Anisotropies of 28-137 keV Ions from Voyager 2/ LECP Beyond the Termination Shock and the Heliopause:* **E Liokati**, K Dialynas, S M Krimigis, R B Decker, M Hill, R Nikoukar, M Opher

1959117 *Anomalous and Galactic Cosmic Rays in the Inner Heliosheath:* **J Kota**, J Giacalone

1952533 *Consequences from inclusion of divergence free magnetic dissipation in the heliosheath:* **E Powell**, M Opher, J F Drake, B van der Holst, M Z Kornbleuth

1935876 *Continuous Voyager 1 Wave Observation from 130 AU:* **B Powers**, W S Kurth, A N Jaynes

1955877 *Entry of Dust Grains in the Heliosphere with High Resolution Sector Region:* **S Fetter**, J Miller, M Opher, J D Slavin

1899405 *Examining the Relationship Between Particle Energization and Turbulence in the Outer Heliosphere:* **G Dulay**, L Adhikari

1899985 *Investigating Drifting Zero-Offsets in Voyager 1 & 2 Measurements:* **J Gonzales**, V A Florinski

1992656 *LEVITAS: Levitodynamics for Interstellar Medium and Atmospheric Sensing:* **R T Desai**, R Gajewski, J Bateman, B E Eliasson, D Oi, A Datta

1864106 *New Horizons' Encounter with the Heliospheric Boundary:* **P C Brandt**, M Hill, H A Elliott, R Nikoukar, P Kollmann, P Mostafavi, R L McNutt Jr, A R Poppe, E Provornikova, P Swaczyna, M Opher, E Powell, J Sokół, D J McComas, K Dialynas, S A Stern, K N Singer, A Verbiscer, J W Parker, R Gladstone, T M Becker, M Horanyi, A Doner, B Schulze, W M Grundy, S Benecchi, D Copeland

1885828 *Observations of Lyman-Beta Emission from the New Horizons Alice UV Spectrometer:* **W R Pryor**, R Gladstone, S A Stern, K D Retherford, J M Shull, W K Tobiska, J W Parker, T M Becker, P C Brandt, K N Singer, A Verbiscer

1887306 *Predicting New Horizons' Termination Shock Crossing based on Solar Wind long-term Variations:* **J Gasser**, J Sokół, H A Elliott, M Dayeh, K N Singer, A Stern, J W Parker, M Opher, P C Brandt, A Verbiscer

1952416 *Probing the Outer Heliosheath through Secondary Neutral Helium:* **H Mueller**, S Damish, L Dyke

1920799 *Solar Cycle-Driven Variations in the Outer Heliosphere from Termination Shock to Heliopause:* **C Onubogu**, M Opher, E Powell, S Du, J Sokół, B van der Holst

1893534 *The Combined Solar-Wind and Solar-Energetic-Particles Distribution Function as Observed by the Solar Wind Around Pluto (SWAP) and Pluto Energetic Particle Spectrometer Science Investigation (PEPSSI) Investigations on New Horizons:* **R L McNutt Jr**, M Hill, P Kollmann, D J McComas, H A Elliott, P Swaczyna, B Shrestha, R Nikoukar, P Mostafavi, F Bagenal, J D Richardson, S M Krimigis, E C Roelof, A R Poppe, E Provornikova, A Stern, K N Singer, P C Brandt, J W Parker, A Verbiscer, C M Lisse, S E Jaskulek

1894961 *The Coupling and Evolution of Kelvin-Helmholtz and Rayleigh-Taylor Instabilities in the Heliosheath:* **X Ma**, M Opher, M Z Kornbleuth

1958821 *The Heliosheath with a Non-Maxwellian, Isotropic Pickup-Ion Distribution:* **E S Bair**, M Opher, B van der Holst, M Z Kornbleuth, G P Zank

1865872 *The Impact of Physical Processes on the Radial Evolution of the Distant Pickup Ion Mediated Solar Wind:* **L Adhikari**, G P Zank, B Shrestha, S Tasnim, L Zhao, H A Elliott, M Opher, B Wang, J A le Roux, A Pitna, D J McComas, P Mostafavi, J D Richardson, X Zhu, Y Wu, J Sokół, R Nikoukar

251020
Advances in Understanding the Innermost Heliosphere

Conveners: **Kristoff Paulson**, Organization Not Listed; **Tatiana Niembro Hernandez**, Universidad Nacional Autonoma de Mexico; **Adam Szabo**, NASA Goddard Space Flight Center

1996326 *Energy Flux Contributions and Alfvénic Wave Dynamics in the Inner Heliosphere: Results from Parker Solar Probe Encounters 22–24:* **D E Larson**, R Livi, A Rahmati, P Whittlesey, M L Stevens, K G Klein, O Romeo, J Huang, M Liu, K W Paulson, D Jean-Baptiste, M Terres, S B Das, S Alnussirat, Y Rivera, S T Badman, J S Halekas, T Niembro Hernandez, J Verniero, S D Bale, A Szabo, M Martinovic, M Moncuquet, T Bowen, A Mallet, N Sioulas, K E Korreck, J C Kasper

1859796 *In situ measurement of jets from a pseudostreamer reconnection event:* **S D Bale**, S Al-Nussirat, S T Badman, J F Drake, J P Eastwood, T Ervin, J S Halekas, T S Horbury, D E Larson, P C Liewer, M Linton, R Livi, P Louarn, C J Owen, O Panasenco, T Phan, A Rahmati, N E Raouafi, P Riley, Y Rivera, O Romeo, M L Stevens, M C M Velli, A Vourlidas, P Whittlesey

1946946 *^{3}He-rich SEPs throughout the inner heliosphere:* **G D Muro**, C Cohen, A C Cummings, A W Labrador, R A Leske, M E Wiedenbeck, Z Xu

1910576 *A comprehensive observational study of the gravitational influence of the major planets on the dust distribution in the Zodiacal cloud:* **R A Howard**, G A Stenborg, A Vourlidas, M Linton

1918382 *A Machine Learning Approach to Surveying Solar Energetic Particle Time Profiles in Parker Solar Probe EPI-Hi HET Data:* **A W Labrador**, A Mahabal, E R Christian, C Cohen, R A Leske, D J McComas, J G Mitchell, G D Muro, S Pak, J S Rankin, N Schwadron, M E Wiedenbeck, Z Xu

1971826 *A Quest of Understanding SEP Background in the Inner Heliosphere:* **R Czarnota**, S Kasapis, H Farooki, L Y Khoo, M E Cuesta, S Pak, J R Szalay, D J McComas

1892429 *Towards resolving the debate on heliosheath flows: the discrepancy in heliosheath flow derived from Voyager PLS and LECP observations:* **R Nikoukar**, M Hill, K Dialynas, E Liokati, R B Decker, S M Krimigis, J D Richardson, M Opher

1924479 *Voyager Informed Modeling of Pickup Ions and Energetic Neutral Atoms:* **S Du**, M Opher, M Z Kornbleuth, E S Bair, J Giacalone

1915494 *Alpha Particle Temperature and Velocity Statistics in the Young Solar Wind:* **J Wang**, T S Horbury, L Matteini, J Coburn, J Squire, R Livi, M L Stevens, D E Larson, S D Bale, P Whittlesey

1992799 *Cold Electron Distributions Observed by PSP During the March 13, 2023 CME:* **O Romeo**, C R Braga, D E Larson, P Whittlesey, R Livi, S Alnussirat, J Huang, A Rahmati, M Liu, T Ervin, T Phan, M L Stevens, N E Raouafi, M Pulupa, S D Bale, A Vourlidas, D Lario

1932065 *Contribution of Solar Energetic Particles to the Total Pressure in the Inner Heliosphere:* **H Farooki**, D J McComas, G Livadiotis, M E Cuesta, L Y Khoo, J R Szalay, J S Rankin, R Bandyopadhyay

1919831 *Direct Measurement of Polar Coronal Hole-like Solar Wind in its Acceleration Phase:* **S T Badman**, Y Rivera, M L Stevens, S D Bale, T Ervin, O Romeo, K W Paulson, D E Larson, R Livi, P Whittlesey, A Rahmati, K G Klein, J S Halekas, J Verniero, T S Horbury, C J Owen, T Niembro Hernandez, M Pulupa, S Bharati Das, M Terres, F Fraschetti, L Y Ahmed, D Jean-Baptiste, N E Raouafi, S R Cranmer

1980512 *Dynamics of Switchbacks' Parameters from Sub to Super Alfvénic Solar Wind:* **O V Agapitov**, M Swisdak, A Voshchepynets, J F Drake, J Verniero, K E Choi, L Colomban

1914738 *Electrons in the Collisionally Young Solar Wind: Parker Solar Probe Observations:* **J S Halekas**, P Whittlesey, D E Larson, M L Stevens, R Livi, S D Bale

1926738 *Energetics and Dynamics of Parker Solar Probe Solar Network Sources:* **M K Georgoulis**, J Lee, Q Li, H Wang, N Raouafi

1940965 *Entropy Transfer from Solar Radio Bursts to Energetic Particles:* **G Livadiotis**, M E Cuesta, L Y Khoo, M Shen, D J McComas, M Pulupa, S D Bale, R Livi

1881147 *Evolution of Alfvénic Magnetic Deflections and Energy Flux Densities from Sub- to Super-Alfvénic Solar Wind Environments:* **D Payne**, M Akhavan-Tafti, S T Badman, Y Rivera, M L Stevens, K W Paulson, G P Zank, C Shi, R Bandyopadhyay, W H Matthaeus

2001786 *Flare Electron Takeover: A Traveling Parallel Electric Field Concurrent with a Type III Burst Reshapes the Young Solar Wind:* **P L Whittlesey**, D E Larson, S Alnussirat, O Romeo, M Pulupa, A Rahmati, J W Bonnell, R Livi, M L Stevens, S D Bale

1929195 *From Fly-Throughs to Global Context: Mapping WISPR Observations with HELIOS:* **E Paouris**, A Vourlidas, G A Stenborg, M Linton, R A Howard, N Raouafi

1930413 *Heavy Ion Acceleration at 6 Solar Radii as Observed by Parker Solar Probe:* **D G Mitchell**, S Alnussirat, M Pulupa, A Kouloumvakos, G Berland, R L McNutt Jr, E C Roelof, M Hill, D J McComas, C Cohen, S D Bale, D E Larson, A Rahmati, O Romeo

1974163 *Heavy Ion Measurements in the Inner Heliosphere by the SPAN-I sensor:* **R Livi**, D E Larson, A Rahmati, J Huang, P Whittlesey, S Alnussirat, O Romeo, M Liu, M L Stevens, Y Rivera, S T Badman, K W Paulson, S B Das, M Terres

1930648 *High-Frequency Solar Wind Electron Density Measurements Derived from Spacecraft Surface Charging Method on Parker Solar Probe:* **M Liu**, J W Bonnell, D E Larson, S D Bale, M Pulupa, J Byrnes, O Romeo, D Lee-bellows, M Diaz-Aguado, D Malaspina, J Huang, A Rahmati, R Livi, S Alnussirat, P Whittlesey

1960108 *Identifying large scale structures in the solar wind with a simple derivative analysis:* **T Niembro Hernandez**, A Lara, N Karna, S Vidal-Luengo, D Oliveira, D T Welling, S B Das, M L Stevens, K W Paulson, S T Badman, Y Rivera, F Fraschetti, L Ahmed

1936627 *In situ evidence of 5-minute oscillations from Parker Solar Probe:* **Z Huang**, M C M Velli, R J Morton, C Shi, Y Ding, O Panasenco, Y Rivera, S T Badman, N E Raouafi, K G Klein, S D Bale, O Romeo, J Huang, M L Stevens, B D G Chandran, Y Zhu, C Hou, M Pulupa, T Ervin, D E Larson, M Liu, R Livi, F Fraschetti

1911598 *Investigating hemispheric asymmetries in coronal hole solar wind structured by magnetolatitude:* **Y Rivera**, A Finley, S T Badman, K G Klein, M L Stevens, K W Paulson, T Niembro Hernandez, S B Das, M Terres, F Fraschetti, J S Halekas, R Livi, D E Larson, A Rahmati, P Whittlesey, M C M Velli, Z Huang, O Romeo, C J Owen, T S Horbury, T Ervin, S D Bale, N E Raouafi

1949338 *Ion Composition and Spectral Properties in the Intense Solar Energetic Particle Events Observed by PSP/ISOIS/EPI-Hi/LET:* **S Pak**, M E Cuesta, H Farooki, L Y Khoo, Z Xu, A Davis, R A Leske, C Cohen, D J McComas, B L Shrestha, J Mitchell, A W Labrador, J S Rankin, S Kasapis, J R Szalay, A C Cummings, G D Muro, M E Wiedenbeck

1922815 *Ion Kinetics and Wave Activity at a Young Interplanetary Shock:* **P Mostafavi**, J Giacalone, K G Klein, R C Allen, S Raptis, N E Raouafi

1970685 *Ion Microstate Evolution in Coronal Hole Wind from 0.05 to 1 au:* **M L Stevens**, D Larson, R Livi, P Whittlesey, K G Klein, K W Paulson, A Rahmati, T Niembro Hernandez, S T Badman, Y Rivera, M Terres, S Bharati Das, J Huang, J Verniero, O Romeo, J S Halekas, M Liu, S Bale, T S Horbury, J Wang, P Louarn, A Fedorov, B Maruca, L B Wilson III, B L Alterman

1996038 *Ion-Scale Wave Properties Near the Heliospheric Current Sheet: A Parker Solar Probe–Wind Conjunction Study:* **S Fordin**, J Verniero, Y Rivera, S T Badman, A Szabo, R Alexander, L B Wilson III

1984473 *Modeling CME-Driven Sub-Alfvénic Structures and Their Connection to Coronal Dimming Signatures:* **M Jin**, V K Jagarlamudi, J P Mason, PhD, C R Braga, A Vourlidas, N Raouafi, N Nitta

1918869 *Modeling Early Life Fast Solar Wind Observations from Parker Solar Probe Using Isopoly Approach:* **N Prakash**, D Jean-Baptiste, N Sioulas

1960382 *Numerical Simulations of the Effects of Out-of-Plane Velocity Shear on Magnetic Reconnection in the near-Sun Solar Wind:* **M Swisdak**, S Eriksson, A Mallet

1855692 *Observational evidence for suppression of magnetic reconnection by shear flow:* **T Ervin**, A Mallet, S Eriksson, M Swisdak, J Juno, T Phan, T Bowen, O Romeo, R Livi, P Whittlesey, D E Larson, S D Bale

2002895 *On the Formation and Evolution of Secondary Conical Heliospheric Current Sheets:* **B J Lynch**, L Casillas, M C M Velli, O Panasenco, V Réville, P C Liewer

1880257 *Parker Solar Probe / WISPR Close Encounter Imaging of the Middle Corona:* **A Vourlidas**, M Linton

1944934 *Parker Solar Probe Observations of long-duration high-speed-stream from coronal holes:* **N Karna**, T Niembro Hernandez

1985462 *Parker Solar Probe's Encounter 22: Unraveling SEP Transport and Magnetic Confinement in the Inner Heliosphere with Multispacecraft Observations:* **L Y Khoo**, D Lario, F Carcaboso, C Cohen, M E Cuesta, M I Desai, R A Leske, D J McComas, J S Rankin

1956654 *Parker Solar Probe: From Breakthrough Discoveries in Solar Cycle 25's Rising Phase to Unraveling Its Decline:* **N E Raouafi**

1876068 *Quantification of Error in Potential Field Source Surface Modeling for Identification of the Source Regions of the Slow Alfvenic Solar Wind:* **J Collard**, T Ervin, J Huang, M Liu, O Romeo, S T Badman, Y Rivera, R Livi, P Whittlesey, A Rahmati, D E Larson, S D Bale

1953397 *Quantifying Proton Heat Flux in Solar Wind Switchbacks Using a Gyrotropic Slepian Basis Reconstruction:* **M Terres**, S Bharati Das, R Livi, D E Larson, M L Stevens, K W Paulson, J Verniero, S T Badman, Y Rivera, A Larosa

1899166 *Quantifying the Dynamics of mesoscale structures within coronal mass ejections near the Sun:* **C R Braga**, M K Georgoulis, V Toy-Edens, G A Stenborg, A Vourlidas, N E Raouafi

1869429 *Quiescent Solar Wind In-situ Heating and Turbulent Spectra: Role of Switchbacks in in-situ Heating?:* **B Short**, D Malaspina, A Chasapis

1972535 *Radial velocity fluctuations at Parker Solar Probe during closest approach in encounter 22:* **F Fraschetti**, S T Badman, S B Das, T Niembro Hernandez, K W Paulson, Y Rivera, M L Stevens, M Terres, D Larson, R Livi, A Rahmati, O Romeo, Z Huang, M C M Velli, S Bale, S Korzennik

1886848 *Reconnection in the Heliospheric Current Sheet Imaged by WISPR on Parker Solar Probe during Closest Approach:* **A Vourlidas**, M Linton, E Paouris, G A Stenborg, P C Liewer, P Riley, P Hess

1960124 *Resonant Wave-Particle Interactions Observed by the Solar Probe Cup:* **K W Paulson**, M Terres, R Livi, S Bharati Das, J Verniero, K G Klein, M Martinovic, D E Larson, M L Stevens, S D Bale

1950947 *SEP Velocity Dispersion in CME-Associated "Nose" Events in the Innermost Heliosphere: Parker Solar Probe/EPI-Lo Ion Observations Compared with Theory:* **G Berland**, E C Roelof, D G Mitchell, M Hill, R L McNutt Jr, A Kouloumvakos, W Mo, V Toy-Edens, C Cohen

2000978 *Slepian reconstructions of ion distribution functions in the solar wind from partial field-of-view ESA measurements:* **S Bharati Das**, M Terres

1920747 *Solar Flare Neutrals, Possibly Including Neutrons, Detected by ISOIS/EPI-Hi/HET on Parker Solar Probe:* **R A Leske**, J G Mitchell, C Cohen, A C Cummings, A W Labrador, G D Muro, M E Wiedenbeck, Z Xu, E R Christian, G A de Nolfo, D J McComas, N Schwadron

1928767 *Solar Wind Angular Momentum Flux Calculated with Calibrated Transverse Velocity Measured by SPAN-Ion onboard Parker Solar Probe Mission During E22-E24:* **J Huang, PhD**, D E Larson, O Romeo, M Liu, R Livi, A Rahmati, P Whittlesey, S Alnussirat, S T Badman, R Chhiber, M L Stevens, M Terres, S Bharati Das, J Kasper

1989847 *Spherically polarized Alfvénic fluctuations and solar wind acceleration: the Gosling boost.:* **M C M Velli**, C Shi, Y Ding, Z Huang

1915467 *Statistical Magnetic Connectivity Study from In-Situ Measurements of Parker Solar Probe extrapolated Sunward the Solar Corona.:* **J B Dakeyo**, T Ervin, S D Bale, V Réville, A P Rouillard, D E Larson

1963366 *Stream Evolution of Turbulence Observed by Parker Solar Probe:* **W Keener**, M Terres, K W Paulson, M L Stevens, S D Bale, C Murphy

1912434 *Strong evidence for large closed magnetic field loops implied by PSP SPAN-Electron observations:* **S Alnussirat**, P Whittlesey, D E Larson, A Rahmati, R Livi, O Romeo, M Liu, J Huang, M Pulupa, S D Bale, D J McComas, D G Mitchell, N E Raouafi

1895257 *Sub-Alfvenic Wind and Current Sheet Formations in the Wake of Coronal Mass Ejections: Key Insights from Parker Solar Probe:* **V K Jagarlamudi**, C R Braga, N E Raouafi, A Vourlidas

1875704 *The Effect of Turbulence on the Angular Momentum of the Solar Wind, measured via Parker Solar Probe Data and Global Modeling:* **R Chhiber**, A V Usmanov, W H Matthaeus, F Pecora

1980549 *Tracing the Radial Evolution of Solar Wind Streams Using Dynamic Time Warping: Multi-Spacecraft Observations by Parker Solar Probe, Solar Orbiter, and Wind:* **L Y Ahmed**, M L Stevens, S T Badman, Y Rivera, K W Paulson, S B Das

1949247 *Transfer of Entropy between the Magnetic Field and Solar Energetic Particles during an Interplanetary Coronal Mass Ejection:* **M E Cuesta**, G Livadiotis, D J McComas, L Y Khoo, H Farooki, R Bandyopadhyay, S D Bale

1983878 *Understanding the relationships of PSP Solar Wind Parameters with Distributed Computation using Dask and Deep Learning techniques.:* **J Gallego**, J Kobayashi, J Hong, D Martin, V Moraes Filho, C O'Brien, E Samara

1975891 *Unraveling the Effects of Acceleration and Transport in the Characteristics of Near-Relativistic Solar Electrons:* **J G Mitchell**, E R Christian, G A de Nolfo, C Cohen, M E Hill, A Kouloumvakos, A W Labrador, R A Leske, D J McComas, R L McNutt Jr, D G Mitchell, M Shen, N Schwadron, M E Wiedenbeck, S Bale, M Pulupa

1946371 *Using WISPR measurements and global MHD models to better understand the evolution of the solar corona from solar minimum to maximum:* **P Riley**, M Ben-Nun, C Downs, J Linker, M Linton

1911909 *What Does Parker Solar Probe Tell Us About Whether Alfven Waves Generate the Slow Solar Wind?:* **B D G Chandran**, S D Bale, T Adkins, V David, J S Halekas, K G Klein, R Meyrand, J C Perez, M Shoda, J Squire, E Yerger

252898
Beyond the Sun-Earth Line: Solar Orbiter, VIGIL, and Future Solar Polar Missions

Conveners: **Don Hassler**, Southwest Research Institute; **Lisa Upton**, Southwest Research Institute Boulder

1978186 *Coronal 3D reconstruction for new and upcoming missions and multiple vantage points:* **J Plowman**, A Caspi, D Hassler, M Molnar, A K Shrivastav, T Varesano

1911343 *Heliospheric Imager On Board Of ESA Vigil Mission.Leonardo's Heliospheric Imager (HI), flying on ESA's Vigil mission at L5, will unlock a new perspective on solar activity. HI features two visible-light cameras with wide fields of view, onboard processing for faint CME detection even in Severe Space Weather Event, and optimized straylight rejection.:* **F La China**, B Talone, L Bolsi, S Brilli, D Nocciarelli, V Binante, B Tofani, G Pennestrì, G M Guidi

1988464 *JEDI (Joint Coronal EUV Diagnostic Investigation) for the Vigil Mission at L5:* **D Hassler**, N M Viall, J P Wuelser, F Auchere, D Berghmans, L Harra, A Zhukov, J S Newmark

248564
Collisionless Shocks in Heliospheric and Astrophysical Plasmas and their Effects on Planetary Magnetospheres. *(joint with SM)*

Conveners: **Savvas Raptis**, Johns Hopkins University Applied Physics Laboratory; **Hadi Madanian**, Epex Scientific; **Heli Hietala**, Queen Mary, University of London; **Drew Turner**, Johns Hopkins University Applied Physics Laboratory; **Domenico Trotta**, University of Calabria

1907837 *A Gaussian Mixture Model application for the identification of back-streaming protons in the Earth's foreshock:* **I F Albert**, S Toledo Redondo, D Graham, Y V Khotyaintsev, C Norgren, V Montagud-Camps, A Castilla

1988488 *Bow shock breathing motion at low upstream Mach numbers and its consequence on the magnetosheath plasma:* **H Madanian**, D B Graham, A Lalti

1869210 *Compressive Structures in The Foreshock of Interplanetary Shocks:* **S Raptis**, D Trotta, D L Turner, X Blanco-Cano, T Karlsson, H Hietala, I C Jeba Raj, A Osmane, L B Wilson III

1997136 *MHD Simulation of the Solar Wind with the Yin-Yang Grid:* **Y Fan**, H Luo

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1867623 *Dynamic Acceleration of Energetic Protons by an Interplanetary Collisionless Shock:* **L Yang**, V Heidrich-Meisner, Z Ding, R F Wimmer-Schweingruber, L Wang, A Kollhoff, L Berger, D Pacheco, Z Xu, J Rodriguez-Pacheco, G C Ho, W Wang

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1888495 *Electrostatic waves at a quasi-parallel and a quasi-perpendicular interplanetary shock:* **X LU**, I Vasko, F Mozer

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Development and use cases of reusable Artificial Intelligence infrastructure in Heliophysics

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1902301 *A Machine Learning Model for Binary Classification of Solar Energetic Particle Events:* **J Du**, Z Xu, T Shi, Z Zhu, G D Muro, B Kecman, C Cohen, A W Labrador, R A Leske

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Exploring the Connections between the Sun, Outer Heliosphere, and Local Interstellar Medium Including First-Light Results from NASA's IMAP Mission

Conveners: **Drew Turner**, University of California Los Angeles; **Christina Lee**, Space Sciences Laboratory, University of California Berkeley; **Domenico Trotta**, University of Calabria; **Nehpreet Walia**, University of Tokyo

1956729 *A New Global Heliosphere Model with Pickup Ion and ENA Production and Transport:* **J Seo, PhD**, F Guo, E Zirnstein, Y Huang, A S Merrill, J Heerikhuisen, S Noh, X Li, D B Reisenfeld

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1936232 *Calibration and Performance of the IMAP-Hi Instrument:* **P H Janzen**, D B Reisenfeld, F Allegrini, H O Funsten, A S Merrill, S Noh

1876062 *Detection of a solar wind transient in IBEX ENA maps:* **N K Walia**, D B Reisenfeld, S J Noh, T K H Kim, H O Funsten

1912144 *Direct Samples of Interstellar and Interplanetary Material with IMAP:* **J R Szalay**, E Provornikova, E Ayari, M Bzowski, E R Christian, H O Funsten, A Galli, M Gkioulidou, M Horanyi, S A Livi, D J McComas, E Möbius, K Ogasawara, F Rahmanifard, J S Rankin, D B Reisenfeld, N Schwadron, Z Sternovsky, P Swaczyna, D L Turner, G P Zank, E Zirnstein

1984543 *Energetic Neutral Helium and Hydrogen Atom Fluxes from a Data-Driven MHD/Kinetic Model with Pickup He^+ and H^+ Ions:* **F Fraternale**, R Bera, N V Pogorelov, E Zirnstein

1918476 *Exploring the Outer Heliosphere through ENA observations from IMAP:* **D B Reisenfeld**, F Allegrini, E R Christian, G B Clark, M Dayeh, P C Frisch, H O Funsten, A Galli, M Gkioulidou, F Guo, P Janzen, Y Huang, T K H Kim, G Livadiotis, D G Mitchell, D J McComas, S Noh, F Rahmanifard, J D Richardson, N Schwadron, J Sokół, P Swaczyna, J R Szalay, D L Turner, N K Walia, G P Zank, E Zirnstein

1960493 *Eyes on the Sky: Using Trajectory Methods to Connect ISN H in Global Models to Observations:* **L Dyke**, H Mueller, F Fraternale

1898125 *First Light from the IMAP-Hi Energetic Neutral Atom (ENA) Imager on the IMAP Mission:* **H O Funsten**, F Allegrini, D B Reisenfeld, J J Hanley, K Ford, P H Janzen, D J McComas, N Schwadron, R M Skoug, D Venhaus, P Wurz

1998106 *First Observations from IMAP's Solar Wind and Pickup Ion (SWAPI) Instrument:* **J S Rankin**, D J McComas, M Alimaganbetov, N Angold, G F Dunn, H A Elliott, J Escobar, M Galvin, L Y Khoo, J Letzer, E Roemer, B Savage, M Shaw-Lecerf, M Shen, B L Shrestha, J Teifert, S Weidner, E Zirnstein, E R Christian, M Gkioulidou, S Pope, N Schwadron, P Swaczyna, M B Tapley

1910689 *GLObal solar Wind Structure on the IMAP mission: update and the "first-light" results:* **I Kowalska-Leszczyńska**, M A Bzowski, R Wawrzaszek, M Strumik, J Baran, T Barciński, K Ber, W Bujan, M Daukszo, K Jasiński, G Juchnikowski, P Kaźmierczak, T Kowalski, M A Kubiak, J Mądry, A Mirońska, K Mostowy, P Orleański, C Porowski, J Półtorak, T Rajkowski, J Rothkaehl, T Rudnicki, A Shmyk, A Sikorski, M Turek, M Winkler, K Wojciechowska, T Zawistowski, H Fahr, U Nass, P Osica, K Wielgos, A Gottwald, H Kaser, M Krzyzagorski, M Antoniak, M Drobik, G Gajoch, T Martyniak, R Żogała, A Bartnik, H Fiedorowicz, T Fok, M Majszyk, P Wachulak, M Wardzińska, Ł Węgrzyński, R Kosturek, C Urdiales, M B Tapley, S Pope, D B Reisenfeld, M Gkioulidou, N Schwadron, E R Christian, D J McComas

1905267 *IDEX Instrument Performance Characteristics and Calibration Measurements:* **Z Sternovsky**, R Mikula, M Horanyi, E Ayari, S Kempf, J Hillier, F Postberg

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1918363 *Implications of the Voyager 1 & 2 Magnetic Field Directions on the ENA Ribbon:* **J S Rankin**, E Möbius, M Alimaganbetov, M Shen

1867542 *Interstellar Mapping and Acceleration Probe: The NASA IMAP Mission (1/2):* **D J McComas**, E R Christian, S A Nathan, M Gkioulidou

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1909177 *Interstellar Pickup Ions Observed by the Energetic Particle Detector onboard Solar Orbiter:* **C Gu**, L Berger, V Heidrich-Meisner, R F Wimmer-Schweingruber, M Hecht, J Rodriguez-Pacheco, F Espinosa Lara

1886559 *Large-Scale Sky Structures of Heliospheric ENAs before IMAP:* **J M Sokol**, J Gasser, M Opher, M Z Kornbleuth, K Dialynas, A Galli, M Dayeh, S A Fuselier, D B Reisenfeld, H O Funsten

1957598 *Magnetic Reconnection in the Heliotail as a Source for the INCA Belt:* **M Z Kornbleuth**, M Opher, J F Drake, M Swisdak, Z Yin, K Dialynas, Y Chen, J Sokół, M Gkioulidou, I Baliukin, V Izmodenov, G P Zank

1905453 *Measuring Olivine Elemental Ratios with Impact Ionization Dust Instruments:* **E Ayari**, M Horanyi, Z Sternovsky, J R Szalay, R Mikula, N J Turner

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1954269 *Solar Wind Electron Measurements from the IMAP SWE Instrument:* **R M Skoug**, T Schultz, P A Fernandes, D Venhaus, Y Liu, J T Steinberg

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1915107 *Stationarity Measure of Solar Wind in the Outer Heliosphere:* **B L Shrestha**, G Livadiotis, D J McComas, G Nicolaou

1865624 *The Compact Dual Ion Composition Experiment:* **S A Livi**, M I Desai, K Ogasawara, L M Kistler, E Möbius, D J McComas, C Pollock, M Dayeh, H A Elliott, D Kataria, M J Starkey, S Hart, B L Alterman, J Mukherjee, J Trevino, G Grubbs, M Brysch, M Epperly, D E George, G F Dunn, J Ford, S C Persyn, S E Jaskulek, S Weidner, C M Bert, M Ferris, B Rodriguez, C Nunez, C Urdiales, S Cortinas

1896636 *The energy distribution of heated and accelerated pickup Ions at the termination shock and in the heliosheath:* **J Giacalone**

1961074 *The High-energy Ion Telescope (HIT) on the Interstellar Mapping and Acceleration Probe (IMAP):* **E R Christian**, C Cohen, J G Mitchell, A Bruno, G A de Nolfo, M Gkioulidou, S G Kanekal, R A Leske, D J McComas, N Schwadron, M E Wiedenbeck

1967657 *The IMAP Observatory:* **K Hegarty**, S Kubota

1894099 *The IMAP Student Collaboration 3UCubed Cusp CubeSat, Overview and Lessons Learned:* **N Lugaz**, L Bartolone, L M Peticolas, M Alfred, S Mehta, M Lessard

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Exploring Space Weather Impacts Throughout the Heliosphere using Advanced Energetic Particle and Dosimetry Instrumentation

Conveners: **Donald Thomsen**, NASA Langley Research Center; **Kerry Lee**, The Aerospace Corporation; **Georgia de Nolfo**, NASA GSFC; **Richard Leske**, California Institute of Technology

1879181 *The IMAP-Lo Instrument on the IMAP Mission: Update and First-light Results:* **N Schwadron**

1911823 *The IMAP-Ultra Energetic Neutral Atom (ENA) Imager: Performance and First-light Results:* **G B Clark**, M Gkioulidou, D G Mitchell, A Dupont, K L Anderson, S Begley, M A Bzowski, E R Christian, C Cook, A Crew, M Cully, R DeMajistre, T Diaz, R Drexler, N Dutton, C Gingrich, J Hayes, C Huber, J Hutcheson, S E Jaskulek, P Kollmann, M LeBlanc, W J Lees, D J McComas, K Nelson, C Parker, D B Reisenfeld, E Rollend, C E Schlemm, N Schwadron, R Verrill, J Yen, J Yin, J Diaz

1886553 *The Interstellar Dust Experiment (IDEX) onboard the IMAP Mission: Performance and First-light Results:* **M Horanyi**, S Tucker, Z Sternovsky, K Tyagi, S Knappmiller, E Ayari, R Mikula, J R Szalay, S Kempf

1908719 *The Main Unresolved Questions on Energetic Neutral Atoms from the Heliosphere Observed at Low Energies with IBEX-Lo:* **A Galli**, P Wurz, S A Nathan, E Möbius, H Kucharek, R M Winslow, K Fairchild, D Heirtzler, S A Fuselier, J Sokół, M Dayeh, J Gasser, P Swaczyna, M A Bzowski, M A Kubiak, I Kowalska-Leszczyńska, H O Funsten, D B Reisenfeld, M Opher, M Z Kornbleuth, I Baliukin, V Izmodenov, K Dialynas, J D Richardson, E R Christian, M Gkioulidou, M Shen, D J McComas

1921399 *Utilizing IDEX in the hunt for organic cosmic dust grains:* **R Mikula**, Z Sternovsky, M Horanyi, S Tucker, K Tyagi, S Knappmiller, E Ayari, J Hillier, S Kempf, F Postberg, R Srama, J R Szalay, N J Turner

1922948 *Viewing Global Changes in the Heliosheath with IMAP's Energetic Neutral Atom Imagers:* **E Zirnstein**, J Heerikhuisen, D J McComas, J Bower, G B Clark, M Dayeh, H O Funsten, M Gkioulidou, D G Mitchell, D B Reisenfeld, N Schwadron

1900259 *Development of the Suprathermal Particle and Relativistic Electron Magnetic Spectrometer (SuPREMeS):* **D L Turner**, A M Stautberg, E Burger, K Nelson, J Yen, A Crew, C Derr

1916218 *Energetic Particles in LEO During the 10-11 May 2024 Mother's Day Geomagnetic Storm: Observations by the Compact Environmental Anomaly Sensor III (CEASE-3) particle sensor on the WSF-M satellite:* **J L Roeder**, W R Johnston, S L Young, C D Lindstrom, B Prince, D A Barton, P A Roddy, B Ferdousi, PhD, D L Cooke, J Albert

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Exploring the engineering challenges facing space flight missions in heliophysics, translating recent anecdotes to lessons learned, and providing discussion on the strategies and best practices improve future space flight experiments *(joint with SA, SM)*

Conveners: **Brad Williams**, NASA; **Esayas Shume**, NASA Headquarters; **Asal Naseri**, Space Dynamics Laboratory; **Reinhard Friedel**, Los Alamos National Laboratory

1994559 *Channel Your Inner Ernest Shackleton: Lessons Learned from the PUNCH SMEX Mission:* **R Killough**, C DeForest, M Beasley, J Campbell, G T Laurent, S C Persyn, K Smith, K Smith, W Wells

1972986 *Cover Thyself: Adapting Designs to the new Launch Services Paradigm:* **S Kubota**, K Hegarty

1933138 *In Silico Design of RNA Aptamers Targeting Microgravity-Crystallized Aspartyl-tRNA Synthetase for Neurological Disease Intervention:* **P Paliwal**, G Sharma

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From Initiation to Impact: Understanding CMEs as Drivers of Space Weather *(joint with SM)*

Conveners: **Anshu Kumari**, NASA Goddard Space Flight Center; **Bhargav Vaidya**, Indian Institute of Technology Indore; **Pete Riley**, Predictive Science Inc.; **K Kilpua**, University of Helsinki; **Prateek Mayank**, Indian Institute of Technology Indore

1957491 *A Collective Study of Influence of Solar Source Type on CME Rotation:* **Y Wang**, Y Xu, B Zhuang, H Wang

1914758 *Analysis of the Complex Structure and Evolution of the 2024 September 30 CME Using Multi-Spacecraft Imaging:* **S K Dhakal**, M Linton, P Hess, J Zhang

1902253 *Assessing In Situ Measurements at Sub-L1 for Geomagnetic Storm Prediction: Variations of CME Structure:* **Y D Liu**

1925924 *Connecting the Interplanetary Coronal Mass Ejections to Their Solar Sources:* **L Jian**, J Zhang, S K Dhakal, S Akiyama

1894977 *Decoupling CME Temporal Properties from Solar Cycle Effects.:* **Y Olufadi**, N A Al-Haddad, N Lugaz, B Zhuang, C J Farrugia

1930603 *DeHoffman-Teller Frames and Coronal Mass Ejections: Quantifying Equilibrium:* **H Farooki**, D J McComas, M E Cuesta

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2002401 *Reflections on NASA's "Test Like You Fly" Golden Rule - A Case on End-to-End Testing Using the GOES-R SUVI:* **J Darnel**

1963851 *The Case for Reverse-fly Simulation and More Time in Calibration: A Path Towards More Accurate Assessment of Plasma Instrument Geometric Factor:* **C M Bert**, R G Gomez, S A Fuselier, D T Young

1981033 *The PADRE Mission Blueprint: Accelerating Scientific Instrument Development Through Commercial CubeSat Partnerships:* **A Stratton**, C Moeckel, J C Buitrago-Casas, C Smith, V Mihaylov, G Naso, J C Martinez Oliveros

1864701 *Why do spacecraft charging model predictions strongly disagree with measured floating potentials on Parker Solar Probe?:* **D Lee-bellows**, D Malaspina, J Deca, M Diaz-Aguado, R Ergun, M Liu, J W Bonnell

1934987 *Dependence of Coronal Mass Ejection Expansion on Background Pressure in the Solar Corona:* **T Singh**, N Gopalswamy, N Pogorelov, S S Maity

1981703 *Distortion of the Cross Sections of CME Flux Ropes in the Inner Heliosphere:* **F Manini**, H Cremades, T Nieves-Chinchilla, D Lloveras, F Iglesias, C Mac Cormack, F López

1933965 *Enhancement of Southward Bz by Interaction of Successive CMEs on 8 May 2024:* **L Yang**, X Feng, F Shen, J He, C Shen

1962915 *Following a Filament Eruption from the Sun to Earth that caused an Intense Geomagnetic Storm:* **S Brent**, T Niembro Hernandez, N Karna, L Guliano, K W Paulson, S T Badman, M Terres, Y Rivera, S Bharati Das, A Niesta, W Keener, L Ahmed, C Murphy

1857593 *Impact of intense and severe CMEs on space weather at low latitudes observed during the ascending-maximum phase of solar cycle 25:* **E Sanchez-Garcia**, A Gonzalez-Esparza, M A Sergeeva, V Gatica-Acevedo, P Corona-Romero, C I Castellanos-Velazco, L X González

1935068 *Improving Solar Prominence Eruption Analysis with UCoMP: Towards a Space Weather Forecasting Diagnostic:* **C Pistelli**, M Molnar, J Plowman

1873745 *Incoherence of a Coronal Mass Ejection with an Internal Current Sheet Investigated by Multi-Spacecraft Measurements:* **B Zhuang**, N Lugaz, C J Farrugia, T Gou, X Li, N A Al-Haddad, S Banu

1968235 *Intertwining Physics-Based CME Modeling and Machine Learning for L1 Prediction of Interplanetary Magnetic Field:* **V M Sadykov**, E Provornikova, D Kempton, E Paouris, D Sawadogo, C N Arge, T Saba, R Angryk, P C Martens

1985413 *Investigating the Characteristics of Suprathermal Heavy Ion Composition in Fast Solar Wind and ICMEs From Wind/STICS and ACE/SWICS Observations:* **A Russell**, J M Raines, L Zhao, R Allen, V Toy-Edens

1887956 *Investigating the Twist Distributions of Ideal Flux Ropes:* **D J Price**, J Pomoell, K E J Kilpua

1911353 *Investigation of the Ring Current Pressure Response during CME and SIR storms using Machine Learning Model:* **J Liao**, L M Kistler, C Mouikis, R Zhao

1928319 *Large Magnetic Flux Rope Formation in an X2.1 Flare observed on September 6, 2011.:* **A Roddanavar**, S Inoue, K Hayashi, J Jing, W Cao, H Wang

1959963 *Long-Term Variation of CME Originating from Active and Quiet Regions:* **S Akiyama**, S Yashiro, N Gopalswamy, G Michalek, H Xie, P Makela

1998565 *Magnetic interaction analysis of multiple interplanetary coronal mass ejections during the historic geomagnetic storm in May 2024:* **S Pal**, C Mac Cormack, K E J Kilpua, Y , PhD, L Jian, T Nieves-Chinchilla

1989711 *Measuring and Modeling CME propagation:* **M L Mays**, C Verbeke, E Palmerio, C Kay, P Riley, L Balmaceda, H Cremades, M Dumbovic, K Martinic, M Mierla, E Paouris, C Scolini, M Temmer, M Reiss

1970535 *Multi-point Analyses of Spatial Characteristics, Temporal Evolution, and Geo-effectiveness of Mesoscale Solar Wind Structures:* **M Akhavan-Tafti**, S Kumar, A Szabo, K E J Kilpua, L Jian, L B Wilson III

1919082 *New Measures of STEREO CME Masses and Directions:* **C Kay**, A Vourlidas, L Balmaceda

1969336 *Numerical Simulations on Solar and Stellar CMEs: Erupted vs Confined Events:* **T Shi**, M Jin, X Liu

248034
Fundamental Mechanisms in Highly Collisionless Plasmas: Wave-Particle Interactions, Turbulence, Structures, and Instabilities with Applications to Heliospheric, Magnetospheric, and Laboratory Plasma Physics *(joint with NG, SM)*

Conveners: **Francesca Di Mare**, University of Oslo; **Katariina Nykyri**, Embry-Riddle Aeronautical University; **Collin Brown**, Center for Space Plasma and Aeronomic Research; **Yu-Lun Liou**, Embry-Riddle Aeronautical University

2004012 *Observations And Modeling Revealing the Correlation Between the Magnetic Decay Index Profile and Coronal Mass Ejection Speed - a Step Towards CME Speed Forecasting:* **G Chintzoglou**, T Torok, B Kliem, J Zhang

1863077 *Quantitative Analysis of ICMEs with and without Shock and Sheath Regions:* **F Minta**, S A Livi, G C Ho, H A Elliott

1861922 *Recent Multi-Point Measurements of Coronal Mass Ejections: Maximum of Solar Cycle 25:* **N Lugaz**, B Zhuang, S Banu, N A Al-Haddad, A B Galvin, C Möstl, E Davies, C O Lee, C J Farrugia

1948622 *Reshaping Coronal Mass Ejections: The Influence of a Non-uniform Solar Wind Environment:* **A Niemela**, J Magdalenic, A Valentino

1904644 *Source sizes of solar radio bursts:* **A Kumari**, D Morosan, M V, P Zhang, J Magdalenic, P Zucca, K E J Kilpua, F Daei

1921543 *Study of Coronal Mass Ejection Energetics with Energy-Conservative Magnetohydrodynamic Simulations:* **X Liu**, S K Antiochos, I Sokolov, T I Gombosi, L Zhao

1996828 *Sun-to-Earth Modeling of the Gannon Storm Using the SWASTi-MagPIE Framework:* **B Vaidya**, J J Athalathil, S Nandy, P Mayank

1979795 *Super-Expansion of an Interplanetary Coronal Mass Ejection Tracked Across 0.14 AU Using Solar Orbiter and Wind Measurements:* **S Soni**, A T Bhaskar, S R, D Miles

1977693 *The Current Layer Missing in the Standard Model of Photospheric Flux Cancellation and CME Initiation:* **B Kliem**

1973968 *The Evolution of Coronal Mass Ejections Between STEREO-A and L1: Propagation or Aging?:* **N A Al-Haddad**, N Lugaz, B Zhuang, S Banu, C J Farrugia

1898307 *Understanding the Onset of Coronal Mass Ejections through Numerical Modeling:* **N Sachdeva**, B van der Holst, S K Antiochos

1860168 *Unveiling Key Factors in Solar Eruptions Leading to the Solar Superstorm in 2024 May:* **R Wang**

1962175 *A Generalized Theory of Lower Hybrid Drift Instability in Earth's Magnetosphere:* **N Arya**, A Kakad

1944888 *Analyzing Ion Energization by Kinetic Instabilities using MMS Observations of a Perpendicular Collisionless Shock:* **J Riggs**, G G Howes

1923029 *Beyond MHD: towards a flexible fluid-kinetic global geospace model:* **G L Delzanno**, K Sorathia, H Arnold, O Chapurin, V G Merkin, J Garretson, O Koshkarov, A J McCubbin

1954216 *Density Fluctuation–Mach Number Scaling in Compressible Plasma Turbulence: In Situ Observations and High-Reynolds Number Simulations:* **R Bandyopadhyay**, A Bhattacharjee, J Beattie

1946644 *Diagnosing Non-Relativistic Particle Acceleration in Turbulent Low-Beta Plasmas:* **R Huang**, G G Howes, C R Brown, L Comisso

1974779 *Electron Hole Propagation in Inhomogeneous Plasmas: Quasi-Particle Concept:* **I Kuzichev**, I Vasko

1900188 *Evaluation of Pressure Evolution Terms in Anisotropization:* **R Pradata**, S Adhikari, PhD, Y Yang, C Agadi, W H Matthaeus

2001374 *Evidence of non-adiabatic electron heating at quasi-perpendicular shocks:* **J Schroeder**, J Egedal

1901458 *Excitation of whistler-mode waves by an electron temperature anisotropy in a laboratory plasma:* **D Ma**, X An, J Han, S Tripathi, J Bortnik, A Artemyev, V Angelopoulos, W N Gekelman, P Pribyl

1898863 *Frequency-resolved local measurements of phase-space energization:* **E R Lichko**, J Juno, S A Conley, PhD, G G Howes, M Abler, K G Klein

1889929 *Fully Kinetic Simulations of Kelvin-Helmholtz Driven Plasma Mixing and Electron Energization in Collisionless Plasmas:* **S Ferro**, F Bacchini, G Arrò, F Pucci, P Henri

1964425 *Inferential Evidence for Suprathermal Electron Burst Intensification Due to Inverted-V Precipitation via Inertial Alfvén Waves.:* **C Feltman**, G G Howes, S R Bounds, D Miles, C Kletzing, K Greene, R Broadfoot, J W Bonnell, R Roglans

1998808 *Ion Acceleration Efficiency in Turbulent Quasi-Parallel Shock Crossings:* **A Keaton-Ashanti**, V D Wilder, H Salinas, A Johlander, A Chasapis, M Oka, I J Cohen, J Burch, G Le, R B Torbert

1967952 *Ion VDF measurements during broadband electrostatic wave turbulence near the lower-hybrid frequency:* **M Dorseth, PhD**, R Soto, C E Crabtree

1857866 *Is Magnetic Reconnection Fundamentally Variable?:* **S A Fuselier**, K J Trattner, S Petrinec, K LLera, S K Vines, D Miles, J L Burch, N Aunai, B Michotte de Welle

1944349 *Magnetic moment breaking and perpendicular ion heating by coherent fluctuations:* **A Mallet**, K G Klein, B D G Chandran, T Ervin, T Bowen

2003329 *MMS Observations of Plasma and Magnetic Field Entropy in Reconnection and Turbulence:* **M R Argall**, H Karimi, M H H Barbhuiya, PhD, P Cassak, H Liang, P Pongkitiwanichakul, A Chasapis

1858916 *Non-Linear Turbulent Heating in The Inner Heliosphere: Effects of Solar Wind Evolution and Solar Activity:* **M Martinović**, K G Klein, N Shankarappa

1905917 *Observational Evidence of Nonlinear Growth of Whistler-mode Waves in Foreshock Structures:* **N Kitamura**, T Amano, Y Omura, Y Miyoshi, Y Katoh, H Kojima, S Lee, M Kitahara, S A Boardsen, R Nakamura, D J Gershman, Y Saito, S Yokota, C J Pollock, O Le Contel, C T Russell, R J Strangeway, P A Lindqvist, R Ergun, J L Burch

1947272 *On the conversion between internal and bulk energy density in weakly collisional space plasmas:* **M H H Barbhuiya, PhD**, P Cassak

1910243 *Recent advances in the use of entropy to investigate weakly collisional heliophysical plasma processes:* **P Cassak**, M H H Barbhuiya, PhD, H Liang, M R Argall, H Perera, W Ryan

1852803 *Revisiting the cold-dense plasma sheet formation mechanism using causal inference and information-theoretic analysis:* **H Hasegawa**, C P Wang, K Nykyri, C P Escoubet, M N Nishino, PhD, K J Hwang, S Aizawa, H Fu, S Kavosi, H Kim, V G Merkin, R Nakamura, A Settino

1861335 *Small-amplitude Compressible Magnetohydrodynamic Turbulence Modulated by Collisionless Damping: Observation Matches Theory:* **S Zhao**, H Yan, T Z Liu, K H Yuen

1859254 *Statistical Analysis of Ion-Scale Circularly Polarized Waves Abundantly Observed by PSP:* **N Shankarappa**, K G Klein, M Martinovic, T Bowen

1980975 *The Upcoming ICI-5bis Sounding Rocket for Magnetometer Investigations into Alfvén Waves and Electron Precipitation:* **J Mondoskin**, M Blandin, S Hisel, A Lasko, D Miles, K Morris, A Washington

1982714 *Turbulence effects on the Interplanetary Coronal Mass Ejections and Sheaths observed between 0.25 and 0.98 au by Parker Solar Probe and Solar Orbiter.:* **C Perez-Alanis**, S Pal, P K Manoharan, T Nieves-Chinchilla

1923179 *Turbulent Heating from Ion Cyclotron Damping in Solar Orbiter Observations:* **D McGinnis**, G G Howes, A S Afshari, K G Klein

1915963 *When thin layers aren't thin: Investigating KHI Dynamics in the finite width low-latitude boundary layer using MMS Observations and MHD Simulations:* **V R Dinesh Kumar**, S Fuselier, O Chapurin, S Janhunen, G L Delzanno, K Nykyri, K J Hwang, D J Gershman, J Burch

247808
Fundamental Physics of the Solar Corona and Inner Heliosphere

Conveners: **Chen Shi**, Auburn University; **Chadi Salem**, SSL, University of California Berkeley; **Olga Panasenco**, Advanced Heliophysics; **Marco Velli**, NASA Jet Propulsion Laboratory

1983204 *A New Approach for Extrapolating Photospheric Vector Magnetic Data to the Chromospheric Level:* **V S Titov**, C Downs, T Torok, J Linker

1920669 *Anisotropies and Heavy Ions as Diagnostics of Solar Wind Thermodynamic Evolution:* **A Nakhleh**, N M Viall, S T Lepri, J M Raines

1943301 *Asymmetric Tangential Velocity inside Switchbacks: Implication for Switchback Origin:* **R Bandyopadhyay**, J Ward, D J McComas, S A Nathan, S T Badman, K W Paulson, M L Stevens

1939634 *Characterizing Pristine Solar Wind Thermodynamics Near the Sun Using Parker Solar Probe Observations from Encounters 22 to 24:* **M Liu**, J Huang, D E Larson, S D Bale, J Collard, T Ervin, R Livi, A Rahmati, S Alnussirat, O Romeo, P Whittlesey, M Pulupa, C A Gonzalez, Z Huang

1846966 *Coupled Modeling of Solar Wind, Coronal Mass Ejections and Energetic Particles Using SOFIE:* **L Zhao**, I Sokolov, T I Gombosi, N Sachdeva, W Manchester, A D Shane, W Liu

1934453 *Differences in heavy ion streaming in the inner heliosphere observed by Solar Orbiter:* **R M Dewey**, S T Lepri, J M Raines, J Coburn, Y Rivera, S A Livi, E Shimoun, A B Galvin, L M Kistler, B L Alterman

1981472 *Dynamics of the Time-Dependent Solar Corona and Inner Heliosphere:* **J Linker**, C Downs, R Lionello, R M Caplan, E I Mason, P Riley, E Palmerio

2001732 *Elemental Abundances at Coronal Hole Boundaries as a Means to Investigate Interchange Reconnection and the Solar Wind:* **A Koukras**, D W Savin, M Hahn

1942308 *Evolution and Acceleration of Solar Wind during Fast Radial Scans of Parker Solar Probe:* **Y Ding**, M C M Velli, Z Huang, C Shi

1923442 *Evolution of Alpha and Proton Temperature Anisotropies in The Inner-Heliosphere:* **V K Jagarlamudi**, P Mostafavi, J C C Palacios, S Bourouaine, N Raouafi, R O Kieokaew, T Durovcova, A Fedorov, P Louarn

1915939 *Evolution of an Alfvén Wave–Driven Proton Beam in the Expanding Solar Wind:* **J Bianco**, A Tenerani, C A Gonzalez

1948575 *Evolution of solar wind charge states from the solar corona to 1 AU with nonthermal electrons:* **J Y Lee**, J An, J C Raymond, C Shen

1916397 *Generalized Two Thermal Regime Approach: Bipoly Fluid Modeling:* **J B Dakeyo**, P Demoulin, A P Rouillard, M Maksimovic, A Chapiron, S D Bale

1918437 *Global Wave-Driven Wind Model: The Role of waves and turbulence in Solar Wind Heating and Acceleration:* **C Gonzalez**, A Tenerani

1995865 *HelioSwitch: A High-Purity Parker Solar Probe Switchback Catalog:* **V Krupar**, S T Badman, S D Bale, S B Das, T Durovcova, O Kruparova, A Larosa, M Martinovic, R L Moore, A Narock, Z Nemecek, J Pasanen, J Safrankova, A C Sterling, A Szabo, K H Wright Jr

1937361 *How does the heating frequency on elemental strands change as a function of active region age?:* **W Barnes**, S J Bradshaw, E I Mason, N M Viall

1993629 *Influence of Reconnection Physics on Nanoflare Statistics in Parker's Coronal Heating Model:* **Y M Huang**

1938058 *Interchange Reconnection and ion kinetic instabilities in coronal plasma.:* **V Krasnoselskikh**, A Zaslavsky, P L Sulem, I C Jebaraj, T Dudok de Wit, J Verniero, O V Agapitov, M A Balikhin

1911796 *Ion-scale turbulence and energy cascade rate evolution from the Sun to 1 au:* **E Kontar**, G Emslie, D Clarkson, A Pitna

1898966 *Laboratory Characterization of a Novel Hall-Driven Alfvén Wave Interaction as an Energy Transfer Mechanism in Imbalanced Turbulence:* **M Abler**, S E Dorfman, C H K Chen, S T Vincena

1897608 *Measuring plasma velocities in Coronal loops using Hinode/EIS spectroscopic data to constrain eruption models:* **Y Malik**, C Natinsky, K Kumar, A I Poland

2002324 *On the Role of Elsasser Imbalance and Plasma β in Shaping the Statistical Properties of Sub-Ion Scale Turbulence and the Partitioning of Electron–Ion Heating in the Solar Wind:* **N Sioulas**, T Bowen, A Mallet, B D G Chandran, S D Bale, J Zhao

1848428 *Parker Solar Probe Observations of the Scaling of Plasma Heating by Magnetic Reconnection in the near-Sun Heliospheric Current Sheet:* **T Phan**, M Oieroset, N naiSfargette@iraPomPeu, J F Drake, J P Eastwood, M A Shay, S D Bale, D E Larson, O Romeo

1943661 *PSP Observations of a Plasmoid Associated With Active Reconnection in the Near-Sun Heliospheric Current Sheet:* **H C Lewis**, J P Eastwood, S Bale, T Phan, N naiSfargette@iraPomPeu, S T Badman, J S Halekas, M L Stevens, M Linton

1886710 *Radial evolution of Alfvén wave parametric decay instability in the near-sun solar wind: Role of temperature anisotropy:* **H Saguchi**, Y Kawazura, M Shoda, Y Katoh

1960114 *Residual Energy and Broken Symmetry in Reduced Magnetohydrodynamics:* **S E Dorfman**, M Abler, S Boldyrev, C H K Chen, S Greess

1906213 *Searching for Interchange Reconnection in Multi-Species Observations:* **G M Szypko**, S J Bradshaw

248972
Galactic Cosmic Ray Transport in the Heliosphere: From the Interstellar Medium to the Solar Atmosphere *(joint with SM)*

Conveners: **Federico Fraschetti**, University of Arizona; **Veronica Bindi**, University of Hawaii at Manoa; **Masayoshi Kozai**, Research Organization of Information and Systems Tokyo; **Jamie Rankin**, Princeton University; **Chingam Fong**, Chinese University of Hong Kong

1998262 *Statistical Study of Long-Lived Active Regions:* **E I Mason**, K Kniezewski

1968308 *Time-Steady Modeling of the Solar Wind and Coronal Polarized Emissivity with FLUX:* **C R Gilly, PhD**, C Lowder

1931884 *Unraveling the Connection Between Flares and Triggering of Sloshing Oscillations:* **A K Shrivastav**, K P Sayamanthula

1904121 *A Simulation to Understand Corona Field Influence on Solar Gamma Ray:* **C Fong**, K C Y Ng, Z Li, D M H Leung

1871132 *GCR Transport Studies with the Global Muon Detector Network (GMDN):* **M Kozai**

1978175 *Progress in Modeling Galactic Cosmic Ray Transport in the Distant Heliosphere:* **V A Florinski**, J G Alonso Guzmán, L Zhao

1959977 *Puzzling Variation of Gamma Rays from the Sun over the Solar Cycle Revealed with Fermi LAT:* **E Orlando**, N Giglietto, S Raino'

1875364 *Transport of Solar Energetic Particles From the Solar Corona Throughout the Heliosphere:* **M I Desai**

249883
High-Energy Solar Investigations Through Next-Generation Remote Sensing: Spectroscopy, Imaging, and Beyond

Conveners: **Amir Caspi**, Southwest Research Institute; **Christopher Moore**, Harvard-Smithsonian Center for Astrophysics; **Juliana Vievering**, Johns Hopkins University Applied Physics Laboratory; **P. S. Athiray**, Universities Space Research Association Huntsville; **Juan Camilo Buitrago-Casas**, Universidad Nacional de Colombia

1881114 *Exploring the evidence of Non-Maxwell Electron Distribution in MaGIXS-2 Data:* **R Villalta**, P S Athiray, B Mondal, A R Winebarger, G P Zank

1881306 *Feasibility of Multilayer X-Ray Mirrors for High-Energy Spectroscopy:* **A Hiens**, B Mondal, A R Winebarger, P S Athiray

1998023 *FIERCE: The Fundamentals of Impulsive Energy Release in the Corona Explorer:* **L Glesener**, A Y Shih, P Saint-Hilaire, J M Duncan, A Caspi, S Christe, A Pantazides, M Alaoui, J C Allred, W Baumgartner, S Bongiorno, J C Buitrago-Casas, B Chen, K Cooper, D W Curtis, J Dahlin, B R Dennis, J F Drake, S Gburek, K Goetz, L Golub, S E Guidoni, I G Hannah, L Hayes, A Inglis, J Ireland, G Kerr, J A Klimchuk, A Kobelski, S Krucker, D E McKenzie, C S Moore, S Musset, M Oka, J Reep, K Reeves, D Ryan, D B Seaton, P Singam, M Steslicki, M Stores, J T Vievering, T N Woods

1881018 *How Out of Field X-ray Sources Impact Slit-less Spectrograph Data:* **J Largett**, A R Winebarger, S A Panchapakesan, B Mondal

1984338 *How the Solar Transition Region Ultra Violet Explorer reveals the magnetic configuration of flaring active regions, CMEs, and erupting prominences:* **A de Wijn**

1996384 *Implementing a Remote Sensing Mission Through Adversity:* **C E DeForest**

1912508 *Laboratory Spectroscopy of Fe Ions: Supporting Next Generation Solar Missions:* **A Gall**, G Del Zanna, A Foster, H Staiger, Y Rivera, E DeLuca, A N Daw, N Brickhouse, E Takacs, R Smith

1924458 *An Overview of the Measuring Directivity to Determine Electron Anisotropy (MeDDEA) instrument on the PADRE CubeSat Observatory:* **S Christe**, K Gregory, N H Godbole, N Saghafi, T P Rosnack, E Peretz, O Limousin, A Meuris, D Renaud, A Caspi, A Vanel, L Hayes, D Ryan, N Jeffrey, J C Martinez Oliveros, H Allaire, S Krucker

1898113 *Analysis of Soft X-ray DAXSS Spectra During Quiescent and Flaring Times:* **B Schwab**, T N Woods

1979036 *Characterization of Lab-Based X-ray Source with a Commercial CMOS Detector:* **T Diesel**, C S Moore, J Hong, R Khan, R Bush, S Romaine, C Murphy

1916311 *Characterizing the Thermal Distribution of All Solar Active Regions Observed in Hard X-rays by NuSTAR:* **J M Duncan**, R Masek, L Glesener, W Barnes, K Reeves, I G Hannah

1974483 *Precision Tracking and Calibration of the SAO Johann-type X-Ray Crystal Spectrometer:* **L Brent**, A Gall, A Foster, C Murphy

1922071 *Preparing for the FOXSI-5 Launch: Timepix Detector Calibration and Results:* **A Tosolini**, J C Buitrago-Casas, S Perez Piel, J C Martinez Oliveros, A Tremsin

1971097 *Scintillation Detector Optimization for the IMPISH Hard X-ray Spectrometer:* **D Oseni**, L Glesener, W Setterberg, R Masek, L Clemmer, P Williams, J G Sample, A Caspi, D M Smith, D Gebre Egziabher, A Y Shih, P Saint-Hilaire

1923575 *SHOURA: An EUV Integral Field Spectrograph for High-Resolution, Rapid-Cadence Microscopy of the Sun:* **S Bahauddin**, P C Chamberlin, A R Jones, D Crotser, S J Bradshaw, N M Viall

1929322 *Spatio-temporal evolution of plasma heating in solar active region NOAA 12740 using Hinode slot observations:* **S Sharma**, P S Athiray, A R Winebarger, S K Tiwari, D Brooks

249007
Interior Dynamics to Surface Magnetism: Probing the Full Sun with Observations from the Sun-Earth Line Augmented with New Data from the Poles, the Far Side, and Other Vantage Points

Conveners: **Ruizhu Chen**, Stanford University; **Lisa Upton**, Southwest Research Institute Boulder

1995592 *Solar Cycle Variation of High Latitude Torsional Oscillations:* **A Moncello**, L Biji, S C Tripathy, K Jain

1908366 *Active Regions, Hemispheric Magnetic Asymmetry and Meridional Flows:* **P Rajaguru**, R Chen, A Sen, J Zhao, S Kholikov

1884536 *Continuous Magnetic Tracking of Active Regions Across Multiple Solar Rotations Using Near-Side and Far-Side Observations:* **R Chen**, J Zhao

1944433 *Estimating high resolution photospheric flows using an AI surface flux transport model:* **N Karna**, N Bonaventura, P Guzmán, K Keegan, S A Hess Webber, PhD, S Kasapis, B K Jha, A Yeates, A Muñoz-Jaramillo

2000666 *Far-Side Helioseismic Validation using Solar Observations from the Martian Surface.:* **K R Arjun**, R Basu Curt, S A Hess Webber, PhD

1924005 *FASTARR Meets SO/PHI: Solar Far-Side Butterflies and Validation of Active Region Predictions:* **A Hamada**, K Jain, H Strecker, C A Lindsey, D Orozco Suárez

1919073 *Flows and Radial Shear in the Upper Near-Surface Shear Layer of the Sun:* **M C Rabello-Soares**

1985669 *The FOXSI-4 Observation:* **K Cooper**, L Glesener, A Pantazides, Y Zhang, J Redepenning, J C Buitrago-Casas, S Krucker, S Perez Piel, T Ervin, O Romeo, H Kanniainen, S Nagasawa, J C Martinez Oliveros, A Tremsin, S Courtade, D Ryan, S A Panchapakesan, S Bongiorno, W Baumgartner, A Guillory, P R Champey, D Gurgew, J Ranganathan, J Mccracken, N Thomas, G Davis, S Christe, E Peretz, J Kolodziejczak, C Speegle, D Banks, P Singam, N Godbole, T Takahashi, T Minami, S Watanabe, T Sakao, N Narukage, Y Sato, R Shimizu, I Mitsuishi, K Sakuta, K Ampuku, R Fujii, Y Yoshida, S Musset, J T Vievering

1988393 *The IMPISH Hard X-ray Spectrometer: Mission Overview:* **W Setterberg**, L Glesener, R Masek, D Oseni, L Clemmer, P Williams, A Caspi, J G Sample, D M Smith

1976696 *The SHARP Instrument on the PADRE Mission:* **P Saint-Hilaire**, J C Buitrago-Casas, J C Martinez Oliveros, S Perez Piel, P Dunn, A Caspi

1920598 *Validating solar soft x-ray irradiance spectra with photoelectron measurements using MAVEN at Mars:* **E Thiemann**, S Xu, D Mitchell

1924414 *Hemispheric and Latitudinal Asymmetry in Mid-term Periodicity in Solar Oscillations - A Challenge to Solar Dynamo Models:* **K Jain**, S C Tripathy, P Chowdhury, M Dikpati

1957384 *Investigating Active Region Flows in the Near-Surface Layers of the Sun:* **L Biji**, S C Tripathy, K Jain, A A Pevtsov

1895667 *Investigation of the Mechanism of Solar Irradiance Variations Using Helioseismology Data:* **K Villamayor**, A G Kosovichev, J T Stefan

1865796 *Modeling the Solar Dynamics from the Equator to the Poles and Implications to Observations from Different Vintage Points:* **I Kitiashvili**, A G Kosovichev, A A Wray

1995766 *Probing the Depth Dependence of Inertial Waves in the Solar Interior:* **K Mandal**, A G Kosovichev

1978031 *Progress on COFFIES Science Goals and How It is Enabled by Cross-Disciplinary Research:* **J T Hoeksema**

1891478 *Simulating where and when new active regions would emerge by combining global observations, MHD model and PINN:* **M Dikpati**, S Chatterjee

1965938 *Solar Cycle Dependence of Global Subsurface Convection:* **J T Stefan**, A G Kosovichev, G Guerrero, A Stejko

1900858 *Study of Long-Term Evolution of Solar Activity Nests Using both Near- and Far-side Observations:* **J Zhao**

1899298 *The Possible Role of Near-Surface Convection Dynamics in Maintaining the Sun's Latitudinally-Uniform Photospheric Emissivity:* **K T Gebreegzabihar**, N A Featherstone, R Basu Curt

1865615 *The Sensitivity of Dynamo Models to the Choice of Sound-Proofing Approximation:* **A Alshaffi**, K Augustson, N A Featherstone

249647
Intermittent Structures and Wave Modes in Plasmas: From Turbulent Dynamics to Particle Transport *(joint with NG, P, SM)*

Conveners: **Lingling Zhao**, University of Chinese Academy of Sciences; **Gary Zank**, Center for Space Plasma and Aeronomic Research; **William Matthaeus**, University of Warwick; **Michael Starkey**, Southwest Research Institute; **Xingyu Zhu**, University of Alabama in Huntsville

1899354 *A Focused Transport Theory for Energetic Particle Interaction with Parallel Propagating Alfvén Waves in a Solar Wind Medium with Intermittent Quasi-2D Turbulence.:* **J A le Roux**, R K Shikha

1952517 *Analysis of Turbulence from the Solar Corona to the Earth's Orbit:* **S Ghimire**, L Adhikari, G P Zank, B Shrestha

1958968 *Characterizing Intermittent Turbulence in the Solar Wind Using PSP, SolO, and Wind Observations:* **J Wilson**, J Palacios, J C Perez

1914398 *Contribution of compressive coherent structures to the residual energy in the solar wind:* **G Callicotte**, X Zhu

1949579 *Electrostatic Solitary Waves: Can They Accelerate the Solar Wind?:* **C S Salem**, J W Bonnell, M Pulupa, T Chust, O Le Contel, A Jeandet, D Malaspina

1932502 *Energetic Proton Acceleration During the Interaction of an Interplanetary Shock and Current Sheet Structure:* **X Zhu**, L Yang, L Zhao, G P Zank, A Silwal, N Madam Subashchandar, C Hou

1890483 *Estimating the power carried by coherent structures in solar wind turbulence as seen by Solar Orbiter:* **S C Chapman**, A Bendt

1862155 *Evolution of Turbulent Fluctuations at an Interplanetary Shock Observed by Solar Orbiter and Wind:* **S P Gautam**, G P Zank

1900965 *Intermittency and Stochastic Heating in the Sub-Alfvénic Solar Wind & Corona:* **T Bowen**, T Ervin, A Mallet, B D G Chandran, N Sioulas, P A Isenberg, S D Bale, J Squire, O Pezzi, K G Klein

1900064 *Investigation of Solar Wind Compressible Fluctuations Using Inner Heliospheric In Situ Observations:* **T Slamecka**, L Zhao

1984593 *Kinetic Phase Space Coherent Structures Involving Quasi-stationary Electron Holes:* **N Pham**, W Sengupta, J Juno, N Cao, S Naik, U Banik, A Bhattacharjee

1988754 *Understanding the Variability of the Sun's Enigmatic Polar Fields:* **S Pal**, D Nandy

1935814 *Multi-Component Isotope Abundance SEP Acceleration Module Driven by Coupled 3D Fractal Current Turbulence and Hydrodynamic-Magnetodynamic-Kinetic MR Evolution:* **B Zhu**

1995581 *Non-Gaussianity of Electric Field Turbulence in Magnetotail Reconnection:* **T Vo**, R Ergun, A Chasapis, Y Qi, N Pathak, G Consolini, S Benella, D Belardinelli, T Bowen

1993359 *Observations of Alfven Waves within an Alfven Wing:* **S N Walker**, M A Balikhin

1978801 *Parametric evolution of Intermittency in Solar Wind Turbulence using Normal Inverse Gaussian PDFs:* **J C C Palacios**, J Wilson, S Bourouaine, J C Perez

1990241 *Radial evolution of current sheet properties in the solar wind:* **I Vasko**

1914057 *Solar Wind H+ and PUI H+ Heating Rates in the Outer Heliosphere:* **L Adhikari**, B Shrestha, G P Zank, A Giri, S Ghimire, B Wang

1930477 *Surface Waves Associated with Switchback Boundary Shears Observed by Parker Solar Probe:* **K E Choi**, O V Agapitov, N Bizien, T Dudok de Wit, L Colomban

1858458 *Survival of 2D Turbulence in the Local Interstellar Medium:* **M Nakanotani**, G P Zank

1921738 *Tempered Superdiffusive SEP Acceleration at a Quasi-Perpendicular Shock: Role of Intermittent Turbulence and Flux Ropes.:* **R K Shikha**, J A le Roux

1847231 *The Diffusion Coefficient of Energetic Particles in Non-Constant Mean Magnetic Fields: A Resolution of Past Discrepancies:* **B Klippenstein**, A Shalchi

1949983 *The generation of electromagnetic plasma waves near interplanetary shocks:* **L Zhao**, X Zhu, Z Jin

1914856 *The Parallel and Perpendicular Diffusion Coefficient of Energetic Charged Particles in the Inner Heliosphere from the Turbulent Magnetic fields Measured by Parker Solar Probe.:* **N Madam Subashchandar**, L Zhao, A Shalchi, G P Zank, J A le Roux, H Li, X Zhu, A Silwal, J G Alonso Guzmán

1955805 *Transport of Nearly Incompressible Turbulence in the Global Heliosphere:* **B van der Holst**, M Opher, L Adhikari, G P Zank

1874119 *Triple-Spacecraft Analysis of Interplanetary Shock Evolution and Coherence at L1:* **K Pelkum Donahue**, F Inceoglu

1931295 *Turbulence and Polytropic Changes Across Interplanetary Shocks Observed by PSP:* **Y Jiao**, L Zhao

251287
Monitoring and Forecasting Space and Terrestrial Weather with Ground-Based Measurements of Cosmic Rays *(joint with A, NG, SM)*

Conveners: **Viacheslav Sadykov**, Georgia State University; **Xlaochun He**, Organization Not Listed; **Nikola Veselinović**, Institute of Physics Belgrade; **Akeem Babatunde Rabiu**, National Space Research and Development Agency; **Enosh Herath Mudiyanselage**, Georgia State University

1927232 *Development of a Low-Cost, Temperature-compensated Readout System for Global Muon Detector Network:* **H A T Hettiarachchi**, X He, V M Sadykov, E Herath Mudiyanselage

1927168 *East–West Asymmetry in Muon Flux as a Probe of Geomagnetic Field Changes:* **E Herath Mudiyanselage**, X He, V M Sadykov, H A T Hettiarachchi

1953541 *Enhancing Radiation Exposure Prediction at Aviation Altitudes Using Machine Learning and Cosmic Ray Muon Measurements:* **S K C**, V M Sadykov, D Kempton, X He, E Herath Mudiyanselage, H A T Hettiarachchi

248586
Multiscale Description of Solar Wind Dynamics: Quasilinear Theory, Simulations, and Observations

Conveners: **Peter Yoon**, Kyung Hee Univ.; **Chadi Salem**, SSL, University of California Berkeley; **Shaaban Mohammed Shaaban**, Katholieke Universiteit Leuven; **Kristopher G Klein**, University of Arizona

1900971 *Applications of Quasilinear Theory in Spacecraft Observations of Collisionless Plasmas:* **T Bowen**, B D G Chandran, K G Klein, T Ervin, E Yerger, A Azari, S Bharati Das, A Mallet, J Squire, S Elbert, H Y H Qian

1862440 *Boundaries of the "Brazil Plots" for Solar Wind Protons, Core-and-halo Electrons, and Alpha Particles:* **P H Yoon**, C S Salem, K G Klein, S M S Hamd, M Martinovic, M Lazar, J Seough, R Lopez, M Sarfraz

1869229 *Characterizing Solar Wind Electrons with the Core-Strahlo (CS) Model: WIND-SWE-VEIS Observations:* **A V Eyelade, PhD**, B Zenteno-Quinteros, P S Moya, J Silva, B Urra, M Lazar, A Viñas

1891323 *Cyclotron Breaking and the Role of Parallel Ion Cyclotron Waves in Heating the Fast Solar Wind:* **E Yerger**, B D G Chandran, S D Bale, T Bowen, V David, J S Halekas

1947633 *gLOWCOST: Tracking Space and Terrestrial Weather with a Global Cosmic Ray Muon Detector Network:* **X He**

1978456 *On the characterization of the low latitude ionosphere within the African region using a cosmic ray detector within the gLOWCOST network:* **B Rabiu**, X He, A A Akerele, D I Okoh

1941973 *OTSOpy: Streamlining Geomagnetic Cut-Off Calculations with a Python Package:* **N Larsen**, A Mishev, C Davis

1962987 *Parameter-Space Investigation of Dendrochronological ^{14}C as a Premodern Solar Storm Proxy:* **A Robison**, R J Filwett, A E Hessl, L Dey, M S Carbone, M Walker

1963061 *Preliminary Analysis of Large Forbush Decreases in June 2025 Using Observations from the gLOWCOST Detector Network:* **H A T Hettiarachchi**, M Ranitović, A Janjić, D Jokovič, A Dragić, M Savić, N Veselinović, X He, V M Sadykov, E Herath Mudiyanselage

1851207 *Probing Interplanetary Space with the Global Muon Detector Network (GMDN):* **M Kozai**

1967716 *Space science meets hydrology: How heliospheric modulation of cosmic-ray neutrons is used to detect water:* **M Schrön**, L Hertle, D Rasche, F Riggi, O Pinazza, F Baird, B Heber, M Walter, D L McJannet, P Dietrich, S Zacharias

1854110 *How Secondary Population Drifts Regulate Low-Beta Solar Wind Stability:* **M Martinović**, K G Klein, J Verniero, Y , PhD, L Ofman, B L Alterman

1978086 *Impact of Alpha Particle Distributions on Wave Dynamics in the Inner Heliosphere:* **S Elbert**, T Bowen, H Y H Qian, S D Bale, D Verscharen, K G Klein

1986266 *Instability Constraints on Proton Beams in the Solar Wind: Theory Meets Observation:* **N Davis**, B D G Chandran, M Martinovic, B Alterman

1956044 *Kinematics and Evolution of Slow Solar Wind Originating From an Equatorial Coronal:* **M Asgari-Targhi**, K Fujiki

1868363 *Langmuir-Wave Excitation in Magnetic Holes: A New Multi-Scale Model Supported by Solar Orbiter Observations:* **J Liu**, D Verscharen, J Coburn, G Nicolaou, X Wu, W Jiang, O Pezzi, F Pucci, M Zuin, C J Owen, H Reid

1871562 *Modeling strong perpendicular anisotropies in proton beams in the young solar wind: linear and quasilinear approaches:* **S M S Hamd**, M Lazar, P H Yoon, R Lopez, S Poedts

1876776 *Modulation of Whistler-Mode Waves in Pristine Solar Wind:* **A Prasad**, W Li, Q Ma, A Artemyev, X Shen

1978239 *Proton Beam-Driven Wave Generation and Energy Dissipation in Solar Wind Turbulence:* **H Y H Qian**, T Bowen, C A Gonzalez, N Sioulas, K G Klein, S D Bale, S Elbert

1946494 *Statistics of the Interplanetary Magnetic Field from 0.1 to 30 au. Distribution Character and Dynamical Variability:* **J Zhao**, W Sun

248548
MULTISCALE processes in planetary, space and astrophysics: turbulence, magnetic reconnection, and shocks *(joint with NG, P, SA, SM)*

Conveners: **Yan Yang**, Tsinghua University; **Marc Swisdak**, University of Maryland College Park; **William Matthaeus**, University of Warwick; **Michael Shay**, University of Delaware

1885160 *Angular Dependence of Third-Order Law in Forced Anisotropic MHD Turbulence:* **Y Yang**, B Jiang, C Li, W H Matthaeus, S Oughton, M Wan

1964936 *Characterizing Dissipation Scale Solar Wind Turbulence at 1 AU Using Correlation Functions.:* **A Angeles**, H E Spence, C W Smith, B J Vasquez, I Cohen, K J Genestreti, R M Skoug, S Raptis, C Gabrielse, D J Gershman, D Fischer, C T Russell, J L Burch, R B Torbert, W Magnes

1892857 *Comparing the instantaneous energy transfer rates of plasmoid/flux rope and reconnection magnetic topologies in solar wind turbulence as seen by Cluster:* **S C Chapman**, B Hnat, N W Watkins, C Liptrott

1880578 *Correlation Scale Turbulence as the Driver of Magnetic Reconnection:* **M B Khan**, M A Shay, S Oughton, S Adhikari, PhD, C C Haggerty, R Bandyopadhyay, W H Matthaeus, D O'Donnell, S Fordin, Y Yang, S Roy, J E Stawarz, P Cassak, F Pecora, T Phan

1894397 *Current Sheet Formation under Radiative Cooling:* **S Chowdhry**, N Loureiro

1929867 *Dependence of local energy fluxes on flow invariants in plasma turbulence:* **S Roy**, R Bandyopadhyay, Y Yang, W H Matthaeus

1873042 *Direct observations of magnetic energy cascade in the magnetosheath via ion-scale waves, current sheets and kinetic Alfven waves:* **S Wang**, Y Z Tang, X Z Zhou, J He, Q Zong, S Xu, L Dai, J Li

1991461 *Energy Conversion in the Electron Diffusion Region (EDR) of Magnetic Reconnection Using Kinetic and Relative Entropy:* **H Karimi**, M R Argall, M H H Barbhuiya, PhD, J R Shuster, P Cassak, H Liang

1982887 *Universal power-law distribution functions in an electromagnetic kinetic plasma: implications for the inverted temperature profile in the solar corona:* **U Banik**, A Bhattacharjee

1927065 *Energy Dissipation Statistics Associated with Turbulent Reconnection:* **J Goodwill**, S Adhikari, PhD, Y Yang, F Guo, W H Matthaeus

1888212 *Exploring Magnetic Island Morphology through 2D MHD and Synthetic Fields:* **R Pradata**, W H Matthaeus, M B Khan, F Pecora, S Roy, S Adhikari, PhD

1872317 *Interdisciplinary Cognitive-Based Emulation Model Baseline for an Individual Grand Unification Model, Recursive Field Evolution and Emergent Gravity:* **M Newell**

1887176 *Interplanetary magnetic correlation and low-frequency spectrum over many solar rotations:* **J Wang**, F Pecora, R Chhiber, S Roy, W H Matthaeus

1998402 *Investigating the dynamics of structures in collisionless space plasmas through gradient tensor geometric invariants in Hall-MHD simulations of plasma turbulence:* **S Benella**, V Quattrociocchi, G Consolini, E Papini, O Pezzi, L Sorriso-Valvo, C Vasconez

1930109 *Linking Macroscopic Turbulence Properties to Associated Reconnection Heating:* **M A Shay**, M B Khan, S Oughton, W H Matthaeus, C C Haggerty, S Adhikari, PhD, J E Stawarz, T Phan, P Cassak, Y Yang, R Bandyopadhyay

1981589 *Magnetization of Large Lunar Basin Antipodes from Impact Plasmas:* **A Anand**, J Carroll-Nellenback, E Blackman, J Tarduno

1915642 *Markovian Universality and Local Asymmetry of Turbulent Cascades in Earth's Magnetosphere: Multiscale MMS Study:* **W M Macek**, D Wójcik, MSc

1980635 *MMS Observations of Low-Latitude Dayside Reconnection Under Predominantly Northward IMF:* **A Marshall**, K J Genestreti, J Beedle, J R Shuster, S Heuer, P H Reiff, J Webster, J L Burch, L Rastaetter, R B Torbert, D J Gershman, R Ergun

1867779 *Observations of >MeV particles observed at a weak interplanetary shock by Parker Solar Probe:* **L B Wilson III**, J G Mitchell, A Szabo, I C Jeba Raj, M L Stevens, D Malaspina, G Berland, A Kouloumvakos, S Bale, R Livi, J S Halekas, C Cohen

1965074 *Properties of Current Sheets in 2D Tearing-Mediated MHD Turbulence:* **C Shi**, M C M Velli, N Sioulas, Z Zhang

1911186 *Quantifying Energy Conversion in Coalescing Magnetic Islands using the Pressure-Strain Interaction:* **T Olszanski**, M H H Barbhuiya, PhD, P Cassak, M A Shay, A Chasapis, H

1900642 *Scale Filtering Technique to Quantify Collisional Behavior in Collisionless Plasma:* **S Adhikari, PhD**, C A Gonzalez, Y Yang, S Oughton, F Pecora, R Bandyopadhyay, W H Matthaeus

1914796 *Statistics of Local Averaged Dissipation Rate in Plasma Turbulence:* **Z Cheng**, Y Yang, W H Matthaeus, S Adhikari, PhD

1952281 *Turbulence in the terrestrial magnetosheath: space-time correlation using the Magnetospheric Multiscale mission:* **F Pecora**, W H Matthaeus, A Greco, P Dmitruk, Y Yang, V Carbone, S Servidio

250340
Observations and modeling of turbulence in the solar photosphere, chromosphere,and low corona *(joint with NG)*

Conveners: **Rohit Chhiber**, University of Delaware; **Mahboubeh Asgari-Targhi**, Harvard-Smithsonian Center for Astrophysics; **Takeru Suzuki**, University of Tokyo; **William Matthaeus**, University of Warwick; **Rahul Sharma**, Northumbria University

1887623 *Chromospheric Turbulence as a Potential Regulator of Solar and Stellar Wind Mass Flux:* **M Shoda**

1865828 *Dynamical Coupling from the Photosphere to Corona and Implications to Coronal Heating and Solar-Wind Switchbacks:* **I Kitiashvili**, A A Wray, J T Karpen

1939823 *Insights into the Origin of Turbulence and Plasma Instabilities in the Solar Corona from Total Solar Eclipse Observations:* **S R Habbal**, Z Bailey, R Bandyopadhyay, S Begum Shaik, M Druckmuller, N Alzate, S Di Matteo, S Constantinou

252604
Prediction of Solar Transient Events: Data-Driven, Physics-Based, and Hybrid Approaches

Conveners: **Talwinder Singh**, Georgia State University; **Berkay Aydin**, Georgia State University; **Viacheslav Sadykov**, Georgia State University; **Sahanaj Banu**, University of New Hampshire

1984386 *A Self-Trained Deep-Learning Methodology for Automated Solar Filament Detection and Dataset Generation:* **R Goldberg**, D Schmit, F Moshary, Y Tian

2002408 *Unravelling the link between turbulence, intermittency, and dissipation in the terrestrial magnetosheath:* **A Chasapis**, R Ergun, Y Qi, N Ahmadi, V D Wilder, N Pathak, T Vo, T Bowen, F Pecora, V Montagud-Camps, L Sorriso-Valvo, S Roy, R Chhiber, I Svenningsson, E Yordanova, O Pezzi, J E Stawarz, A Retino, O Le Contel, M Baraka, S J Schwartz, J L Burch

1962365 *Velocity-space Turbulent Cascade in the near-Sun Solar Wind: First Insights from the Parker Solar Probe Mission:* **A Larosa**, O Pezzi, T Bowen, L Sorriso-Valvo, N Sioulas, D Trotta, A Chasapis, R Livi, J Verniero, S B Das, F Pucci, D Perrone, F Valentini, S Servidio

2002437 *Modeling Coronal Loop Heating: Insights from Reduced Magnetohydrodynamic and Phenomenological Approaches:* **M S Yalim**, G P Zank, M Asgari-Targhi

1887204 *Modeling Solar Disk Gamma-Ray Emission in Multi-Scale Magnetic Fields:* **J T Li**, M Asgari-Targhi, J Beacom, A Peter

1851093 *On the Spatial Correlations of Magnetic Turbulence in the Solar Photosphere:* **R Chhiber**, R Attie, W H Matthaeus, B J Thompson

1969024 *Quantifying Turbulence Captured in the Inner Corona in White-Light Total Solar Eclipse Images:* **Z Bailey**, S R Habbal, R Bandyopadhyay, S Begum Shaik

1966213 *Statistical Injection of Condensed Helicity (STITCH) Model Revisited:* **I Sokolov**, S K Antiochos, X Liu, T I Gombosi

1957141 *The Asymmetric Gamma-Ray Emission from the Quiet Solar Disk Observed with Fermi LAT:* **E Orlando**, B Arsioli

1938461 *The Importance of Communities of Magnetic Vortices in the Solar Atmosphere:* **L McClure**, S Silva, G Verth, I Ballai, V Fedun

1882806 *Accounting for uncertainties in CME parameters at Earth through data-informed global MHD ensemble simulations:* **E Provornikova**, V G Merkin, E Winter, J Garretson, E Paouris, C Kay, A Vourlidas, C N Arge

1927547 *An AI-powered Surface Flux Transport model to measure high-resolution velocity fields and forecast magnetic flux emergence:* **S A Hess Webber, PhD**, N Bonaventura, N Karna, S Kasapis, P Guzmán, A Muñoz-Jaramillo, K Keegan, B K Jha, A Yeates

1950717 *Comparison of Time-dependent Boundary-driven Heliospheric MHD models:* **T Baratashvili**, R M Caplan, E Samara, T Singh

1914985 *Data-Based MHD Simulation of a Flare Eruption in AR 13663 Associated with a tilted CME:* **N Liu**, S Inoue, J Jing, K Hayashi, H Wang

1983182 *Determining the Source Origin, Magnetic Connectivity, and Propagation Time of Solar Wind Streams Observed at Earth with Time-Reversed Magnetohydrodynamic Simulations:* **C Rowell**

1928485 *Enhancing Explainability in Solar Energetic Particle Event Prediction: A Counterfactual and Feature Mapping Approach:* **A Ji**, P Patil, C Pandey, M K Georgoulis, B Aydin

1934031 *Evaluating the Effectiveness of Active Region/Polarity Inversion Line Segmentation with Heliophysics Foundation Models:* **J Hong**, C Pandey, K Yang, V M Sadykov, V Gaur, R Lal, J Schmude, A Muñoz-Jaramillo, S Roy, T Singh, B Aydin, R Ramachandran

1916716 *Explaining Solar Flare Predictions with Post Hoc Attribution and Physical Feature Relevance:* **C Pandey**, J Hong, A Ji, M K Georgoulis, B Aydin

1866017 *Flare Clustering in Solar Magnetic Activity Cycles:* **J Johnson**, E A Ccopa Rivera, J Homan, S Wing

1986898 *Improving CME Arrival Time Predictions Using MHD Ensemble Modeling, Machine Learning, and HI Data:* **S Raza**, T Singh, N V Pogorelov

1960949 *Machine Learning Aided Predictions of Magnetic Flux and Continuum Intensity During the Emergence of Active Regions:* **J Tirona**, S Patil, E Dogan, S Kasapis, I Kitiashvili, M Xu, A G Kosovichev

252768
Radio Observations of Plasma Dynamics from Sun to Earth *(joint with SA, SM)*

Conveners: **Lindsay Goodwin**, New Jersey Institute of Technology; **Peijin Zhang**, New Jersey Institute of Technology; **Anshu Kumari**, NASA Goddard Space Flight Center; **Jason Kooi**, Naval Research Laboratory; **Anshu Kumari**, NASA Goddard Space Flight Center

1982608 *Advancing Ionospheric Monitoring in the High Latitudes: Low-Elevation Wideband GNSS TEC Retrievals using Receiver Hardware Bias Correction:* **M Evans**, B Breitsch, J Morton

1961602 *An Introduction to Radio Observations from the Sun to 1 AU:* **T Bastian**

1905282 *ARUN-SSW: A New Upcoming Solar Radio Imaging Facility at Udaipur, India for High-Cadence Observations of the Chromosphere and Corona:* **A Kumari**

1967791 *Detecting Solar Type III Radio Bursts with Machine Learning:* **P Y Wang**, P Zhang, A Kuske, B Chen, M Xu

1953207 *Dynamic Scheduling of Radio Astronomical Observations Based on Proxies for Ionospheric Calibration Phase Solutions:* **K Beser**, M Mevius, A Wood, G W Perry

1956877 *Machine Learning-Driven Solar Flare Nowcasting for the 2026 Sounding Rocket Campaign:* **M S Peterson**, M Choquette, L Glesener, J C Buitrago-Casas, J T Vievering, A Lizeth Lopez Rodriguez, J Haupt

1877905 *Operational Solar Flare Forecasting in Japan Using the Physics-Based κ-Scheme:* **Y Bamba**, D Shiota, K Kusano

1946121 *Quantifying Uncertainty in Solar Wind and CME Forecasts: Recent Progress and Future Directions:* **P Riley**, M Ben-Nun, R M Caplan, J Linker

1955922 *Radiant yet Restricted: Investigating the Confinement of Solar Flares:* **L Shipley**, T Gou, K Reeves, C Murphy

1901815 *The Next Level in AI/ML Forecasting of Solar Transient Events:* **M K Georgoulis**, A Ahmadzadeh, A Ji, C Pandey, S Rotti, D Kempton, R Angryk, B Aydin

1914274 *The Role of Flare Ribbon and 3D Magnetic Field Topology in Flare Eruptivity:* **T Saba**, V M Sadykov, G Goodwin, P Martens

1981255 *Uncertainty Quantification for Solar Flare Intensity Forecasting:* **J Hong**, C Pandey, B Aydin

1870695 *Variation in CME Structures and Shock-Sheath Characteristics Across ±35° from the Sun–Earth Line: Insights from STEREO-A and L1:* **S Banu**, N Lugaz, B Zhuang, N A Al-Haddad, C J Farrugia, A B Galvin

1970171 *Visualization Guidance In Solar Flare Prediction: Multi-Temporal AnalysisApproach For Machine Learning Hyperparameter Selection:* **P Trital**, T S Newman, N V Pogorelov

1917243 *Dynamics of the D-region Uncovered During the First Year of AVID:* **J Cannon**, R A Marshall

1985385 *Electrifying science with ground-based Incoherent Scatter Radars:* **A Bhatt**, L J Lamarche, J Vierinen, P M Reyes

1934648 *Ham Radio Investigations of Ionospheric Changes During the April 2024 Total Solar Eclipse:* **K Pandey**, G W Perry, N A Frissell, T Atkison, W Engelke, J D Huba, M L West, P Gladstone, G Griffiths, C Cushing, M Denton, E Efchak, G Mikitin, H W Silver

1996927 *High-dimensional Deterministic Chaos in the Spiky Radio Emission Associated with October 28, 2003, Solar Event:* **M Alvarez**, A Mendez

2002398 *Impacts of Space Weather on High Frequency Radio Wave Propagation in the Polar Regions:* **T Duran**, J Derr, C A Jeffery

1883988 *Machine Learning for Radio Imaging Spectroscopy: From Deconvolution to Spectral Fitting:* **Y Wei**, B Chen, S Yu

1913112 *Magnetic field structure diagnostics via anisotropic radio-wave scattering:* **E Kontar**, D Clarkson, N Chrysaphi, G Emslie, N Jeffrey, V Krupar, A Vecchio

1911276 *Owens Valley Solar Arrays: Status Update and New Data Release:* **B Chen**, D E Gary, S Yu, S Mondal, P Zhang, Y Wei, G M Nita, O Giersch, C Selhorst, X Chen, J Flygare, P Saint-Hilaire, G Hallinan

1950645 *Plasma Drift Velocity Estimation Algorithm for Ionosonde Application:* **O Koloskov**, A Kascheyev, P T Jayachandran

1956101 *Solar Microwave Spectra Observations with the Yokosuka Radio Polarimeter (YoRP):* **K Watanabe**, S Kitajima, R Okubo, M Shimojo, K Kitayama, K Iwai, S Masuda

251977
Radio Solar and Heliospheric Observations, Instruments, and Modelling for Space Weather Research, Applications, and Forecasting

(cosponsored by AAS: American Astronomical Society,AOGS: Asia Oceania Geosciences Society,JpGU: Japan Geoscience Union,EGU: European Geosciences Union) *(joint with NH, P, SA, SM)*

Conveners: **Bernard Jackson**, University of California, San Diego; **Mario Bisi**, STFC Rutherford Appleton Laboratory

1979751 *A Time-of-Arrival Technique to Estimate the Source of a Solar Radio Burst:* **J Kirkey**, J Hendrickson, S Roman-Ramirez, M Akhavan-Tafti, J E Kooi, B Hicks, T Clarke

1937652 *An Interplanetary Scintillation Kp Forecast Five Days in Advance Derived from 3-D Velocity, Density, and Solar Surface Extrapolated GSM Component Fields:* **B V Jackson**, A Buffington, K Iwai, M M Bisi

249059
Revealing the structure of the corona and the young solar wind: new imaging capabilities

(joint with P, SA, SM)

Conveners: **Dimitrios Vassiliadis**, INNOVIM; **Craig DeForest**, Southwest Research Institute Boulder; **Sarah Gibson**, National Center for Atmospheric Research; **Nathan Miles**, University of California Los Angeles

1972038 *Background Subtraction in PUNCH Images:* **S Van Kooten**, J M Hughes, C Lowder, R Patel, D B Seaton, C DeForest, M West

1947317 *Solar SMA: A New Solar Surveyor of the Sun:* **M P Miralles**, G Keating, K Reeves, C A Madsen, M A Gurwell

1951934 *Space Weather Ionospheric Network Canada:* **C Watson V**, P T Jayachandran, A Kashcheyev, D Themens, R B Langley, A M McCaffrey, K Meziane, A M Hamza, O Koloskov, R Chadwick, P Trottier

1981547 *Statistics of circularly polarized Type III storms:* **M Pulupa**, S D Bale, I C Jeba Raj, S Krucker, O Romeo

1993092 *The PLAsmaspheric radio TOmography (PLATO) Mission Concept:* **S Thaller**, W Frank, L Andersson, D Malaspina, R Ergun

1856320 *Estimating Solar Wind Speeds Using Doppler Broadening: Results from MOM and Akatsuki:* **K Aggarwal**, R K Choudhary, A Datta

1981721 *Kilometric Type II Radio Bursts and Interplanetary Shocks: A Complete Survey:* **F Manini**, H Cremades, F López, T Nieves-Chinchilla

1863582 *Next-Generation IPS Observations for 3D Solar Wind Monitoring and Space Weather Prediction:* **K Iwai**, K Fujiki

1999391 *Predicting Full-Disk Solar F10.7 Images with a Deep Learning Method:* **M Wang**, H Jiang, S Yu, B Chen, P Zhang, J T L Wang

1981239 *Radio Investigations for Space Environment Research (RISER): Progress and Plans Two Year In...:* **M M Bisi**, B Forte, S E Milan, D Jackson, R Fallows, B V Jackson, D Odstrcil, E Henley, O Chang, D Barnes, M Bracamontes, S Gonzi, P Kinsler

1963733 *Real-time Solar and Heliospheric Diagnostics with the Owens Valley Radio Observatory Long Wavelength Array:* **P Zhang**, B Chen, S Mondal, D E Gary

2001242 *Validating MHD Simulations of CMEs Using IPS Observations:* **N Nitta**, M Jin, K Iwai, D Shiota

1966281 *CATE 2024: Novel one-hour continuous observations of polarized structure and dynamics of the inner and middle corona during the 2024 total solar eclipse:* **D B Seaton**, A Caspi, S Kovac, P Bryans, J Burkepile, S Davis, C DeForest, D F Elmore, S Gusain, R Haacker, J M Hughes, J Jackiewicz, D A Lamb, V Martinez-Pillet, R Patel, K Reardon, W Reed, A Tosolini, A Ursache, J K Williams, P A Yanamandra-Fisher, D W Zietlow

1949978 *CIRs in the Age of PUNCH:* **C de Koning**, D Odstrcil, S E Gibson, C DeForest

1858255 *Forward Modeling Techniques Applied to the New Generation Coronagraphs:* **A F Thernisien**, R C Colaninno, P Hess, E Nikou, L Balmaceda, N Kuroda, D H Chua

1931417 *Global MHD Modelling to Support the Next Generation of White-Light Imagers:* **E Palmerio**, C Downs, R M Caplan, R Lionello, J Linker

1993513 *Improvement of the CME Forecasting by PUNCH Heliospheric Imagery:* **D Odstrcil**, C de Koning, J Zhang, J A Davies, S Gonzi, V Pizzo, E T Adamson, A Chulaki, M L Mays

2003604 *Inferring the Coronal Magnetic Field from UCoMP and DKIST/Cryo-NIRSP.:* **M Kramar**, H Lin, S Tomczyk

1996336 *Initial Results from the PUNCH Mission:* **C E DeForest**, S E Gibson, R Killough, M Beasley, R C Colaninno, G T Laurent, M Hughes, N M Viall, M Guhathakurta, B J Thompson, R Attie, S R Cranmer, R Chhiber, D F Webb, A V Malanushenko, C de Koning, M Desai, H A Elliott

1856284 *Leveraging an Alignment of PUNCH, CODEX and Metis to Reveal the Outflow and Acceleration of the Solar Wind:* **N M Viall**, J S Newmark, C E DeForest, S Fineschi, S E Gibson, M Romoli, M Casti, A Liberatore, R Attie, J M Hughes, R C Colaninno, G T Laurent, N L Reginald, S C Bong, Y H Kim, G Capobianco, H Haudemand, D Song, S H Park, K Cho, S Choi, Q Gong, J Park, J Kim, H Yang, F Landini, D Loreggia, L Zangrilli, L Abbo

1999667 *Modeling and Measurement of the Coronal Electron Temperature:* **S Bruce**, K Reardon

1967008 *Multi-spectral Images of the Infrared Corona taken from NASA's WB-57 Aircraft during the 2024 Total Solar Eclipse: A First Look:* **W Ashfield**, A Caspi, D Seaton, M West, C Scott, M Boyda, P Bryans, T Casey, R Conn, D Darrow, C DeForest, E DeLuca, C Downs, S Kovac, H J Kim, T Parent, J Samra, A Tosolini

1962687 *Overview and Status of the Space Weather Coronagraph (SwSCOR):* **N Erickson**, C DeForest, M Beasley, S Osterman, T Smith, R Killough, G T Laurent, R Nolan, K Sacca, T Veach, J M Hughes, R Klar

1958482 *Partitioning Photons in CCOR-1 Data: Coronal Mass Ejections and Everything Else:* **D Schmit**, G Dima, V Salinas, C Bethge

1913472 *Polarimeter to Unify the Corona and Heliosphere (PUNCH) Science Operations Center (SOC) Data Products and Software:* **J M Hughes**, S Van Kooten, D A Lamb, C Lowder, R Patel, D B Seaton, C DeForest

1984494 *PUNCH flow data applied to SynCOM simulated images:* **V Moraes Filho**, V Uritsky, B J Thompson, S E Gibson, N M Viall, C E DeForest

1873222 *PUNCH Science:* **S E Gibson**, C DeForest, B J Thompson, N M Viall, R Attie, S R Cranmer, R Chhiber, A V Malanushenko, D F Webb, C de Koning, H A Elliott, M I Desai

1931333 *PUNCHing Through the Heliosphere with Polarized Light:* **R Patel**, J M Hughes, M J West, C Lowder, D B Seaton, S Van Kooten, C DeForest

1876993 *Reconstruction of Mesoscale Solar Wind Structures in Shear-Driven Turbulence:* **Y Yang**, F Pecora, R Chhiber, S E Gibson, N M Viall, C DeForest, W H Matthaeus

1985135 *Solar Coronal Science and Space Weather Observations at the NCAR/HAO Mauna Loa Solar Observatory:* **T E Berger**, J Burkepile, S E Gibson, G de Toma, A de Wijn, M D Galloy, B Berkey, S Farid

1952324 *SPICE kernels and Orbital Opportunities for Coordinated Science with CCOR-1:* **L Balmaceda**, A Thernisien, N Kuroda, N Rich

1906553 *The ASPIICS Coronagraph Aboard the PROBA-3 Mission: First Results:* **A Zhukov**

1922735 *The Coronal Diagnostic EXperiment (CODEX): Data Products:* **J S Newmark**, M Casti, N M Viall, Y H Kim, S Fineschi, L Abbo, J Baek, S C Bong, V Caracci, G Capobianco, K Cho, S Choi, Q Gong, H Haudemand, J Kim, F Landini, D Loreggia, J Park, S H Park, N Reginald, D Song, R Susino, H Yang, L Zangrilli

1922846 *The Electron Temperature Inferred with Fe X, Fe XI and Fe XIV Emission Throughout the Middle Corona From the 2023 Australian Total Solar Eclipse:* **B Boe**, S R Habbal, C Downs, M Druckmuller

1987542 *The Sun's Corona has a Memory which allows for Predictions of Heliospheric Activity:* **S Pal**, S Das, S Hazra, D Nandy

1968508 *Time-Dependent 3-D Reconstructions Providing Brightness and Polarization Brightness Analyses From PUNCH Coordinated with Interplanetary Scintillation Data:* **B V Jackson**, A Buffington, K Iwai, K Fujiki, M M Bisi, J A Davies, R Fallows, D Barnes, O Chang, D F Webb

1983181 *Tracking a Halo CME across one Astronomical Unit with PUNCH:* **K Russell**, C DeForest, S Van Kooten, J M Hughes

1962875 *Tracking the Multiscale Solar Wind Evolution with PUNCH Flow Maps for Heliophysics Research and Space Weather Preparedness:* **R Attie**, V Moraes Filho, N M Viall, B J Thompson, V Uritsky, C DeForest, J M Hughes, C Lowder, H A Elliott, M Dayeh, S E Gibson, C S Salem, A Vourlidas, E Samara

1959055 *Understanding how Coronal Heating Affects Global Properties of the Low and Middle Corona:* **C Evans**, C Downs, D Schmit

1926321 *Visualizing the Solar Corona in 3D Using PUNCH:* **J Vogel**, A V Malanushenko, C DeForest, E Provornikova, R Patel

1908292 *What Space Weather Quantities Can Be Accurately Forecasted Using Coronal and Heliospheric Imaging?:* **H A Elliott**, C DeForest, M Dayeh, R Attie, M J Starkey, M Desai

251323
SOHO: Thirty Years of Solar and Heliospheric Science

Conveners: **Jack Ireland**, ADNET Systems Inc. Greenbelt; **Daniel Muller**, European Space Agency; **Anik De Groof**, European Space Agency; **Pål Brekke**, Norwegian Space Agency; **Laura Rodriguez Garcia**, European Space Agency / ESAC

1894157 *Helioseismic Observations of Three Solar Cycles Inside the Sun from SOHO/MDI and SDO/HMI:* **A G Kosovichev**, K Mandal, A Getling, S Korzennik, V Pipin

1862059 *SOHO at 30: A Living Legacy in the Age of Space Weather:* **M Guhathakurta**

246835
Solar and Heliospheric Physics: General Contributions

Conveners: **Hazel Bain**, CU/CIRES NOAA/SWPC; **Hazel Bain**, CU/CIRES NOAA/SWPC; **Scott England**, Virginia Tech; **Weichao Tu**, West Virginia University; **Eduardo Perez Macho**, INPE National Institute for Space Research

2000579 *A CME Deflection and its relation to a Complex Interaction between Magnetic Cloud (MC) and Co-rotating Interaction Region (CIR) occurred on 16 November 2007.:* **A A A Mohamed**

1880518 *Are Coronal EUV "Dark Jets" the same as "Inconspicuous Jets" in the Solar Atmosphere?:* **U Listiak**, A C Sterling, N K Panesar, R L Moore

1948255 *Assessing the impact of the photospheric magnetic field data, flux transport model and coronal magnetic field extrapolations on Solar Spectral Irradiance modelling:* **J Rodríguez Gómez**, L Balmaceda, A Farrish, C N Arge

1875216 *Calculation of arrival times of toroidal magnetic clouds:* **E Romashets**, M Vandas

1960272 *Coronal Magnetic Field Topology, Geometry, and Solar Wind Acceleration:* **C Lowder**, R Scott, C R Gilly, PhD, C DeForest

2000772 *Evaluating the GOES-R SUVI On-Orbit Performance:* **J Darnel**, C Bethge, D Schmit

1897628 *Evidence of Mostly Steady Heating of the Cooler Coronal Plasma in a Solar Active Region:* **N Pifer**, S K Tiwari, N Panesar, R L Moore

1951542 *Examining time-dependent heliospheric solar wind properties driven by evolving WSA boundaries:* **C H K Chen**, C Sishtla, J Pomoell, L Barnard

1886433 *SOHO/LASCO Wide Coronal Outflows and Pseudostreamers:* **O Panasenco**, M C M Velli

1908781 *The Contribution of SOHO/LASCO to Space Weather Research and Operations:* **R A Howard**, A Vourlidas, G A Stenborg, K Battams

1869438 *The LASCO Top-10 Science Hit List:* **A Vourlidas**, R A Howard, G A Stenborg, K Battams, N Rich

1976925 *The Michelson Doppler Imager at 30 – It Wasn't Only Doppler and Images:* **J T Hoeksema**, P Scherrer

1910155 *The Unprecedented Success of SOHO/LASCO:* **K Battams**, R A Howard, K Victor-French, A Gutarra-Leon, G A Stenborg, A Vourlidas

1872158 *Thirty years of Unveiling the Solar Corona: The enduring Contribution of SOHO/LASCO-C2:* **P Lamy**, A Llebaria

1966288 *Flow Signatures of Emerging Active Regions in the Bulk of the Convection Zone:* **J T Stefan**, A G Kosovichev

1967138 *Forecasting GOES EUVS Solar Irradiances with ADAPT/SIFT:* **L Wood**, S Schonfeld, C J Henney

1893888 *Full-disk H-α Spectroheliograph development for GONG: Preliminary results:* **S Gusain**, A A Pevtsov, G Card, T Purdy, C Keller

2003305 *Investigating Cowling Heating in an Enhanced Network Region Using Bifrost Simulation Data:* **M S Yalim**, C Beck, S K Tiwari, D P Choudhary, S Gusain

1961279 *ISTP Metadata Guidelines for Heliophysics Datasets: Current Status and Future Development:* **A Koval**, R Candey, L Jian, T J Kovalick, S Fooks, B T Harris, E W Grimes, A A Cruz

1930023 *Magnetic Fingerprints of Chromospheric Jets and Their Role in Flare Onset: High-Cadence Spectropolarimetry from DST:* **J Shetye**

1925794 *Mapping the Leptocline: A New Perspective on Solar Rotation and Convection:* **A G Kosovichev**, K Villamayor, I Kitiashvili

1855995 *Mass Vortex Theory: A Radical New Solar Structure:* **S Seaver**

1962813 *Melding Vector and Line-of-Sight Magnetogram Data for Assimilation into Surface Flux Transport Models:* **J Turtle**, C Downs, J Linker, R M Caplan

1868322 *Modeling-Based Diagnostics of Propagating High-Frequency Acoustic Waves in the LowerSolar Atmosphere:* **J Hamilton**, V M Sadykov, I Kitiashvili, A A Wray

1951968 *Observation Requirements for NOAA's Space Weather Next Program:* **E Lynch**, I Azeem, Y M Collado-Vega

1985305 *Optimizing the Parameters of the WSA Model Using Particle Filtering:* **G Pinto**, D da Silva, S I Jones-Mecholsky, C N Arge

1983614 *Preflight Performance of the SupraThermal Ion Sensor (STIS) on the Space Weather Follow On-Lagrange 1 (SWFO-L1) Mission:* **A Rahmati**, D E Larson, R Jolitz, C Abono, M Ludlam, M Robinson, R Ortiz-Soto, J Chen, K Hatch, T Mercer, H Brunner, G Dalton, O Romeo, N Montalvo, T Quinn, G Martin, C Scholz, P Dunn, A L Butterworth, C S Merrow, J Rodriguez, N D Miles, J Johnson, D Vassiliadis

1978987 *Progress on MEGA-H: An Ultra-Wide-Field Camera for Heliophysics Applications:* **J Eskin**, A Caspi, C DeForest, P Oakley, J Lage, B Brown, T Finch, J Frye, J Sharma, R Speck, P Spuhler, R Turner

2002748 *Quantitative Image-Based Validation Framework for Assessing Global Coronal Magnetic Field Models:* **C Rura**, V Uritsky, S I Jones, C Downs, N Alzate, C N Arge

1961298 *Reconstructions of Global 3D Coronal Electron Density over Solar Cycle 24 by Improved Tomography from Multi-viewing Coronagraphs:* **T Wang**, S I Jones, C N Arge

1995564 *Recurrent Jets in Active Regions: New Perspectives from Magnetic Flux Dynamics:* **A Monga**, S Inoue, J Lee, H Wang, V H Hansteen

1877366 *Scale-Dependent Active Longitudes of Photospheric Magnetic Concentrations and Their Implications for Solar Dynamo Mechanisms:* **A Song**, Y Wang, Q Zhang, J Liu, R Erdelyi, M Korsos

1960129 *SDAC Watch: Enhancing Data Quality Monitoring for Multi-Mission Solar and Helio physics Observations:* **R Prasai**, A Batchelor, M R Despres, J L Spencer, J Ireland

1932319 *Small-Scale Structure in Coronal Holes and Adjacent Quiet-Sun Regions:* **A C Cadavid**, J Manzo, V Desai, M P Miralles

1900729 *Solar Orbiter/EUI and IRIS Observations of Fine-Scale Brightenings:* **E Ernsberger**, N Panesar, S K Tiwari, A C Sterling, R L Moore, A Weitz

1953321 *Solar Sources associated with G4-level Geomagnetic Storms:* **S Kim**

1983499 *Statistical Analyses of Aviation Radiation Dose During the Top Ten Historical SEP Radiation Storms:* **D B Phoenix**, C J Mertens, G Gronoff

249612
Solar Energetic Particles in the Inner Heliosphere and Beyond

Conveners: **Samuel Hart**, University of Texas at San Antonio; **Athanasios Kouloumvakos**, Institut de Recherche en Astrophysique et Planétologie (IRAP); **Rachael Filwett**, University of Texas at San Antonio; **Lulu Zhao**, University of Michigan Ann Arbor; **Gabriel Muro**, Caltech

2004097 *Statistical and Case Studies of Geomagnetic Disturbances Induced by Magnetic Clouds and non-Magnetic clouds During Solar Cycles 23 and 24.:* **A A A Mohamed**, E Amin, M Semeida

1863207 *Statistical Features of Non-Parker Spiral Interplanetary Magnetic Field Configurations Observed in Near-Earth Space:* **J S Park**, Q Shi, J Seough, H Zhang, T Tang, R Guo, K S F Cho, D H Lee, K H Kim

1876189 *The Chromospheric Magnetism Explorer (CMEx) Mission System Concept and Development Status:* **B Kalinowski**

1947789 *The role of coronal jets in particle acceleration and injection into the heliosphere:* **S Musset**, L Glesener, S Bhunia, G D Fleishman, N K Panesar, M Jeunon, H Roberts, L Clemmer, P Jol, K Lasko, R Sankar, L Fortson

1973297 *The Solar Wind Plasma Sensor on the Space Weather Follow On-Lagrange 1 Mission: Post Launch Status:* **R W Ebert**, P Mokashi, R Perryman, J Carey, C Elder, H A Elliott, S Escobedo, M Fortenberry, J Friday, R G Gomez, G Grubbs, K LLera, K B Persson, S Rizo Patron, P W Valek, G Comeyne, B Kress, E J Summerlin, D Vassiliadis

1969452 *The Study Of Multi-Scale Structures In The Solar corona:* **M Karna**, N Karna

1876666 *The Sun reversed its decades-long weakening trend in 2008:* **J M Jasinski**, M C M Velli

1901202 *Time-dependent Analysis of Cowling Heating over a Sunspot Light-Bridge using Dunn Solar Telescope and IRIS Data:* **C Reece**, M S Yalim, C Beck, S K Tiwari, D P Choudhary, S Nayak, S Gusain

1925314 *Updates from the Solar Data Analysis Center (SDAC):* **J Ireland**, D Garcia Briseno, A R Davey, K N Percinel, A Inglis, E Mansky, P R Millard, N Oien, J L Spencer, A Amezcua, M R Despres, K Marshall, S Yashiro, M Moore, R M Candey, T Helvey-Kasulke, L Jian, B A Thomas, R Prasai, K Patel

1940411 *Using Solar Pore Shape Changes to Extract Horizontal Velocity Profiles:* **J Gillam**, G Verth, I Ballai, V Fedun

1929931 *A catalogue of high-energy proton and electron events from STEREO:* **E Paouris**, A Kouloumvakos, I G Richardson, D Lario, A Vourlidas, A Papaioannou

1917585 *Building a solar energetic particle event catalog for Mars:* **R Jolitz**, C O Lee, R J Lillis, P Dunn, A Rahmati, D E Larson, S Curry

1881761 *Characterizing Bidirectional Solar Energetic Electron Events Near 1 AU:* **L Liuzzo**, A R Poppe, W Wei, C O Lee, V Angelopoulos

1895912 *Comparative Analysis of 10 - 50 MeV Solar Proton Events at Lagrange Point 1 and the Geostationary Orbit:* **A Ali**, V M Sadykov

1998731 *Comprehensive Analysis of the 2022 March 28 3He-rich Solar Energetic Particle Event:* **M Laurenza**, M Stumpo, S Benella, A Milillo, C Plainaki, M J West, P Zucca, S V Barabash, D Heyner, A Varsani, G Murakami

1964873 *Delayed Maximum Energy Solar Energetic Particle Events: Statistical Analysis from Solar Orbiter:* **R C Allen**, G C Ho, G M Mason, Z Ding, M Walker, A Kouloumvakos, R F Wimmer-Schweingruber, J Rodriguez-Pacheco, S K Vines, S Hart, R J Filwett, Z Xu, C Cohen

2001096 *EPREM Simulations of 29th November 2020 Widespread SEP Event:* **B Poduval**, M Young

1948165 *From Sun to Mars: Investigating the Large Multi-spacecraft SEP on 9 October 2024 SEP Event with EUHFORIA and PARADISE:* **A Niemela**, D Lario, N Wijsen

1902911 *Investigating the Longitudinal Asymmetry in SEP Detection: ACE vs. STEREO-A during the November 12, 2023 CME Event:* **A Santa Fe Dueñas**, N Lugaz, B Zhuang, N A Al-Haddad, Y Olufadi, S Banu

1925768 *May 2024 Solar Energetic Particle Storms: Peculiarities and Predictability:* **E Burns-Kaurin**, V M Sadykov, A Ali, G Goodwin

1921489 *Modeling and Data Analysis of the Solar Energetic Particles during the May 2024 Geostorm Event:* **W Wei**, C O Lee, J G Luhmann, M L Mays

1882344 *Multi-spacecraft observations of solar energetic particle events with inverse velocity arrival (IVA) features: PSP and SolO:* **Z Xu**, C Cohen, G D Muro, A C Cummings, R A Leske, E R Christian, D J McComas, M E Wiedenbeck, N Schwadron, R L McNutt Jr, G Berland, R F Wimmer-Schweingruber, Z Ding, G C Ho, R C Allen, A Kouloumvakos, D Lario, J Giacalone

1916211 *Multipoint Observations of Solar Energetic Particle Transport During December 05-10, 2024 Events:* **F Carcaboso**, L Y Khoo, D Lario, R Gomez-Herrero, F Espinosa Lara, I Cernuda, E Palmerio, D Pacheco, B Sanchez-Cano, G Martin, C O Lee, A Szabo, B J Lynch, W Wei, R C Allen

1886077 *Observations and Modeling of Inverse Velocity Dispersion in SEP Events:* **Z Ding**, R F Wimmer-Schweingruber, R C Allen, A Kollhoff, P Kühl, L Yang, L Berger, A Kouloumvakos, N Wijsen, Y Li, J Guo, D Pacheco, M Temmer, G C Ho, G M Mason, Z Xu, S Gunaseelan

1989668 *Origin of the Unusual Heavy-Ion Composition in ^{3}He-Rich Solar Energetic Particles:* **R Bucik**, G M Mason, S Mulay, G C Ho, R F Wimmer-Schweingruber, J Rodriguez-Pacheco

1868022 *Probing SEP Acceleration and Transport with Uncoupled EPREM:* **M Young**, B Poduval

1945498 *Production of Very High Energy Electrons at a Strong Interplanetary Shock:* **D Trotta**, Y V Khotyaintsev, T Amano, A P Dimmock, S Bale, R F Wimmer-Schweingruber, A Vecchio, M Maksimovic, D Pisa, G Nicolaou, C J Owen, N Dresing, A Fedeli, F Valentini, A Larosa, T S Horbury

1904403 *Properties of Energetic Particles in the Sub-Alfvénic Solar Wind Flow observed by Parker Solar Probe:* **P Pathare**, M Desai, M Dayeh, M J Starkey, S Hart

1966471 *Radial Dependency of ICME-associated Particle Acceleration Processes: Statistical Multipoint Observations from 2016-2023:* **M Walker**, R C Allen, G C Ho, G M Mason, C Cohen, C O Lee

1982119 *Relative Abundances and Relative Timing of Extreme Solar Energetic Particle Events:* **A Shmies**, M Dayeh, R Bucik, S Hart

1927415 *The Effect of Drifts and Heliospheric Current Sheet on Solar Energetic Particles Anisotropy and Asymptotic direction in the Magnetosphere:* **A Moradi**, J Giacalone

1909797 *The Intense Multi-Spacecraft SEP event on 2024 May 20 as a Test of the Main Mechanisms Distributing SEPs in the Inner Heliosphere:* **D Lario**, I G Richardson, J Hu, L Balmaceda, R Y Kwon, S Wallace, D da Silva, M L Mays, V Krupar, A Warmuth, F Carcaboso, L Y Khoo, C O Lee, C Sasso, P Kühl, R F Wimmer-Schweingruber, E Riihonen, R O Vainio, A Niemela, J Verniero, E Paouris, C N Arge, A Aran, T S Horbury, D Berghmans, M Maksimovic

1992197 *The May 2024 Superstorm Coronal Mass Ejections as Observed by the Psyche Gamma-Ray and Neutron Spectrometer:* **M Liebel**, P N Peplowski, D J Lawrence

1869336 *The Role of Stochastic Acceleration and Alfvén Turbulence in SEP Dynamics:* **V Tenishev**, Y Shou, J A le Roux

1896677 *The Suprathermal Spectrum in the Inner Heliosphere - Importance to Space Weather and Latest Observations:* **M A Dayeh**

1972893 *Tracing the Origin of Compositional Changes in Helium-3 Rich Events:* **M Jeunon**, S Musset, G A de Nolfo, E R Christian, J G Mitchell

1973707 *Turbulence "Pressure Cooker" and Energization of Suprathermal Particles: IMAP, L1 Constellation, PSP and SO:* **W H Matthaeus**, R Bandyopadhyay, M A Shay, F Pecora, R Chhiber, S Adhikari, PhD, Y Yang

249427
Solar Flare Particle Acceleration: Observations, Models, and Multi-mission Synergies *(joint with SM)*

Conveners: **Juan Camilo Buitrago-Casas**, UNAL; **Meriem Alaoui**, Catholic University of America; **Sophie Musset**, ESTEC; **Sijie Yu**, New Jersey Institute of Technology; **Meiqi Wang**, New Jersey Institute of Technology

1966732 *A Mechanism for ^{3}He Acceleration in Flares due to Ion Beam Instabilities:* **A Fitzmaurice**, J F Drake, M Swisdak

1926895 *A Statistical Survey of Faint Solar X-ray Transients Observed by NuSTAR:* **R Masek**, L Glesener, J M Duncan, M Davenport, K Lasko, I Markano, Z Avery, M Peterson, N Bajnokova, K Cooper, I G Hannah, B Grefenstette, S M White, H S Hudson, S Krucker, D M Smith, S Paterson

1931101 *Comparing Gamma-Ray Flare Observations and the Wave-Particle Resonance Theory:* **M Wieber**, S Alnussirat, P Saint-Hilaire

1862385 *Constraining the Energy Budget of Solar Flares from Onset to Cessation via Combined RHESSI and AIA Measurements:* **A R Inglis**, J C Allred

2000161 *CubIXSS: a new mission to probe coronal plasma heating in solar flares and active regions:* **A Caspi**, P S Athiray, W Barnes, M Cheung, S Chhabra, C E DeForest, S Gburek, M Hanson, J M Hughes, V Klein, J A Klimchuk, M Kowaliński, D A Lamb, G T Laurent, J P Mason, PhD, B Mondal, T Mrozek, S E Palo, J D Parker, B Schwab, M Schattenburg, D B Seaton, A Y Shih, M Steslicki, J Sylwester, A K Telikicherla Kandala, H P Warren, T N Woods

1968681 *Dual Origins of Rapid Flare Ribbon Downflows in an X9-class Solar Flare:* **R French**, C A Tamburri, W Ashfield, M Kazachenko, M Dominique, M Corchado-Albelo

1963938 *Intermittent Energy Release During Solar Eruptive Events Across Region Types and Viewing Angles:* **J T Vievering**, A Vourlidas, C Zhu, J Qiu, L Balmaceda, L Glesener

248818
Solar Flares in the High-Resolution, High-Cadence Era: Observations, Modelling and future prospects

Conveners: **Graham Kerr**, Catholic University of America; **Andrew Inglis**, NASA Goddard Space Flight Center; **Gianna Cauzzi**, National Solar Observatory; **Hannah Collier**, ETH

1912268 *Microwave Observations of a Nonthermal Above-the-Looptop Source Associated with Supra-Arcade Downflows in an Eruptive Solar Flare:* **S Yu**, X Xie, S Krucker, B Chen, X Li

1887146 *PITCH-ANGLE DISTRIBUTIONS OF TURBULENTLY ACCELERATED AND SCATTERED ELECTRONS IN SOLAR FLARES:* **M Stores**, N Jeffrey, C Watt, J Rae, S Killey

1954647 *Plasma Heating and Energization in Hot Onset Flare Precursor Events:* **H Da**, J F Drake, M Swisdak, H S Hudson

1921638 *Quantifying the Chromospheric Response to Solar Flares with AIA 1600 Å Observations:* **D Sun**, S Nagasawa, S Perez Piel, J C Buitrago-Casas

2001224 *Return Currents and Nonthermal Electron Energy Constraints in Solar Flares:* **M Alaoui**

1930628 *Solar electron events at Mars and solar radio bursts: Cross-mission study of MAVEN, Parker Solar Probe, and STEREO:* **N Liu**, R Jolitz, S Xu, A Rahmati, M Pulupa, S Curry, S D Bale

1948776 *Solar flares as electric circuits defined by precipitating and returning electrons and occurrence of sunquakes:* **V V Zharkova**, S Zharkov

1955941 *The Absolute Abundance of Iron in Solar Flares:* **S M White**, D Desnoes

1903115 *Two-Fluid Simulations of Beam Propagation and Heating in Solar Flares:* **M Alaoui**, J Reep

1924446 *Unveiling the nature of non-thermal coronal sources in eruptive solar flares using model-to-data comparisons:* **I Oparin**, B Chen, C Shen, X Li, F Guo, S Yu, G D Fleishman

1953348 *Upper Limits on Particle Energization during Magnetic Reconnection:* **J F Drake**, M Swisdak, Z Yin, H Arnold

1953578 *White-Light Emissions of Gamma-Ray Flares:* **S Yashiro**, N Gopalswamy, S Masuda, K Watanabe, N Nitta, P Makela, S Akiyama

1869934 *A New Method to Measure Doppler Velocities During a Flare Using SDO/EVE MEGS-A:* **G Gonzalez**, P C Chamberlin

1927117 *A Statistical Study of Ribbon Rebrightening in Major Solar Flares:* **C Miller**, C Zhu, J Qiu

1992016 *Balmer Diagnostics of Deep Chromospheric Heating in Solar Flares Using RADYN Simulations:* **M Liebel**, A F Kowalski, G Kerr

1927946 *Chromospheric Fireworks: A Sub-Arcsecond Statistical Survey of Solar Flares with the Dunn Solar Telescope:* **A P Kumar**, J Shetye, E Sanchez, A Mehta, S Sellers

1975138 *Chromospheric spectral variability during the impulsive phase of a solar flare observed at high spatial resolution with DKIST:* **C A Tamburri**, A F Kowalski, M Kazachenko, G Kerr, G Cauzzi, R French, J Qiu, M Corchado-Albelo, R Yadav

1895401 *Data-Constrained Magnetohydrodynamic Simulation of the X9.1 Solar Flare of 2024 October 3: Tether-Cutting Reconnection and Torus Instability in AR 13842:* **K Matsumoto**, S Inoue, K Hayashi, N Liu, Y Wang, J Lee, J Jing, H Wang

1946072 *Disentangling the Causes of Fine-Scale Solar Flare Structure:* **G S Kerr, PhD**, J C Allred, V Polito, A Sainz Dalda

1978013 *Energy Dynamics of X-Class Solar Flares: Investigating Triggers and Interconnected Eruptive Events:* **E Sanchez**, J Shetye

1880777 *Explosive Evaporation Observed With Hinode/EIS During the 2024 Solar Orbiter Major Flare Watch Campaign:* **J W Brosius**, L Hayes, A Inglis, G Kerr

1936387 *Flare Sentinel: An Integral Field Spectrograph for the Observation of the Balmer Series Spectra during Solar Flare:* **H Lin**, G Cauzzi, A F Kowalski, T Anan

1982616 *From Confinement to Eruption: A Mechanism for the Transition to Flare Eruptivity:* **J Dahlin**, S K Antiochos, C R DeVore

1980206 *High Resolution Observations of Solar Activity with the Daniel K. Inouye Solar Telescope:* **G Cauzzi**

1886523 *Invisible Drivers: The Role of Small-scale Emerging Flux and Disturbances in the Acceleration of Solar Eruptions:* **S Inoue**, T Miyoshi, K Hayashi, J Jing, W Cao, H Wang

1875618 *Observation and Modeling of Shear Evolution of Post-reconnection Flare Loops:* **D Longcope**, D Osaben, J Qiu

250855
Solar Orbiter: Solar-Heliospheric Connections and First Out-of-the-Ecliptic Observations

Conveners: **David Lario**, NASA Goddard Space Flight Center; **Fernando Carcaboso**, Catholic University of America; **Astrid Veronig**, Kanzelhöhe Observatory for Solar and Environmental Research, University of Graz; **Don Hassler**, Southwest Research Institute

1956741 *A Statistical Study of Polar Crown Filament Eruptions:* **Y Wang**, Y Xu, J Jing, H Wang

1897668 *Observing Solar Flares with Unprecedented Resolution Using GST Instrumentation:* **W Cao**

1903121 *Origin of the Fe Kα line from solar and stellar flares: Statistical and Multiwavelength approaches:* **S Inoue**, T Enoto, Y Notsu, W B Iwakiri, T Kimura, H Uchida, K Hamaguchi, K Namekata, Z Arzoumanian, K Gendreau, S Toriumi, A Yamazaki, G Murakami, F Tsuchiya, K Yoshioka

1874857 *Quantifying Chromosphere Response to Flare Energy Release Using AIA Observations in 1600Å and 304Å Passbands:* **J Qiu**, R Fleming

1969599 *Spatial Evolution of Flare Ribbon Bead-like Structures During a Solar Flare:* **R French**, M Kazachenko, D Berghmans, E D'Huys, M Dominique, D Talpeanu

1982338 *Structure and Dynamics of Energy Deposition and Magnetic Reconnection in a Simulated Solar Flare:* **A Afanasev**, A F Kowalski, G Kerr, M Rempel

1846835 *Understanding high-resolution observations of flare ribbons: what does the small scale tell us about the corona, and about the underlying physics?:* **J Qiu**

1963373 *Unprecedented Fine Structures in Coronal Flare Ribbons Revealed by Solar Orbiter's High-Resolution Imager:* **R Patel**, M Molnar, R French, P Singh, V Pant, D B Seaton, A Caspi, L P Chitta, D Hassler, D Berghmans

1846508 *Unveiling Unprecedented Fine Structure in Post-Flare Coronal Loops with the DKIST:* **C A Tamburri**, M Kazachenko, G Cauzzi, A F Kowalski, R French, R Yadav, C Evans, Y Notsu, M Corchado-Albelo, K Reardon, A Tritschler

1866713 *X-ray Spectral Characteristics and Chromospheric Line Broadenings with the High-Time Resolution Multi-Wavelength Observation Campaign of M-dwarf Flares:* **Y Notsu**, I Tristan, R Osten, A Brown, A F Kowalski, C Gray

1857619 *An investigation of the shock properties for "nose-like" solar energetic particle events:* **A Kouloumvakos**, D Lario, G M Mason, R C Allen, G Berland, Z Xu, L Rodriguez Garcia, I C Jeba Raj, Z Ding, N Wijsen, G C Ho, C Cohen, A Vourlidas, P Riley, E C Roelof, E Paouris, S Raptis, J Rodriguez-Pacheco, D G Mitchell, R F Wimmer-Schweingruber, M Hill

1964767 *Assessing the performance of Solar Orbiter PHI science data using WSA:* **A Farrish**, G Gratton, C N Arge, S Schonfeld, C J Henney, E Samara, L Balmaceda

1891876 *Assimilating SO/PHI-FDT far-side observations in ADAPT-WSA: Implications for source region and S-web connectivity of the solar wind and SEPs.:* **S Wallace**, V Andretta, D Lario, N M Viall, S K Antiochos, D da Silva, S Schonfeld, C N Arge

1887504 *Bidirectional Solar Energetic Particle Events at Solar Orbiter:* **Z Ding**, R F Wimmer-Schweingruber, Y Chen, L Zhao, P Kühl, A Kollhoff, L Yang, L Berger, J Rodríguez-Pacheco, G C Ho, G M Mason

1964289 *Comparison of synthetic white-light images with SoloHI observations using a novel approach with a highly deformable CME geometry:* **A Weiss**, C R Braga, E Palmerio, C Mac Cormack, T Nieves-Chinchilla

1958452 *Coronal Abundance Evolution During the M7.6 Flare on September 30, 2024 with SolO/SPICE, Hinode EIS, and Chandrayaan-2 XSM: A disharmonious picture between the cool and hot plasma components:* **M Molnar**, J Plowman, R Patel, D Hassler, R French, L P Chitta, A K Shrivastav, T Varesano

1877547 *Dispersive out-of-ecliptic solar particle events observed by EPD on Solar Orbiter:* **R F Wimmer-Schweingruber**, J Rodriguez-Pacheco, G C Ho, A Warmuth, L Berger, G M Mason, R Gomez-Herrero, Z Ding, S Krucker, A Kollhoff, F Espinosa Lara, P Kühl, R C Allen, E Jentsch, I Cernuda, Y Kartavykh, S Gunaseelan, S Fleth, S Eldrum

1899567 *Do density-depleted regions trailing CMEs survive in the inner heliosphere?:* **C R Braga**, V K Jagarlamudi, A Vourlidas, G A Stenborg, D Lario

1939705 *Embracing New Perspectives: Highlights of SO/PHI Polar Data from First Out-of-Ecliptic Observations:* **J Blanco Rodriguez**, D Calchetti, L P Chitta, J Hirzberger, A Moreno Vacas, D Orozco Suárez, S K Solanki, H Strecker, J C del Toro Iniesta, A Ulyanov, G Valori, J Woch

1967665 *Evaluating the inclusion of SolO/PHI farside magnetograms in ADAPT global solar magnetic maps:* **S Schonfeld**, G Gratton, C J Henney, S I Jones, C N Arge

1944119 *Influences of Heliospheric and Coronal Magnetic Field Configurations on the Backmapping of the High- and Low-latitude Solar Wind:* **L Yang**, X Ma, X Feng, H Tian, F Shen

1989553 *Inner Structure of CMEs: Insights from SoloHI observations and CORHEL-CME simulations:* **C Mac Cormack**, A Sahade, E Samara, P Hess, R C Colaninno, T Nieves-Chinchilla

1860653 *Latitudinal structure of the heliospheric magnetic field and solar wind in the inner heliosphere: results of the first Solar Orbiter out of ecliptic orbit:* **T S Horbury**, S D Bale, A Fedorov, L Matteini, M J Owens, E Palmerio, T Ervin, A Finley, S Badman, Y Rivera, J Wang, P Louarn, C J Owen, M L Stevens, R Livi, D Larson, P Whittlesey

1971418 *Magnetic Reconnection Across Scales and Latitudes: Statistical Analysis form SDO/AIA and Solar Orbiter/EUI:* **B K Jha**, A K Shrivastav, R Patel, S Sow Mondal, C Lowder, D B Seaton, L Upton

1958956 *New Insights from Semi-automatic Reconstructions of Multi-viewpoint CME Observations: The October 2024 Halo Events:* **E Nikou**, R C Colaninno, P Hess, A Vourlidas, A Thernisien, J Zhang, N Kuroda

1915565 *Out-of-the-Ecliptic Dust Investigation via Solar Orbiter RPW Observations:* **M Shen**, D Malaspina, P Pokorny, J R Szalay, D Pisa, J Soucek, A Zaslavsky, M Maksimovic, S D Bale

1974318 *Pickup Ion Distributions In the Inner Heliosphere (0.3 AU to 1 AU) as Observed by the Solar Orbiter SWA/Heavy Ion Sensor:* **A B Galvin**, L M Kistler, L Ellis, B J Vasquez, S A Livi, C J Owen, P Louarn, S T Lepri, J M Raines, R M Dewey, T Stubbs, K Delano, B L Alterman, Y Rivera

1965346 *Probing Dynamics in a Pseudostreamer using Inner and Middle Corona Observations of Solar Orbiter:* **A K Shrivastav**, R Bose, M Molnar, J Plowman, L P Chitta, V Pant, D Hassler, D B Seaton, R Patel, M Mierla, A Zhukov, D Berghmans

1853569 *Probing Transition Region–Solar Wind Connectivity with SPICE and SWA/HIS Instruments:* **T Varesano**

1967089 *Recurrent ^{3}He-rich Solar Energetic Particles Events During Solar Orbiter's First Latitudinal Sweep across the Solar Equator:* **S Hart**, G C Ho, G M Mason, R C Allen

1855865 *Simultaneous Energetic Ion Onsets in ^{3}He-rich Solar Energetic Particle Events:* **G M Mason**, A Kouloumvakos, G C Ho, R C Allen, R Gomez-Herrero, R F Wimmer-Schweingruber, J Rodriguez-Pacheco

1857345 *Solar Energetic Particles Observed by Solar Orbiter at High Latitude:* **G C Ho**, G M Mason, R C Allen, S Hart, A Kouloumvakos, R F Wimmer-Schweingruber, J Rodriguez-Pacheco, R Gomez-Herrero

1846978 *Solar Orbiter: Mission Status and Science Highlights:* **D Mueller**, M Janvier, T Nieves-Chinchilla, D Lario

1929586 *Solar Wind Characterization using Tomography and WSA:* **D Lloveras**, L Balmaceda, A M Vásquez, F Nuevo, E Samara, C N Arge, T Nieves-Chinchilla

1930605 *Solar wind compositions near Heliospheric current sheet at 0.3-1 AU: Solar Orbiter Heavy Ion Sensor observations:* **K Ogasawara**, R M Dewey, A B Galvin, T S Horbury, S T Lepri, S A Livi, P Louarn, C J Owen, J M Raines

1955185 *SoloHI's First Heliographic Images From Out of the Ecliptic:* **R C Colaninno**, P Hess, E Palmerio, E Nikou

2000247 *The Structure and Dynamics of the Forming Heliospheric Current Sheet:* **L Casillas**, M C M Velli, V Réville, B Lynch

1948942 *Thermal structure in a prominence observed by SPICE/SoLO:* **J Rodríguez Gómez**, T A Kucera, P R Young, S Parenti

1850278 *Understanding the complex morphology of a CME: multi-view analysis and numerical modeling:* **C Mac Cormack**, A Sahade, A Vourlidas, P Hess, R C Colaninno, T Nieves-Chinchilla

251367
Space and Heliophysics Science Undergraduate and Graduate Education Resources *(joint with SA, SM)*

Conveners: **Nicholas Gross**, Boston University; **Mark Moldwin**, University of Michigan Ann Arbor

250850
The Future of the International Sunspot Number *(joint with IN, PP)*

Conveners: **William Pesnell**, NASA / GSFC; **Laure Lefevre**, Organization Not Listed; **Greg Kopp**, Laboratory for Atmospheric and Space Physics, University of Colorado; **Theodosios Chatzistergos**, Max Planck Institute for Solar System Research

1920965 *A Novel Method for Cross-Calibrating Polar Field Measurements Between WSO and HMI:* **S Puckett**, B K Jha, L Upton

1939575 *Assessment for the depth of the Maunder Minimum: A status report:* **N Larsen**, H Hayakawa

1857387 *Historical Reconstruction of Solar Surface Magnetism from Cycle 1 – 24 Using AFT and International Sunspot Number:* **B K Jha**, L Upton, G Kopp, O Coddington

1889469 *Investigating Latitudinal Coupling in Solar Cycle Dynamics Using Transfer Entropy:* **J Johnson**, S Wing, T Dudok de Wit

1914488 *Modelling Past Space Weather Events Based on Estimated Historical Solar Proxy Indices:* **P Belbase**, D M Oliveira, T Chatzistergos, G Poh, E Zesta, H Hayakawa

251735
The Long Way: Heliosphere Modeling with Operations in Mind

Conveners: **Lulu Zhao**, University of Michigan Ann Arbor; **Kathryn Whitman**, KBR/NASA JSC; **Eric Adamson**, NOAA Space Weather Prediction Center; **M. Mays**, NASA Goddard Space Flight Center, Community Coordinated Modeling Center

1972483 *Connecting the Dots: A Machine Learning Ready Foundational Dataset for Ionospheric Forecasting Models:* **M Vergalla**, S Mestici, L Wolniewicz, H S Kelebek, G Acciarini, B Poduval, U Rebbapragada, O P Verkhoglyadova, A G Baydin, T Berger, F Soboczenski

1862325 *Update on Monitoring the Solar Orbiter SPICE Instrument Radiometric Response:* **W T Thompson**

1980801 *What will Solar Orbiter see in its first high latitude pass?:* **R J Leamon**

1892144 *Center for Geospace Storms Resources for Research and Education: Models, Analysis Tools, and Student Workshops:* **A M Keesee**, V G Merkin, M J Wiltberger

1928417 *Space Weather for Global Learners: Designing an Introductory and Open-Access AlaskaX Online Course:* **D S Ozturk**, R Itani, L Odell, L Varghese, S Holland

1902543 *Ongoing and Future Efforts to Process Sunspot Drawings and Other Historical Data to Create Data Products Usable in the Modern Era:* **A Pevtsov**, L Bertello, H Hayakawa

1926767 *Reconstruction of 400 years of solar activity using probabilistic programming:* **A Muñoz-Jaramillo**, H Hayakawa

1948136 *Reconstruction of the Sunspot Number Series : Gathering Data:* **C Kalugodu**, L Lefevre, B Mampaey

1969152 *Solar Cycle Prediction from an Operational Perspective:* **M S Miesch**, M Kosak, F Chiappina

1951761 *The FARSUN project : storing and distributing sunspot data to the scientific community:* **L Lefevre**, C Kalugodu

1869147 *The International Sunspot Number and Longterm Predictions of Solar Activity:* **W D Pesnell**

1959627 *The Latest on the Reconstruction of the Sunspot Number:* **L Lefevre**, W D Pesnell, G Kopp, T Chatzistergos

1855550 *The Mount Wilson 150-foot Tower Sunspot Drawing and Magnetogram/Dopplergram/Intensitygram Database:* **R K Ulrich**

1896448 *A Novel Method for Real-Time Forecasting of Extreme Energetic Storm Particle Events Associated with Interplanetary Shocks:* **M A Dayeh**, M J Starkey, S Hart, S Chatterjee, K Moreland, R Bucik, A Shmies, G C Ho, M I Desai, M E Cuesta

1982719 *An Automated Solar Active Region Identification and Characterization Module for the SEPCaster Model:* **S Sawant**, G Li, M Jin, J Hu

1911096 *An Interactive Website for Real-Time and Retrospective Solar Eruption Forecasting:* **T I Gombosi**, Y Chen, L Zhao, W Manchester, K Jin, V Verma, K Hu

1859554 *Being Useful is not Beneath Our Dignity:* **T I Gombosi**

1923786 *CLEAR Space Weather Center of Excellence for Solar Energetic Particles Predictions:* **L Zhao**, T I Gombosi, C N Arge, I Sokolov, W Manchester, Y Omelchenko, Y Chen, M Jin, B van der Holst, Z Huang, N Sachdeva, A D Shane, D Lario, I G Richardson, C Cohen, A Bruno, X Liu, W Liu, N Biro, G Koban, K Whitman, M L Mays, E T Adamson, K Hu, V Verma, K Jin, J Giacalone, H M Bain

1925024 *CME Initiation From a Vector Magnetogram:* **Y An**, G Toth

1884035 *CME Prediction at NOAA's Space Weather Prediction Center: Status and Outlook:* **M S Miesch**, E T Adamson, G H Millward, M Gopala, M S Marsh, S Burns, A Englyst, L Landwer, A Marble, R Lee, C Martinkus

1934028 *Daily Simulated Solar Wind Pipeline using AWSoM-R:* **G Koban**, L Zhao, W Liu, N Biro, N Sachdeva, T I Gombosi, I Sokolov

1864576 *Data-driven Solar Eruption Forecasting: Research to Operation:* **Y Chen**, L Zhao, T I Gombosi, W Manchester, K Jin, V Verma, K Hu

1933834 *Developing a Magnetic Connectivity Tool Using Kinematic and 3D Solar Wind MHD Models:* **N Biro**, L Zhao, I Sokolov, T I Gombosi, W Liu, G Koban

1886436 *Effects of AR-Aligned Synthetic Images from Generative Models on Strong Flare Forecasting:* **K Jin**, W Manchester, T I Gombosi, L Zhao, Y Chen

1887887 *Empirical Formulation of the Source-Surface Height in the PFSS Extrapolation:* **M Shoda**, K Tokoro, D Shiota, S Imada

1948707 *FitsFlow: A Cyberinfrastructure, Browser-Based, Cloud-Native Platform for Machine Learning–Ready Processing of Solar FITS Data:* **I Jackson**

1904684 *Gaps and Discrepancies in Existing Flare Lists that Impair Evaluation of Solar Flare Forecasting:* **K Hu**, V Verma, K Jin, Y Chen, L Zhao, W Liu, W Manchester, T I Gombosi

1899577 *Implementing Time Series Forecasting Functionality in the SEP Forecasting model MEMPSEP:* **S Hart**, S Chatterjee, M Dayeh, M J Starkey

1894021 *Integrating the SEPSTER(2D) and HESPERIA REleASE Solar Energetic Particle Prediction Models for the CLEAR Center:* **I G Richardson**, A Bruno, M L Mays, H Dröge, B Heber, J Martens, M Karavolos

1973333 *NASA Space Weather Program: Community-Scale Strategies for and Approaches to Advancing Space Weather Numerical Forecasting:* **J E Favors**, E Shume, K E Korreck, A Fletcher, U K Rick, R H W Friedel, S L Savage, J P McCormack, A K Higginson, M Miller

1880203 *Next Generation Space Weather Modeling Framework with Data Assimilation, Uncertainty Quantification and Machine Learning: Final Year:* **G Toth**, Y Chen, X Huan, B van der Holst, S Zou, A Jivani, H Chen, Y An, Y Chen, N Sachdeva, Z Huang, W Manchester

1970613 *Operational Real-time SEP Forecast/nowcast Pipeline with the iPATH Model.:* **J Hu**, C Corti, C Allison, G Li, M L Mays

1893029 *Operational Testing of Physics-based SEP Prediction Model, SOFIE, in the SWPC Testbed Exercise:* **W Liu**, L Zhao, I Sokolov, K Whitman, H M Bain, E T Adamson, T I Gombosi, N Sachdeva, M L Mays

1911442 *PARMISAN: A Physics-Based Solar Energetic Particle Prediction Model for Operations:* **A D Shane**, L Zhao, I Sokolov, W Liu

1918845 *Performance of Different Machine Learning Methods with a Recently Updated Solar Flare Database:* **J Huang**, Y Chen, K Hu, T I Gombosi, L Zhao

1900565 *Prediction Models for Geomagnetic Activity Using Tomorrow's Solar Wind:* **Y Yu**

1957813 *Prototyping Activities in Support of Research to Operations to Research (R2O2R) by NASA GSFC's Moon to Mars Space Weather Analysis Office:* **M Aronne**, M Romano, T Nieves-Chinchilla, A Chulaki, E Juelfs, M Kane, R Loper, C Alden, M Anastopulos, H Hermann, A Iampietro, J Kreuscher, M Pasanen, C Stubenrauch

1965134 *SCEPTER: A Strategic Capability for Modeling Solar Eruptions and their Space Weather Impact:* **S K Antiochos**, T I Gombosi, I Sokolov, N Sachdeva, B van der Holst, G Toth, L Zhao, W Manchester, J T Karpen, C N Arge, D Lario, J Dahlin, K Leka, G Barnes, M L Mays, M Reiss, X Liu, W Liu

1968787 *The Solar Wind Scoreboard:* **M Reiss**, M L Mays, M Kuznetsova, Z Huang, T Baratashvili, M Petrenko, E Henley, B Perri

1936663 *Title: Simulation of the Geo-Effectiveness of Mesoscales CME Structures:* **W Manchester**, D T Welling, N Sachdeva, M M Ala-Lahti, K E J Kilpua, S Soni, Z Huang, H Chen, A Jivani, A Szabo, M Akhavan-Tafti

1919461 *Transitioning OSPREI from Research to Runs on Request:* **C Kay**, M L Mays, M Petrenko

251321
The role of low-latency data for space weather and future human exploration

Conveners: **Cecilia Mac Cormack**, Catholic University of America. NASA Goddard Space Flight Center; **Phillip Chamberlin**, University of Colorado; **Teresa Nieves-Chinchilla**, Catholic University of America; **Yaireska Collado-Vega**, NASA GSFC

1922025 *Can We Predict the Solar Wind at Earth Using Parker Solar Probe Measurements?:* **A Niesta**, S T Badman, M L Stevens, L Y Ahmed, T Niembro Hernandez, Y Rivera, K W Paulson, M Terres, S Bharati Das, F Fraschetti, D E Larson, R Livi, P Whittlesey, A Rahmati

1996369 *Future of Space Weather Observations:* **Y M Collado-Vega**, A D D Greeley, I Azeem, J F Spann, E Lynch, J Morrissey, B Nowak, S Owens, J Panek, C H Delee, A Barfknecht, L Dunlap, F Chaudry, R Ullman, E Guerrero-Martin

1932499 *NOAA's Space Weather Follow On (SWFO) Program: Developing Imagery and In Situ Data Products Following the SWFO-L1 Launch:* **D Vassiliadis**, A Davis, R W Ebert, J Johnson, B Kress, D E Larson, N D Miles, A Abe Pacini, J Rodriguez, W F Rowland, D Schmit, E J Summerlin, A Thernisien, R B Torbert

250548
Toward a Unified Understanding of Particle Acceleration and Transport throughout the Heliosphere *(joint with SM)*

Conveners: **Xiaocan Li**, Dartmouth College; **Fan Guo**, Los Alamos National Laboratory; **Mitsuo Oka**, University of California Berkeley; **Drew Turner**, Johns Hopkins University Applied Physics Laboratory; **Jeongbhin Seo**, Los Alamos National Laboratory

1861203 *Analysis of different ion populations around the time of interplanetary coronal mass ejection events:* **H Madanian**, Y Omelchenko, N Bessho

1890584 *Comparison of Particle Energy Distributions from Fully Kinetic Simulations and Observations of Magnetic Reconnection in Earth's Magnetotail:* **N Reisinger**, F Bacchini

1926231 *Diffusive Shock Acceleration of Energetic Electrons and the Method of Generations:* **M Harrison**, B Wang

1875615 *Energetic Particle Acceleration in Magnetic Reconnection: Feedback and Plasma Beta Dependence:* **J Seo, PhD**, F Guo, X Li, H Li

1968393 *QuickPUNCH Data for Space Weather Operations:* **D A Lamb**, D B Seaton, C DeForest, G Dima, M Burek, J M Hughes, J Johnson, C Lowder, G H Millward, R Patel, T Meisenhelder, J A Redfern, D Schmit, N Y Wang, M West

1896729 *The Mars Space Weather Collaboration's Development of Decision-Making Tools to Support Human Exploration:* **G A DiBraccio**, P C Chamberlin, C O Lee, M L Mays, M Romano, R Egeland, T Nieves-Chinchilla, M Kuznetsova, E Semones

1958459 *The Use of Low Latency Near Real-Time Data in Support of 360 Degree Space Weather Assessments by NASA GSFC's Moon to Mars Space Weather Analysis Office:* **M Kane**, T Nieves-Chinchilla, M Romano, M Aronne, C Alden, M Anastopulos, A Chulaki, H Hermann, A Iampietro, E Juelfs, M Pasanen, C Stubenrauch, J Kreuscher

1985073 *Time dependent solar wind simulations in the inner heliosphere: how much better can we do with Solar Orbiter's PHI data ?:* **E Samara**, C N Arge, S Schonfeld, A Farish, C J Henney, E Provornikova, V G Merkin

1996517 *X-TOFF 2.0: Sub-Minute Solar Flare Duration Forecasts with SDO/EVE for Real-Time Space-Weather Operations:* **J C Buitrago-Casas**, A Lizeth Lopez Rodriguez, M Peterson, L Glesener, J T Vievering, M Choquette

1960603 *Modeling Cosmic-Ray Acceleration at Non-Planar Astrophysical Shocks Using the SPECTRUM Code:* **Y Huang**, S Sharma, J G Alonso Guzmán, V A Florinski, L Schoenbaum

1996283 *More than Topology: What Suprathermal Electrons can tell us about the Inner Heliosphere:* **A K Petersen**

1906472 *On the energy spectrum of diffusive accelerated particles in the mediated shock:* **B Wang**, G P Zank, L Adhikari

1952985 *Particle Acceleration and Transport in 3D Solar Flare Simulations:* **X Li**, C Shen, X Xie, F Guo, B Chen, I Oparin, Y Wei, S Yu, J Seo, PhD

1913333 *Particle Energization during Magnetic Reconnection: progress and challenges:* **J F Drake**, M Swisdak, Z Yin, M I Desai, T Phan, M Oieroset, H Arnold

1907646 *Planetary Radiation Belts as Natural Particle Accelerators and Laboratories for Astrophysical Plasma Processes:* **A Osmane**

1852821 *Scaling of Particle Heating in Shocks and Magnetic Reconnection:* **M Oka**, T Phan, M Oieroset, D J Gershman, R B Torbert, J L Burch, V Angelopoulos

1928177 *Suprathermal Ion Acceleration at the Near-Sun Heliospheric Current Sheet Crossings observed by Parker Solar Probe During Encounters 7-22.:* **M I Desai**

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Turbulence, magnetic reconnection, and non-thermal particles in space plasmas *(joint with SA, SM)*

Conveners: **Stanislav Boldyrev**, University of Wisconsin Madison; **Christopher Chen**, Queen Mary University of London; **Nuno Loureiro**, Massachusetts Institute of Technology; **Vadim Roytershteyn**, Space Science Institute Los Alamos

1967126 *Anisotropic particle acceleration in relativistic Alfvenic turbulence:* **S Boldyrev**, C Vega, V Roytershteyn

1908734 *Automatic reconnection identification with magnetic flux transport and reconnection activity in kinetic plasma turbulence:* **T C Li**, L Buccilli

1909564 *Beta-Driven Variability in Current Sheet Properties within ICMEs at 1 AU:* **Z Shaikh, PhD**, I Vasko, T Phan, S Boldyrev

1992928 *Compressible MHD turbulence in the solar wind: spectra and scale-dependent alignment:* **A Bhattacharjee**, J Beattie

1954402 *Effect of Vortex Sheets on Nonlinear Magnetic Island Evolution and the Transition to Kelvin Helmholtz Instability Through Alfvén Resonance:* **D Urbanski**, A Tenerani, F Waelbroeck

1894161 *Effects of turbulence on the structure and length of the heliotail:* **N V Pogorelov**, F Fraternale

1932375 *Electron and turbulence properties during sub-Alfvénic CME solar wind:* **H Gurram**, L Chen, M R Argall, S Adhikari, PhD, L B Wilson III, J R Shuster

1969089 *Energetically-dominant Sunward-Propagating Alfvén Waves Near 1 au and Their Relation to Magnetic Switchbacks:* **N Giardetti**, S Bourouaine, J C Perez

1948889 *Energy Dissipation via Magnetic Reconnection in Turbulent Plasmas: Particle-in-Cell Simulation:* **L Song**, M Zhou, Z Zhong

1940384 *Five-moment three-fluid modeling of magnetic reconnection in partially ionized plasmas:* **L Wang**, Y Yuan, C Dong, X Li, Y Zhang

1907801 *Fully Kinetic Simulation of Alfvénic Turbulence in the Expanding Solar Wind:* **M Péters de Bonhome**, F Bacchini, V Pierrard

1856769 *Impact of ion acoustic turbulence on reconnecting plasmas:* **D Li**, Z Liu, N Loureiro

1846536 *Impact of tearing instability on the global quadrupole Hall magnetic field in an anti-parallel magnetic reconnection:* **A Deuja**, H Che

1852518 *Intermittent Reflection-Driven Turbulence:* **B D G Chandran**, N Sioulas, S D Bale, T Bowen, V David, R Meyrand, E Yerger

1988249 *Inverse Cascade in Sub-ion-scale Turbulence:* **M Zhou**, Z Liu, N Loureiro

1970028 *Investigation of the Diffusion Region with Varying Turbulence Intensities around the Magnetotail Reconnection X-line:* **X Li**, C Dong, J E Stawarz, Y Qi, L Wang, J L Burch

1918429 *Lower Hybrid Drift Waves as a Driver of Turbulent Reconnection in Earth's Magnetotail:* **J Yoo**, J Yim, H Ji

1953752 *Magnetic Waves Excited by Newborn Inner Source Pickup H+ Measured by the Voyager Spacecraft Inside 3AU:* **C W Smith**, S J Hollick, Z B Pine, M R Argall, C J Joyce, P A Isenberg, P Quinn, B J Vasquez, N Schwadron, J Sokół, M Bzowski, M A Kubiak

1984116 *Minor-ion Heating in Collisionless Alfvénic turbulence:* **M Zhang**, E Yerger, M W Kunz, J Squire, R Meyrand, K G Klein, B D G Chandran

1941553 *Non-Equilibrium Electron Dynamics and Energy Conversion in Asymmetric Magnetic Reconnection with a Guide Field:* **H Liang**, H Gurram, P Cassak, M H H Barbhuiya, PhD, M R Argall

1963387 *On the multiscale nature of correlation functions in solar wind turbulence:* **J C Perez**, M Dorseth, PhD, S Bourouaine

1932779 *Plasma Beta Control of Current Sheet Thickness and Reconnection Rate:* **K C Barik**, Y D Yoon

1945653 *Scale-by-scale accuracy of solar wind analogue ensemble forecasts:* **C H K Chen**, P Simon, M J Owens, C Sishtla, F Koller

1850622 *Statistical Distributions of Elsasser Variables in the Near Sun Environment:* **K G Klein**, M L Stevens, D E Larson, M Martinovic, R Livi, K W Paulson, A Rahmati, T Bowen, B D G Chandran, M Terres

1915654 *Strong Non-linear Alfven Wave Interactions in a Laboratory Experiment:* **C H K Chen**, S E Dorfman, S Boldyrev, L Franci, A Mallet, M Abler, S T Vincena, S Greess, T Carter

1886321 *Sub-Electron Scale Turbulence in the Near-Sun Solar Wind:* **S Mondal**, C H K Chen, D Manzini

1868256 *Suppression of inverse magnetic energy transfer in collisionless marginally magnetized plasmas:* **Z Liu**, M Zhou, N Loureiro

1996107 *Two-point correlations in MHD turbulence:* **K Movassaghi**, J C Perez, S Bourouaine

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Understanding Space Weather for Human and Robotic Exploration to the Moon, Mars, and Beyond (cosponsored by AMS: American Meteorological Society,AOGS: Asia Oceania Geosciences Society,EGU: European Geosciences Union,JpGU: Japan Geoscience Union) *(joint with P, SY, SA, SM)*

Conveners: **Gina DiBraccio**, University of Michigan; **Yaireska Collado-Vega**, NASA GSFC; **Phillip Chamberlin**, University of Colorado; **Christina Lee**, Space Sciences Laboratory, University of California Berkeley

1963961 *An Overview of Space Weather Observations and Prediction Capabilities for Exploration to the Moon, Mars, and Beyond by NASA GSFC's Moon to Mars Space Weather Analysis Office:* **T Nieves-Chinchilla**, M Aronne, M Romano, C Alden, M Anastopulos, A Chulaki, H Hermann, A Iampietro, E Juelfs, M Kane, J Kreuscher, R Loper, M Pasanen, N Romanelli, C Stubenrauch

1952919 *Analysis of Extreme Space Weather Events at Mars with Low Latency Data in Support of Future R2O2R Activities:* **N Romanelli**, G A DiBraccio, M Romano, M Aronne, T Nieves-Chinchilla, M L Mays, C O Lee, P C Chamberlin, J R Espley, J S Halekas, F Eparvier, S Curry

1966462 *Enhanced Radiation Exposure of Airline Crew and Passengers During the May 2024 Geomagnetic Storm:* **H Aryan**, J Bortnik, W K Tobiska, B R Hogan, P Mehta, R Siddalingappa, V S Harshitha Challa

1972151 *Innovation and Collaboration at the 2025 Artemis II Space Weather Support Testbed Exercise:* **H M Bain**, K D Moreland, A Kubaryk, J Stickrod, S Dahl, C Martinkus, R A Steenburgh, M Gopala, M Bettwy, S Burns, B Brasher, M Nunez, J Rodriguez, B Kress

1976073 *NASA Space Weather Program: Strategies for and Perspectives on Supporting Human and Robotic Exploration of the Solar System:* **J E Favors**, S L Savage, E Shume, K E Korreck, A Fletcher, U K Rick, R H W Friedel, J P McCormack, A K Higginson, M Miller

1965899 *Overview of ESCAPADE Science Data Products for Two-Point Space Weather Measurements En Route to Mars:* **T Hara**, R J Lillis, S Xu, S Curry, J G Luhmann, R Livi, P Whittlesey, J R Espley, J Gruesbeck, A Barjatya, L Lee, C S Edwards, C Haberle

1914517 *Toward Safer Mars Missions: Space Weather Lessons from a Multipoint Observation Campaign:* **A Luspay-Kuti**, D L Turner, A B Crew, R L McNutt Jr, J H Westlake, E Paouris, A Vourlidas, S Raptis, C Cochrane, X Jia, C A Raymond, S P Joy, D Heyner, K G Hanley, A Rahmati, J Gruesbeck, J S Halekas, S Curry, M L Stevens, H T Smith, M Kivelson, J A Slavin, D Waller, K K Khurana, T S Horbury, J R Espley, D Mitchell, T Nordheim, H Korth, C S Paty, A M Rymer, J Saur, K Mandt, E Roussos, N Krupp

1858769 *Most intense space weather events during the space age: Analyzing effects on spacecraft and human life:* **T Rapoport**, V Shirley, S Curry

1861754 *Solar soft X-ray proxy derived from observed Auger photoelectrons by MGS and a 1999-2006 flare catalog at Mars:* **S Xu**, E Thiemann, D L Mitchell, P C Chamberlin

1869192 *In-situ Measurements of Moon's Surface Bound Exosphere: Preliminary Results from Chandrayaan 3 RAMBHA-LP:* **A Bhattacharya**, O Leon, S Soni, K R Tripathi, J M Raines

1869625 *The First Space Weather Catalogue at Mars with MAVEN: Characterizing Solar Transient Events at 1.5 AU:* **V Shirley**, S Curry, L Jian, R Jolitz, A Rahmati

1877428 *Local natural terrain shielding effects and time-dependent radiative mapping of Martian surface:* **G Charpentier**, B Ehresmann, T Pieri, T Eyraud, J Guo, S Khaksarighiri, R Benacquista, J C Malapert, R Ecoffet, J Mekki, A Paillet, R F Wimmer-Schweingruber, D Hassler, C Zeitlin, P Valet, Y Gourinat

1892695 *Modeling the 2017 September 10 Solar Energetic Particle Event as Observed on Mars and at 1 au:* **W Liu**, I Sokolov, L Zhao, N Sachdeva, G Toth, H Chen, C O Lee, R F Wimmer-Schweingruber, M Jin, T I Gombosi, W Manchester, R Ramstad, J S Halekas, D E Larson, D Hassler, S Curry

1895700 *ESCAPADE's New Mission: Two-Point Space Weather Measurements at Earth, Mars, and in-Between:* **R J Lillis**, S Xu, S Curry, T Hara, D W Curtis, E Taylor, S Courtade, R Livi, P Whittlesey, J R Espley, A Barjatya, Y Ma, D A Brain, E Thiemann, J Gruesbeck, K G Hanley, R Modolo, C S Edwards, L Lee

1900587 *Measuring high energy (10 MeV - 10 GeV) particles at Mars with the MAVEN Solar Energetic Particle detector, with a focus on Galactic Cosmic Ray modulation throughout the solar cycle (2015-2024).:* **P A Dunn**, C O Lee, B Ehresmann, D Larson, A Rahmati, R J Lillis

1901887 *The Solar Energetic Particle Detector on MAVEN: Bonus Science at Mars:* **A Rahmati**, D E Larson, T Cravens, C O Lee, P Dunn, R Jolitz, S A Ledvina, S Alnussirat, R J Lillis, M O Fillingim, A Silva, D Mitchell, J P McFadden, S Curry

1909626 *Characterizing Mars Space Weather with the M-MATISSE mission: Mars Magnetosphere ATmosphere Ionosphere and Space weather SciencE. An ESA Medium class (M7) candidate in Phase-A.:* **B Sanchez-Cano**, F Leblanc

1925888 *Characterizing the Solar Sources of Periodic Mesoscale Solar Wind Structures Responsible for Radiation Belt Particle Loss: Results and Implications for Space Weather Forecasting:* **G Gratton**, S Wallace, N M Viall, S Di Matteo

1932669 *Improving real-time forecasts of the Solar Wind at the Earth, Moon, and Mars:* **C N Arge**, C J Henney, S I Jones, A Farrish, E Samara, S Schonfeld, D da Silva

247339
Velocity Distributions and Kinetic Wave Activity in Space Plasma: Theory, Simulation, and Machine Learning *(joint with SM)*

Conveners: **Leon Ofman**, NASA Goddard Space Flight Center; **Lan Jian**, NASA Goddard Space Flight Center; **Mihailo Martinovic**, University of Arizona; **Viacheslav Sadykov**, Georgia State University; **Yogesh .**, Catholic University of America

1912034 *Consequences of Insufficient Instrumental Resolution on Solar Wind Temperature Measurements:* **R F Wimmer-Schweingruber**, L Berger, V Heidrich-Meisner, P Kühl, A Fedorov, E Jentsch, P Louarn

1912011 *Critical Transitions in Ion Energization of the Young Solar Wind Observed by Parker Solar Probe:* **P Mostafavi**, V K Jagarlamudi, N E Raouafi, R C Allen, J Palacios, L Ofman, G C Ho

1949015 *Electron impact on ion-scale electrostatic instability in the solar wind:* **M S A A Ibrahim**, K G Klein, M Martinovic, M E Innocenti

1968626 *Identification of Ion-Kinetic Instabilities in Solar Wind Plasma with Machine Learning: from Hybrid-PIC Simulations to Observational Data:* **V M Sadykov**, L Ofman, S A Boardsen, Y , PhD, P Mostafavi, L Jian, K G Klein, M Martinović

252481
Why We Need to Keep Funding Space-Weather Research! *(joint with NH, P, SY, SA)*

Conveners: **Mario Bisi**, STFC Rutherford Appleton Laboratory; **Larisza Krista**, University of Colorado Boulder; **Antti Pulkkinen**, NASA Goddard Space Flight Center; **Krista Hammond**, Met Office

1935582 *Assessing the Reliability of Solar Flare Forecasts for Human and Robotic Space Exploration:* **E Camporeale**, T Berger

1937609 *Solar Wind Helium Abundance: A Fixed-Amplitude Solar Activity Indicator for Space Weather Forecasting:* **B L Alterman**, F Carcaboso, B M Randol, E I Mason, S Chhabra, M L Stevens, A Weiss, M Martinovic, J M Laming, Y K Ko, M J Weberg, B Maruca, L B Wilson III, Y , PhD, Y Rivera, S Pal, T Nieves-Chinchilla, L Ofman, A Szabo, C Möstl

1938088 *Analyzing MSL/RAD Measurements to Assess the Potential of Radiation Shielding Provided by Natural Topography on the Surface of Mars:* **B Ehresmann**, G Charpentier, D Hassler, C Zeitlin, R F Wimmer-Schweingruber, S Khaksarighiri, J L Loewe

1948005 *Importance of Alpha Particle Beams in Driving Ion Scale Waves in Solar Wind Close to the Sun:* **Y , PhD**, L Ofman, S A Boardsen, K G Klein, M Martinovic, V M Sadykov, J Verniero, L Jian, P Mostafavi, G G Howes

1850630 *Ion-Scale Wave Emission and Absorption from non-Maxwellian Velocity Distributions Measured by SWEAP/SPANi:* **K G Klein**, D E Larson, R Livi, M Martinovic, A Rahmati, N Shankarappa, M L Stevens, D Verscharen

1850587 *Loading non-Maxwellian velocity distributions in particle-in-cell (PIC) simulation:* **S Zenitani**, S Usami, S Matsukiyo

1865747 *Modeling Ion-Scale Waves and Kinetic Instabilities in Proton-Alpha Solar Wind Plasma Observed by Parker Solar Probe:* **L Ofman**, Y , PhD, S A Boardsen, L Jian, V M Sadykov, P Mostafavi, K G Klein, M Martinovic, K W Paulson

1922554 *Observational Constraints on Diffusion Coefficients in Collisionless Heating: Evidence for Stochastic Heating in the Solar Wind:* **T Ervin**, T Bowen, A Mallet, P A Isenberg, K G Klein, S D Bale

1964478 *Statistics of transverse velocity in the small magnetic flux ropes carried by the solar wind:* **Y D Jia**, Y Chen, H Wei, Q Hu

1928011 *Enhancing space weather operations to improve critical infrastructure resilience:* **K Brand**

1886818 *Human Space Exploration and Space Weather at NOAA:* **J F Spann**, Y M Collado-Vega, S Dahl, L Rachmeler, D Vassiliadis, N Y Wang

1980235 *The COSPAR PSW-ISWAT 2025+ Space Weather Roadmap - Summary of Recommendations and the Need for Future Funding:* **M M Bisi**, M M Kuznetsova

1973813 *The Critical and Unique Roles of University Research Institutes in Space Weather:* **F G Eparvier, PhD**, P Chamberlin, B L Ehlmann

1989091 *The HelioArc Foundation: A New Vision for Funding Heliophysics and Space Weather:* **R Attie**, F Gautier, C Lopez-Portela, C S Salem

1944177 *The socio-economic impact of space weather in Europe:* **J Amaya**, J P Luntama

1886892 *Why the NOAA mission needs space weather research:* **J F Spann**, R Ullman, I Azeem, C Wallace, R A Steenburgh, L Rachmeler

260064
Solar and Heliospheric Physics Student and Early Career GeoBurst Session

Conveners: **Eduardo Perez Macho**, INPE National Institute for Space Research; **Hazel Bain**, CU/CIRES NOAA/SWPC

1930234 *A Forward Modeling Approach to Compton-Getting Corrections for IBEX Measurements:* **H Farooki**, M E Cuesta, M Alimaganbetov, E Zirnstein, J R Szalay, D J McComas

1997241 *Why we need NASA's DYNAMIC mission?: A Mission Crucial for Enabling the Prediction of Space Weather Impacts:* **S M Bailey**, T Matsuo, A W Merkel, S Curry, L P Goncharenko, B J Harding, V L Harvey

1912877 *Why we need NASA's GDC mission:* **D M Oliveira**, P C Anderson, H U Frey, D J Gershman, M B Moldwin, D E Rowland, E Zesta

1957389 *You Can't Start From the Ground: Scaling the Solar Wind vs. Scaling the Ground Response:* **P M Dredger**, D T Welling, M Kruglyakov, C J Rodger

1877537 *Bridging Solar Physics and Space Weather Forecasting: Advancing the R2O2R Cycle:* **Y Bamba**, D Shiota, T Tsugawa, Y Kubo, M Ishii, K Kusano

1950254 *Dynamics of the Heliospheric Boundary Inferred from IBEX-Derived Line-of-Sight Pressures:* **M E Cuesta**, D J McComas, E Zirnstein, B Shrestha, J S Rankin, J R Szalay, L Y Khoo, H Farooki, S Kasapis, S Pak

1983815 *Intermittency in Voyager's Magnetic Field Beyond the Heliosphere:* **L Y Khoo**, G Livadiotis, D J McComas, M E Cuesta, J S Rankin

1887221 *Prediction of the Energy Spectrum of Helium Pickup Ions at the Solar Wind Termination Shock:* **T Reese**, J Giacalone