Session Information

Oral Sessions
Sessions are being held in the Convention Center (CC) and Marriott Marquis (MM).

Poster Sessions
Posters are on display in the following venue throughout the week: Hall A-C (Poster Hall).

Session & Paper Numbering

Paper Numbers - A paper number designates the section, or other sponsoring group, and chronology of the presentation.
Example: A21A-01 = Atmospheric Sciences, Tuesday, AM, concurrent session A, first paper in that session.

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The program is current as of 06 December 2018. An omitted abstract ID number in the presentation order indicates that the abstract has been withdrawn by the presenter from the session. Please refer to the online program at https://agu.confex.com/agu/fm18/meetingapp.cgi/Home for updates.

Monday A.M.

IN11A (CC) 209A-C
Monday 0800h

Convergence in Space Physics and Earth Science: Discovery Through Machine Learning I (joint with A, NG, SA, SH)

Presiding: Ryan McGranaghan, University of Colorado at Boulder; Justin Hnilo, US Department of Energy; Kerstin Lehnert, Columbia University; Renu Joseph, US Department of Energy;

0855h IN11A-05 Advancing Knowledge through Machine Learning: Examples from the National Science Foundation: A L Walton


0947h IN11A-09 Cray Converged System Architecture and Software for Machine Learning and Data Analytics at Extreme Scale: I Carpenter, A Garg, B Robins

IN11B (CC) Hall A-C (Poster Hall)

Monday 0800h

Application Development in Python for Solar and Space Physics Posters (joint with SA, SH, SM)

Presiding: Alexandrea DeWolfe, University of Colorado at Boulder; D Aaron Roberts, NASA Goddard SFC; Stuart Mumford, University of Sheffield; Alexa Halford, Aerospace Corporation Chantilly;


0800h IN11B-0619 POSTER Joint Analysis of Solar-Wind Ion Measurements from Multiple Spacecraft Instruments: M J Pultrone, B Maruca, R Qudzi, M L Stevens

0800h IN11B-0620 POSTER Data Mining of the MMS Data using Python: J Mukherjee, S A Fusetier, J Goldstein, R G Gomez, P M Steven

0800h IN11B-0621 POSTER Open Source Python Libraries for Visualization and Manipulation of Space Physics Data, Developed by the MAVEN Science Data Center: B Harter Jr, A W DeWolfe, E Lucas, J Barnum, D Brain, M Chaffin

0800h IN11B-0622 POSTER Open Heliophysics Python Development at the Smallest Scale: An Individual’s Project Becomes Useful to Other Scientists: J P Mason


0800h IN11B-0624 POSTER Forecasting International Space Station Transits of the Sun: T Winstral


0800h IN11B-0626 POSTER Kameleon Next-Gen: A new python-based architecture for space weather model access and interpolation: A D Pembroke, L Rastaetter, D DeZeeuw, J S Shim

0800h IN11B-0627 POSTER SpacePy: Space Physics in the Scientific Python Community: S Morley, J T Niehof, B Larsen, D T Welling

0800h IN11B-0628 POSTER The SunPy Ecosystem: D Ryan, S Mumford, N Freij, J Ireland, S Christie, A Y Shih

0800h IN11B-0629 POSTER PySpedas, a Python Implementation of SPEDAS: E W Grimes, J W Lewis, V Angelopoulos, J M McTiernan, N Hatzigeorgiou, A Drozdov, C Russell

0800h IN11B-0630 POSTER Deriving Plasma Temperatures for Solar Features Using Python: A Shackelford, J Darnel, D B Seaton, V Hsu

0800h IN11B-0631 POSTER Performant, practical and reliable design for cross-language Python packages: M Hirsch

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SH11A (CC) 207B

Monday 0800h

Physics of the Global Heliosphere and Local Interstellar Medium I

Presiding: John Richardson, MIT; Eberhard Moebius, University of New Hampshire; Jacob Heerikhuisen, U of AL/Huntsville-CSPAR; Justyna Sokol, Space Research Center Polish Academy of Sciences;

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0845h SH11B-04 Wave Motions in the Ionosphere Associated with the August 2017 Solar Eclipse: N A Zabotin, T Bullett, J J Mabie

0900h SH11B-05 Direct EUV/X-ray Modulation of the Ionosphere and accompanying TIDs during the August 2017 Total Solar Eclipse: S Mrak, J L Semeter, Y Nishimura, M Hirsch, N Sivadas, J D Huba, D P Drobn


0930h SH11B-07 Characterization of Coronal Plasma with Coordinated Infrared and EUV Observations of the 2017 Total Solar Eclipse: C A Madsen, J Samra, G Del Zanna Sr, E DeLuca

0945h SH11B-08 Diagnosing the Magnetic Field Structure of a Coronal Cavity Observed during the 2017 Total Solar Eclipse: Y Chen, H Tian, Z Qu, Y Su, P Jibben, L Deng

SH11C  (CC) Hall A-C (Poster Hall)

Monday  0800h


Presiding: Amir Caspi, Southwest Research Institute; Edward DeLuca, Harvard-Smithsonian Center for Astrophysics; Henry Winter, Smithsonian Astrophysical Observatory;

0800h SH11C-2879 POSTER Computational study of electrodynamics and irregularity development in the August 21, 2017 solar eclipse.: C Rathod, B Srinivasan, W Scales, G D Earle

0800h SH11C-2880 POSTER Ionospheric Effects of the August 2017 Eclipse: Empirically Guided Modeling with Comparisons to Data: M L Moses, L Kordella, G D Earle, D P Drobn, J Huba

0800h SH11C-2881 POSTER Topside Ionospheric Responses to the 21 August 2017 Eclipse Observed by DMSP Spacecraft: M R Hairston, S Mrak, W R Coley

0800h SH11C-2882 POSTER Unambiguous evidence of generation of TID and Bow waves during the Solar Eclipse on 21stAugust using GNSS TEC observations over entire US.: J Eisenbeis, G Occhipinti, E Astafyeva, L Rolland

0800h **SH11C-2885 POSTER** The Megamovie Program: Data Analysis and Lessons Learned: **H S Hudson**

0800h **SH11C-2886 POSTER** 2017 Total Solar Eclipse Expedition of KASI: **S C Bong**, S Choi, J Kim, J Park, B H Jang, Y D Park, K S F Cho, K Cho


0800h **SH11C-2888 POSTER** Physical Conditions in the Solar Corona Derived from the 2017 August 21 Total Solar Eclipse Observations: **N Gopalswamy**, N L Reginald, S Yashiro, P Makela, N Thakur, B J Thompson, Q Gong, C M M Cheung

0800h **SH11C-2889 POSTER** AIR-Spec 2.0 Plans for the July 2 2019 South Pacific Eclipse: **E DeLuca**, J Samra, C A Madsen, P Cheimets, V Marquez, L Lussier

0800h **SH11C-2890 POSTER** Upgrading Stability of an Airborne Infrared Spectrometer (AIR-Spec) for Coronal Observations: **M R Menzel**, J Samra, V Marquez, P Cheimets, E DeLuca

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**SH11D (CC) Hall A-C (Poster Hall)**

**Monday  0800h**

**Plasma Energization, Particle Acceleration, and High-Energy Emission in Solar Flares Posters**

**Presiding:** Fan Guo, Los Alamos National Laboratory; Xiangliang Kong, Shandong University at Weihai; Elena Provornikova, George Mason University; Hugh Hudson, UC Berkeley;


0800h **SH11D-2892 POSTER** Modeling the Propagation of Flare-Accelerated Electrons and Coupled Return Currents: **J C Allred**, M Alaoui


0800h **SH11D-2895 POSTER** Spatially Resolved Quasi-Periodic Fluctuations in C II, Si IV, and Fe XXI Emission During Explosive Chromospheric Evaporation in a Flare Ribbon Observed by IRIS and RHESSI on 2017 September 9: **J W Brosius**, A R Inglis

0800h **SH11D-2896 POSTER** Comparisons of Three Solar Eruptive Gamma-Ray Events: **B R Dennis**, A Y Shih, S Krucker, G H Share

0800h **SH11D-2897 POSTER** Energetic electrons in connection with coronal EUV jets: **S Musset**, L Glesener, M J Barros Ferreira

0800h **SH11D-2898 POSTER** Imaging and Spectroscopy of Six NuSTAR Microflares: **J M Duncan**, L Glesener, I G Hannah, D Smith, B Grefenstette

0800h **SH11D-2899 POSTER** Accelerated electron distributions in NuSTAR microflares: **L Glesener**, S Krucker, I G Hannah, B Grefenstette, D Smith, J M Duncan


0800h **SH11D-2903 POSTER** Statistical study of UV spectral properties in flares using the multi-wavelength observations by IRIS, Hinode, SDO, and RHESSI: **K S Lee**, K Watanabe, H Hara, D Brooks, S Imada

0800h **SH11D-2904 POSTER** Microwave Spectroscopic Imaging of the Decay Phase of the X8.2 flare on 2017 Sep 10: **S Yu**, B Chen, S Musset, K Reeves, G D Fleishman, L Glesener, D E Gary

0800h **SH11D-2905 POSTER** Particle Acceleration in Magnetic Island Coalescence Simulations.: **S Du**, G P Zank, F Guo, X Li, A Stanier

0800h **SH11D-2906 POSTER** Large-scale Compression Acceleration during Magnetic Reconnection in a Low-beta Plasma: **F Guo**, X Li, H Li, S Li, J Birn


0800h **SH11D-2909 POSTER** The Acceleration of Energetic Electrons at the Solar Flare Termination Shock: **X Kong**, F Guo, C Shen, B Chen, J Giacalone, Y Chen

0800h **SH11D-2910 POSTER** Dynamic Spectroscopic Imaging of Decimetric Stochastic Radio Spikes in an M8.4 Flare: Another Case for Flare Termination Shock?: **Y Luo**, B Chen

0800h **SH11D-2911 POSTER** Analyzing Small Timescale Fluctuations in Solar Flare X-ray Flux in a Pair of M9.3 Flares - A Probe for Particle Acceleration Mechanisms: **T Knuth**, L Glesener

0800h **SH11D-2912 POSTER** Spectral Hardening of the Loop-top HXR Source during the Peak of a Solar Flare: **H Ning**, Y Chen, Z Wu, X Kong

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**SH12A (CC) 201**

**Monday 1020h**

**Evolution and Instability of Coronal Magnetic Structures Leading to the Onset of Solar Eruptions I**

*Presiding: Joel Dahlin*, University of Maryland College Park; *Cooper Downs*, Predictive Science Inc.; *Jie Zhang*, George Mason Univ;


1100h **SH12A-03** Disturbance of Pre-existing Magnetic Polarities Prior to Subsequent Emergence of Magnetic Flux in Close Proximity: **G Chintzoglou**, M Rempel, C M M Cheung

1116h **SH12A-04** Conjoined Flux Ropes: A New Mechanism for Filament-Channel Formation at External Polarity Inversion Lines: **T Torok**, J E Leake, V S Titov, X Sun, M Linton, Z Mikic, R Lionello, R L Moore, A C Sterling

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**SH12B (CC) 207B**

**Monday 1020h**

**Physics of the Global Heliosphere and Local Interstellar Medium II**

*Presiding: John Richardson*, MIT; *Eberhard Moebius*, University of New Hampshire; *Jacob Heerikhuisen*, U of AL/Huntsville-CSPAR; *Justyna Sokol*, Space Research Center Polish Academy of Sciences;

1020h **SH12B-01** Overview of the Interstellar Mapping and Acceleration Probe (IMAP) Mission: **D J McComas**

1035h **SH12B-02** Improved Understanding of Energetic Particle Acceleration in the Heliosphere from the IMAP mission: **E R Christian**

1050h **SH12B-03** Surveying the edge of our solar system and the interstellar interaction with IMAP: **N Schwadron**

1105h **SH12B-04** Pickup Ions in the Outer Heliosphere: Revelations by IBEX and Implications for IMAP: **E Zirnstein**


1135h **SH12B-06** 3D Pickup He+ Spectra at 1 AU Observed by the Solar Wind Ion Composition Spectrometer on the Advanced Composition Explorer: **L Berger**

1150h **SH12B-07** Pickup Ions at Comet 67P/Churyumov-Gerasimenko Measured from the Rosetta Spacecraft: **R Goldstein**, J L Burch, K LLera, P Mokashi, H Nilsson

1205h **SH12B-08** Qualitative test particle simulations of pitch angle modifications due to Alfvénic waves: **D Keilbach**, L Berger, V Heidrich-Meisner, R F Wimmer-Schweingruber
Monday P.M.

IN13C  (CC) Hall A-C (Poster Hall)

Monday  1340h

Convergence in Space Physics and Earth Science: Discovery Through Machine Learning Posters (joint with A, NG, SA, SH)

Presiding: Ryan McGranaghan, University of Colorado at Boulder; Justin Hnilo, US Department of Energy; Kerstin Lehnert, Columbia University; Renu Joseph, US Department of Energy;

1340h IN13C-0671 POSTER Rapid automatic clean-up toolkit for large corrupted tidal datasets: V K Sridharan

1340h IN13C-0672 POSTER Using artificial neural networks to generate "continuous" vertical plasma drifts from C/NOFS data: J B Habarulema, M Dubazane

1340h IN13C-0673 POSTER Extracting Solar Physics from 151 Million Images: M S Kirk, R Attié, B J Thompson, N M Viall, P R Young

1340h IN13C-0674 POSTER The development of a real time forecasting tool for the Dst Index: A system identification approach: R Boynton, H L Wei, M A Balikhin

1340h IN13C-0675 POSTER Seeking Lagrangian Coherent Structures in Data-driven Plasma Drifts: N Wang, U Ramirez, S Datta-Barua


1340h IN13C-0677 POSTER Imputation of geomagnetic disturbance fields with non-linear regression based on synthetic data: E J Rigler, G M Lucas

1340h IN13C-0678 POSTER A machine learning informed algorithm for the identification of tornadic severe storms: L Munchak

1340h IN13C-0679 POSTER Projection Learning with Local and Global Consistency Constraints for High Spatial Resolution Remote Sensing Images Scene Classification: P P Zhu, L Zhang, Y Wang, J Mei

1340h IN13C-0680 POSTER A Discriminative Distance Metric Learning with Adaptive Label Consistency for Semi-supervised Scene Parsing from Point Clouds: J Mei, L Zhang, Y Wang, P P Zhu, Y Li, X Li

SH13A  (CC) 207B

Monday  1340h

Evolution and Instability of Coronal Magnetic Structures Leading to the Onset of Solar Eruptions II

Presiding: Joel Dahlin, University of Maryland College Park; Cooper Downs, Predictive Science Inc.; Georgios Chintzoglou;

1340h SH13A-01 On the two-step initiation of solar eruptions: J Zhang

1400h SH13A-02 MHD modelling of coronal jets generated by small-scale filament eruptions: P F Wyper, C R DeVore, S K Antiochos

1420h SH13A-03 Multispectral Study of 24 Equatorial Coronal-Hole Jets: P Kumar, J T Karpen, S K Antiochos, P F Wyper, C R DeVore, C DeForest

1340h **SH13B-2921** POSTER A Chain of Evolutionary Processes Forming the Core Structure(s) Responsible for Solar Eruptions: M K Georgoulis

1452h **SH13A-05** Formation of a Kilogauss Magnetic Flux Rope Prior to an X9-Class Flare: X Sun, V S Titov, B T Welsch, S A Jaeggli

1524h **SH13A-06** New Insights into the 10 September 2017 Mega-Eruption: J T Karpen, P Kumar, S K Antiochos, D E Gary, J Dahl

1508h **SH13B-2923** POSTER Sigmoidal DMEs: The Latest Solar Cycle: An Updated Catalog with Statistical Properties from Hinode: A S Savcheva

1340h **SH13B-2924** POSTER Critical Parameters of an Active Region to Produce Eruptive Solar Flares and CMEs: P H Lin, K Kusano, Y Mizuno, D Shiota, S Inoue

1340h **SH13B-2925** POSTER A study of the critical condition for the onset of solar flares based on the theory of magnetohydrodynamic instability: K Kusano, S H Park, T Iju, J Muhamad, S Inoue, Y Bamba

1340h **SH13B-2927** Why the torus-unstable flux rope eruption failed?: Z Zhou, X Cheng, J Zhang, L Liu, J Cui, Y Wang

1340h **SH13B-2928** POSTER Contribution of Photospheric Motions to A Major Eruption on 2017 September 6: R Wang

1340h **SH13B-2929** POSTER Evolution of Coronal Bright Points and Jet Onset Times: A M Leisner Jr, K Muglach, M C Damas

1340h **SH13B-2930** POSTER On the Eruptivity of the Magnetic Field in Data-driven Time-dependent Coronal Simulations: J Pomoell, E Lumme, D J Price, K E J Kilpua

1340h **SH13B-2931** POSTER A Statistical Study of CME Kinematics and its Relationship to the Magnetic Reconnection Flux: M Spiegel, C Zhu, J Qiu, P C Liewer, A Vourlidas, Q Hu

1340h **SH13B-2932** POSTER Magnetofrictional Modeling of a Pseudostreamer Before and During Eruption: N Karna, A S Savcheva, S E Gibson, S Tassev, K Dalmasse, G de Toma, E DeLa

1340h **SH13B-2933** POSTER Magnetic Energy Bounds for Major Solar Eruptions: J Linker, Z Mikic, C Downs, R M Caplan, P Riley, T Torok, V S Titov, R Lionello, T Amari

1340h **SH13B-2934** POSTER Flux Accretion and Coronal Mass Ejection Dynamics: B T Welsh

1340h **SH13B-2935** POSTER Numerical simulations of coronal jet eruptions: F Fang

**SH13B  (CC) Hall A-C (Poster Hall)**

**Monday  1340h**

**Evolution and Instability of Coronal Magnetic Structures Leading to the Onset of Solar Eruptions Posters**

**Presiding:** Joel Dahl, University of Maryland College Park; Cooper Downs, Predictive Science Inc.; Jie Zhang, George Mason Univ; Georgios Chintzoglou, ;
1340h **SH13C-2936 POSTER** Recent Developments on the Galactic Cosmic-Ray Anisotropies Observed by Voyager 1 in the Local Interstellar Medium: J S Rankin, E C Stone, A C Cummings, N Lal, B C Heikilka

1340h **SH13C-2937 POSTER** The effects of anomalous cosmic rays on the geometry of outer heliosphere from a numerical simulation: X Guo, V A Florinski, C Wang, H Li


1340h **SH13C-2940 POSTER** Voyager 2 in the Heliosheath: J D Richardson

1340h **SH13C-2941 POSTER** B-field Voyager SC observations of wave/wave-like activity at specific instrument calibration time after year 2010: D B Berdichevsky

1340h **SH13C-2942 POSTER** Modulation in the Heliosphere: The View from the Voyagers: A C Cummings, E C Stone, B C Heikilka, N Lal

1340h **SH13C-2943 POSTER** Predicting the Time-varying Heliosphere at Voyager 1 and 2: T K Kim, N Pogorelov, L F Burlaga

1340h **SH13C-2944 POSTER** Bulk Properties of Pickup Ions at Ulysses: C R Brown, T K Kim, N Pogorelov, M Zhang

1340h **SH13C-2945 POSTER** Magnetic Waves Excited by Newborn Interstellar Pickup Ions Measured by the Voyager Spacecraft From 1 to 45 AU: C W Smith, S Hollick, Z B Pine, M R Argall, C Joyce, P A Isenberg, B J Vasquez, N Schwadron, J M Sokol, M Bzowski, M A Kubiak

1340h **SH13C-2946 POSTER** In Situ Observations of Preferential Pickup Ion Heating at an Interplanetary Shock: E Zirnstein, D J McComas, R Kumar, H A Elliott, J R Szalay, C Olkin, J R Spencer, S A Stern, L A Young

1340h **SH13C-2947 POSTER** Near-Earth Observations of Interstellar Pickup Ions by MMS-HPCA: R G Gomez, S A Fuselier, J L Burch, J Mukherjee, M J Starkey, C A Gonzalez

1340h **SH13C-2948 POSTER** Analysis of energy power spectra measured by SWAP experiment: 1D full particle simulation results versus observations of New Horizon mission: B Lembege, Z Yang, G P Zank

1340h **SH13C-2949 POSTER** Formation of backstreaming pickup ions in quasi perpendicular shock: application to the heliospheric termination shock: Z Yang, B Lembege

1340h **SH13C-2950 POSTER** Enhancement of Pickup Ion Pressure in the Inner Heliosheath and Possible Implications for Energetic Neutral Atom (ENA) Observations by IBEX: P Mostafavi, G P Zank, D J McComas, E Zirnstein

1340h **SH13C-2951 POSTER** What the 4.3 – 8 8 keV ENA flux reveals about termination shock pickup ion spectra and heliospheric structure?: A Czechowski, M Bzowski, J Grygorczuk, M Hilchenbach, J Heerikhuisen, M A Kubiak, N Schwadron, J M Sokol, G P Zank

1340h **SH13C-2952 POSTER** Response of the Pickup Ion in the Outer Heliosheath to the Fluctuating Heliopause: K Tsubouchi

1340h **SH13C-2953 POSTER** A Survey of Singly Charged Ions and Their Relation to Filament Material Within Interplanetary Coronal Mass Ejections: J A Gilbert, E Landi, S T Leprì, Y Rivera

1340h **SH13C-2954 POSTER** Changes of Pickup Ion Velocity Distribution Due to Solar Wing Compressions and Interplanetary Shocks: J Bower, E Moebius, L Berger, M A Lee, P Quinn, C J Farrugia, N Schwadron


1340h **SH13C-2956 POSTER** The Interstellar Mapping and Acceleration Probe (IMAP) Science and Mission Implementation: J H Westlake
1340h **SH13C-2957 POSTER** The Transport of Secondary Pickup Ions in Turbulence in the Local Interstellar Medium: Implications for the IBEX Ribbon: **J Giacalone**, J Kota, J R Jokipii


1340h **SH13C-2960 POSTER** Determining the Interstellar Wind Longitudinal Inflow Evolution Using Pickup Ions in the Helium Focusing Cone: **S A Spitzer**, J A Gilbert, S T Lepri, E Moebius

1340h **SH13C-2961 POSTER** 3-seasons optical observations of neutral helium distribution in interplanetary space by the Hisaki satellite: **A Yamazaki**, G Murakami, K Yoshioka, T Kimura, F Tsuchiya, M Kagitani, T Sakano, N Terada, Y Kasaba, I Yoshikawa

1340h **SH13C-2962 POSTER** Ulysses and IBEX Constraints on Temperature Anisotropy in the Interstellar He Flow: **B E Wood**, H R Mueller, E Moebius

1340h **SH13C-2963 POSTER** Population of He+ Ions Co-moving with the Solar Wind in the Outer Heliosphere: **P Swaczyna**, D J McComas, E Zirnstein


1340h **SH13C-2966 POSTER** Detailed Modeling of Neutral Helium in the Heliosphere: **H R Mueller**, E Moebius, B E Wood

1340h **SH13C-2967 POSTER** The distribution function of ISN He outside and inside the heliopause: **M A Kubiak**, M Bzowski, J M Sokol, J Heerikhuisen, E Zirnstein

1340h **SH13C-2968 POSTER** A Predicted Small and Round Heliosphere: **M Opher**, A Loeb, J F Drake, G Toth

1340h **SH13C-2969 POSTER** Analytic Solution to Charge-Exchange between Kappa-Distributed Pickup Ions and Maxwellian Neutral Atoms when an Energy-Dependent Cross-Section is Included: **A DeStefano**, J Heerikhuisen

1340h **SH13C-2970 POSTER** Coupling suprathermal protons in the heliosheath to the plasma through charge-exchange with neutral hydrogen: **J Heerikhuisen**, E Zirnstein, N V Pogorelov, G P Zank, M I Desai, A DeStefano

1340h **SH13C-2971 POSTER** ENA Flux from the Inner Heliosheath and its Connection to Termination Shock Properties: **B L Shrestha**, J Heerikhuisen, E Zirnstein, N V Pogorelov


1340h **SH13C-2973 POSTER** The Impact of Kinetic Neutrals on the Shape of the Heliosphere and Structure of the Heliotail: **A Michael**, M Opher, G Toth, V Tenishev


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**SH14A (CC) 201**

**Monday 1600h**

Plasma Energization, Particle Acceleration, and High-Energy Emission in Solar Flares I

**Presiding:** Fan Guo, Los Alamos National Laboratory; Xiangliang Kong, Shandong University at Weihai; Elena Provornikova, George Mason University; Hugh Hudson, UC Berkeley;

1600h **SH14A-01** Particle Acceleration and Transport in Solar Flares and Associated CME Shocks: **S Liu**, V Petrosian


1645h **SH14A-04** A new MHD/kinetic model for exploring particle acceleration in solar flares: **J F Drake**, H Arnold, M Swisdak, J Dahlin

1700h **SH14A-05** The Dynamical Behavior of Reconnection-driven Termination Shocks in a Solar Flares Model: **C Shen**, X Kong, F Guo, J Raymond, B Chen

1715h **SH14A-06** Possible signatures of a termination shock in the 29 March 2014 X-class flare observed by IRIS: **V Polito**, G Galan, K Reeves, S Musset

1730h **SH14A-07** X-ray and Radio Diagnostics of Energetic Electrons in the Corona: **N Vilmer**, A Strugarek, R A Schwartz, H Reid

1745h **SH14A-08** Electron Beams Cannot Produce Coronal Rain: **J W Reep**, P Antolin, S J Bradshaw

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**SH14B (CC) 207B**

**Monday  1600h**

**Solar and Heliospheric Physics: General Contributions I (joint with SA, SM)**

*Presiding:* **J Hoeksema**, Stanford University; **Anthony Mannucci**, Jet Propulsion Laboratory; **Elizabeth MacDonald**, National Aeronautics and Space Administration;

1600h **SH14B-01** Helioseismic Evidence for Dynamo Waves Inside the Sun: **A G Kosovichev**


1630h **SH14B-03** Multi-wavelength Fourier Observations of Solar Acoustic Waves Near Active Regions with GONG and SDO AIA: **T Monsue**, W D Pesnell, F Hill

1645h **SH14B-04** Reconnection Signatures in Solar Magnetograms: **R D Loper Jr**


1715h **SH14B-06** Study of Type III Radio Bursts in Nanoflares: **S Chhabra**, J A Klimchuk, N M Viall, D E Gary

1730h **SH14B-07** The Cause of Faint Coronal Jets from Emerging-Flux Regions in Solar Coronal Holes: **A R Harden**, N K Panesar, A C Sterling, R L Moore

1745h **SH14B-08** Progress Towards a Near-Real-Time Far-side Magnetic Flux Data Product: **S A Hess Webber**, R Chen, M Bobra, J Zhao
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Tuesday A.M.

SH21A  (CC) 207B
Tuesday  0800h


Presiding: George Livadiotis, Southwest Research Institute; William Matthaeus, University of Delaware; Heather Elliott, Southwest Research Institute San Antonio; Minping Wan, University of Delaware;

0800h Introductory Remarks:

0803h SH21A-01 Concerning pressure and entropy of heliosheath electrons: H J Fahr
0816h SH21A-02 Kappa distributions to model electrons and ions in the corona and the solar wind: V Pierrard
0829h SH21A-03 Kolmogorov’s Legacy in a Field He Hardly Knew: C W Smith
0842h SH21A-04 Plasma Turbulence in Phase Space: 3D-3V Hybrid-Vlasov-Maxwell Simulations: S S Cerri, M W Kunz, F Califano
0855h SH21A-05 Study of seismicity of Japan and California by means of natural time analysis and non-extensive statistical mechanics: N V Sarlis, E S Skordas, P Varotsos
0908h SH21A-06 Exact Theory of Kinetic Turbulence in Nearly Collisionless Plasmas: G L Eyink
0921h SH21A-07 Influence of Kappa Distributions on the Whistler-mode Instability: D Summers, R Tang
0934h SH21A-08 Scale dependence of energy transfer in turbulent plasma: Y Yang, M Wan, W H Matthaeus, T Parashar, L Sorriso-Valvo, Y Shi, S Chen
0947h SH21A-09 Methods to Determine the Bulk Properties of Space Plasmas and Potential Applications: G Nicolaou, M Yamauchi, C J Owen, G Livadiotis

SH21B (CC) Hall A-C (Poster Hall)

Tuesday 0800h

Breakthrough Observations of the Sun on Suborbital-Class Platforms Posters

Presiding: Amy Winebarger, NASA Marshall Space Flight Center; Lindsay Glesener, University of Minnesota;

0800h SH21B-3280 POSTER Hot coronal loops embedded in a cool surrounding: H Peter, L P Chitta, F Chen
0800h SH21B-3281 POSTER Characterizing Cool Arch Filament System in the Core of Hi-C2.1 Solar Active Region: S K Tiwari, N K Panesar, A R Winebarger, R L Moore, B De Pontieu
0800h SH21B-3282 POSTER Jitter Deblurr Methods for High Resolution Coronal Imager Sounding Rocket Mission: G D Vigil
0800h SH21B-3283 POSTER Morphology and Dynamics Observed with Hi-C and IRIS: A R Winebarger, S L Savage, B De Pontieu, L Golub, R W Walsh
0800h SH21B-3285 POSTER Hi-C2.1 OBSERVATIONS OF SOLAR JETLETS AT SITES OF FLUX CANCELATION: N K Panesar, A C Sterling, R L Moore
0800h SH21B-3286 POSTER Identifying Extra Spectral Content in MOSES Images: J D Parker, C C Kankelborg
0800h SH21B-3290 POSTER X-ray Testing of MaGIXS Mirrors: Data Analysis and Performance Predictions: C J Quigg, P R Champey, A R Winebarger

SH21C (CC) Hall A-C (Poster Hall)

Tuesday 0800h


Presiding: George Livadiotis, Southwest Research Institute; William Matthaeus, University of Delaware; Heather Elliott, Southwest Research Institute San Antonio; Minping Wan, University of Delaware;

0800h SH21C-3291 POSTER Using Kappa VDFs to model heavy solar wind ions: O Cohen, S P Moschou, V Pierrard, B T Söös, J J Drake
0800h SH21C-3293 POSTER Intermittency Statistics in the Expanding Solar Wind: M E Cuesta, T Parashar, W H Matthaeus


0800h SH21C-3296 POSTER The Unstable Nature of Iroshnikov-Kraichnan Turbulence: S Oughton, Y P Lin

0800h SH21C-3297 POSTER Correlation Scales of the Turbulent Cascade at 1 AU: C W Smith, B J Vasquez, J Coburn, M A Forman, J E Stawarz

0800h SH21C-3298 POSTER Observations of Ion Cyclotron Dissipation in the Solar Wind Turbulence: H Wu, X Wang, C Tu, J He

0800h SH21C-3299 POSTER Evidence of Hydrodynamic Cascade Process in the Solar Wind Turbulence: H Wu, C Y Tu, X Wang

0800h SH21C-3300 POSTER Solar-Cycle Dependence of the Correlation Length for the N-Component of the Magnetic Field From IMP and ACE Observations From 1973 to 2016: R A Burger, N E Engelbrecht

0800h SH21C-3301 POSTER Interplay between intermittency and dissipation in collisionless plasma turbulence: A Mallet, K G Klein, B D G Chandran, D Groselj, I W Hoppock, T A Bowen, C S Salem, S D Bale

0800h SH21C-3302 POSTER Investigation of energy cascade in anisotropic MHD turbulence with Kolmogorov-Yaglom law: M Wan, Y Yang, Y Zhang, C Ying, W H Matthaeus

0800h SH21C-3303 POSTER Angular Independence of Break Position for Magnetic Power Spectra Density in Solar Wind Turbulence and Its Relation with the Breakdown of the Frozen-in Condition in the Wavenumber Space: D Duan, J He, Z Pei, S Huang, H Wu, D Verscharen, L Wang

0800h SH21C-3304 POSTER Kappa Distributions: The myth of "non-thermal" plasmas: G Livadiotis

0800h SH21C-3305 POSTER Effect of the Kappa-Distributions on the Fe XVII-XVIII X-Ray Spectra and Diagnostic Proposal for MaGiXs: E Dzifcakova, J Dudik, G Del Zanna, A Zemanova

0800h SH21C-3306 POSTER Study of the effects of density and temperature variations on the generation of suprathermal electrons tails due to electrostatic bremsstrahlung: S Tigik Ferrão, L F Ziebell, P H Yoon

0800h SH21C-3307 POSTER Quantifying Heating by Magnetic Pumping through in situ Spacecraft Observations: E R Lichko, J Egedal, W S Daughton, J C Kasper

0800h SH21C-3308 POSTER Kappa Distributions in the Solar Wind: From Observational Evidence to a Consistent Theory: S M Shaaban Hamd, H Fichtner, M Lazar, K Scherer

0800h SH21C-3310 POSTER Kinetic Study of Electrostatic Waves in Lunar Wake Plasma with Kappa electrons and Kappa-Beam Electron: T Sreeraj, S Singh, G S Lakhina

0800h SH21C-3311 POSTER Cassini/MIMI measurements of energetic ion moments and the polytropic index in Saturn’s magnetosphere.: K Dialynas, E Roussos, L Regoli, C Paranas, S M Krimigis, M Kane, D G Mitchell, D C Hamilton, N Krupp, J F Carberry

0800h SH21C-3312 POSTER Order parameter fluctuations of seismicity and Tsallis entropic index q variation before large earthquakes in Japan: N V Sarlis, P Varotsos, E S Skordas, S R G Christopoulos

0800h SH21C-3313 POSTER Formation of the Common Spectrum of the Suprathermal Ion Tail in the Solar Wind via Simple Coulombic Self-interactions: Analytical Results: B M Randol

0800h SH21C-3314 POSTER How collisionless are solar wind electrons? The role of skewed kappa distributions in the solar wind heat-flux transport: P S Moya, A F Vinas, R Lopez, M L Adrian, J Silva


0800h SH21C-3316 POSTER Non-thermal limit of monoenergetic electron precipitation in the terrestrial auroral acceleration region: S Hatch, J W Labelle, C C Chaston

0800h SH21C-3317 POSTER Non-Extensive Statistical Analysis of Energetic Particle intensity time series in the solar wind: G Livadiotis, E G Pavlos, O Malandraki, G P Pavlos, O Khabarova, L P Karakatsanis
SH22A  (CC) 204A-C
Tuesday  1020h
Magnetic Fields in the Solar Corona: Observations and Modeling I

Presiding: Shaela Jones, NASA Goddard Space Flight Center; Nishu Karna, Harvard-Smithsonian Center for Astrophysics; Derek Lamb, Southwest Research Institute;

1020h  SH22A-01  Global Coronal Models and Forward Modeling: Connecting Observables to the Underlying Physical State of the Corona: C Downs, R M Caplan, Z Mikic, J Linker

1038h  SH22A-02  Measuring the Free Energy and Helicity Leading to Solar Eruptive Events: P W Schuck, S K Antiochos

1052h  SH22A-03  On Fine Structures in the Solar Corona: A V Malanushenko, M Rempel, C M M Cheung

1106h  SH22A-04  Coronal magnetism: spectropolarimetric diagnostics from IR to UV: S E Gibson, K Dalmasse, M F Corchado-Albelo, G de Toma, Y Fan, S Fineschi, N Karna, M P Miralles, A S Savcheva, R Susino, J Zhao

1124h  SH22A-05  A Novel Approach to Determining the Acceleration Mechanism of Coronal Jets: Combining Non-Linear Force Free Modeling and Coronal Plasma Diagnostics: S Farid

1138h  SH22A-06  Evolving Maps of Coronal Magnetic Field in Flaring Loops Obtained with Microwave Imaging Spectroscopy from EOVSA: G D Fleishman, D E Gary, B Chen, N Kuroda, S Yu, G M Nita

1152h  SH22A-07  Comparing Extrapolations of the Coronal Magnetic Field with Multi-Spacecraft White-Light Coronagraphic Observations: C Sasso, R Pinto, V Andretta, R Howard, A Vourlidas

1206h  SH22A-08  Characterization of the coronal magnetic field through the cosmic ray flux: A Lara, P Colin, J M Ryan

SH22B  (CC) 207B
Tuesday  1020h
Visions of Future Innovation Across Space Physics and Aeronomy I  (Virtual Session) (joint with SA, SM)

Presiding: Carrie Black, National Science Foundation; Elsayed Talaat, NOAA/NESDIS; Roshanak Hakimzadeh, NASA;

1020h  SH22B-01  Sunny-side up: The promise of future solar polar missions: S E Gibson, C DeForest, L Johnson, J C Kasper, S W McIntosh, M J Thompson, M Velli

1050h  SH22B-03  Closing the Gap Between the Sun and Heliosphere: C E DeForest, S E Gibson

1105h  SH22B-04  How will DKIST Help Us Understand the Magnetic Connectivity Between the Sun and the Earth?: F Woeger, V M Pillet

1120h  SH22B-05  The new Arecibo Observatory Solar/heliospheric program (AO-SOL): A Abe Pacini

1135h  SH22B-06  Big Science on a Small Budget: Innovative Experiments for Radiation Belt Science: R M Millan, J G Sample, T Sotirelis

1150h  SH22B-07  Leveraging Commercial Cubesat Constellations for Science: A Case Study: J B Parham, J L Semeter, B Walsh

1205h  SH22B-08  Current and Future Community Integrative Science and Discovery Using Incoherent Scatter Radar Techniques: P J Erickson
Tuesday P.M.

SA23B  (CC) Hall A-C (Poster Hall)

Tuesday  1340h

**Employing Space Physics to Mitigate Space Weather Impacts Posters ♦ (joint with NH, SI)**

*Presiding: James McCollough, Air Force Research Laboratory Albuquerque; Linda Parker, Universitites Space Research Association; Michele Cash, NOAA-Space Weather Prediction Center;*

1340h **SA23B-3186 POSTER** A 30 Year Simulation of the Outer Electron Radiation Belt: S A Glauert, R B Horne, N P Meredith

1340h **SA23B-3187 POSTER** Space climate trends with attention to the radiation belts: W R Johnston, Y J Su, J P McCollough II


1340h **SA23B-3190 POSTER** The Effect of Helium on Low Earth Orbit Atmospheric Drag: V Bernstein, A C Walker, L M Winter

1340h **SA23B-3191 POSTER** Effects of atmospheric density uncertainties on the probability of collision for the CYGNSS constellation.: C Bussy-Virat, A J Ridley

1340h **SA23B-3192 POSTER** Systematic Assessment of Ionosphere/Thermosphere Models for Predictions of TEC and foF2 during the 2013 March Storm Event: J S Shim, I Tsagouri, L P Goncharenko, M Foerster, B E Prokhorov

1340h **SA23B-3193 POSTER** A Comparison of the Magnetospheric Specification Model and the Magnetospheric Specification and Forecast Model as Inputs for a Surface Charging Specification: S L Young, R V Hilmer

1340h **SA23B-3194 POSTER** Specification and initial forecast of keV electrons at GEO and MEO related to surface charging: N Y Ganushkina, S Dubyagin, M W Liemohn

1340h **SA23B-3195 POSTER** Using a Numerical MHD Model to Improve Solar Wind Time-shifting: T G Cameron, B J Jackel

1340h **SA23B-3196 POSTER** Fostering scientific collaboration for improved space weather forecasting: Combining the results of the EU HELCATS and FLARECAST Projects: S A Murray, J A Guerra, P Zucca, S H Park, E Carley, P Gallagher

SH23A  (CC) 209A-C

Tuesday  1340h

**Breakthrough Observations of the Sun on Suborbital-Class Platforms I**

*Presiding: Amy Winebarger, NASA Marshall Space Flight Center; Lindsay Glesener, University of Minnesota;*


1355h **SH23A-02 Novel Dual Aperture Design for Soft X-ray Solar Spectrometer:** Measurements from June 2018 Sounding Rocket: B Schwab, R H A Sewell, T N Woods

1410h **SH23A-03 Overview of Results from the Hi-C 2.1 Sounding Rocket Coordinated Observations:** S L Savage, A R Winebarger, L Rachmeler

1425h **SH23A-04 Results from the 2017 Eclipse Observation of the Airborne Infrared Spectrometer:** J Samra, P Cheimets, E DeLuca, L Golub, P G Judge, L Lussier, C A Madsen, V Marquez

1440h **SH23A-05 Machine Learning Techniques for Computed Tomography Imaging Spectroscopy of the Solar Atmosphere:** R Smart, C C Kankelborg


1510h **SH23A-07 New Insights into Solar Flare Temperature Distributions and Elemental Abundances using MinXSS CubeSat and RHESSI X-ray Spectroscopy:** A Caspi, J M McTiernan, H Warren, J M Laming, T N Woods
SH23B (CC) 207B

Tuesday 1340h

Waves, Instabilities, and Turbulence in Magnetized Plasma Structures I (joint with SM)

Presiding: Shreekrishna Tripathi, University of California Los Angeles; Gary Zank, Univ of Alabama, Huntsville; Leon Ofman, NASA GSFC;

1340h SH23B-01 Alfven Waves and Density Fluctuations in Coronal Holes: M Hahn

1355h SH23B-02 Observation of coherent whistler wave pulses generated by a localized 3D magnetic reconnection event: P M Bellan, M A Haw

1410h SH23B-03 Observations of Heating by Alfvén Wave Dissipation in Collisionless Plasma Flows: L D Woodham, R T Wicks, D Verscharen, C J Owen


1440h SH23B-05 Effects of transport coefficients on excitation of the slow-mode waves and plasma thermodynamics in flaring loops: T Wang, S J Bradshaw, L Ofman, B R Dennis

1455h SH23B-06 On the Frequency and Drivers of Ion Scale Instabilities in the Solar Wind: K G Klein, D Verscharen, M L Stevens, B L Alterman, D Vech, J C Kasper


1525h SH23B-08 Fully Spectral, Fully Kinetic Simulations of Plasma Turbulence: V Roytershteyn, G L Delzanno, O Koshkarov

1340h SH23C-3330 POSTER The Divided Nature of the Quiet Sun: Cool and Warm Loops: D Schmit, A N Daw

1340h SH23C-3331 POSTER Developing Capabilities for Driving the Solar Atmosphere with Photospheric Magnetic Field Observations: M Linton, D E Leake, L Tarr, P W Schuck

1340h SH23C-3332 POSTER Elliptic Surfaces for the Potential Field Source Surface Model: M A Kruse II, V Heidrich-Meisner, L Berger, R F Wimmer-Schweingruber

1340h SH23C-3333 POSTER Using Coronagraph Images to Evaluate the ADAPT Flux Transport Model: S I Jones, V M Uritsky, C J Henney, C N Arge

1340h SH23C-3334 POSTER Coronal magnetic field extrapolation with MHD relaxation: T Shi, W Manchester, E Landi, G Toth, B van der Holst

1340h SH23C-3335 POSTER Data-driven Model of Global Solar Corona Based on Vector Magnetogram Data: M S Yalim, N V Pogorelov, Y Liu, G P Zank

1340h SH23C-3336 POSTER Magnetic Boundary Structure in the Solar Corona and Solar Wind: B L Burkholder, A Otto, A Parrot, P A Delamere

1340h SH23C-3337 POSTER New Analytical 3D Magneto-hydrostatic Equilibria for Modelling Solar Magnetic Fields: T Neukirch

1340h SH23C-3338 POSTER Simulating the Solar Minimum Corona in UV and Visible/IR Wavelengths with Forward Modeling: S E Gibson, J Zhao, S Fineschi, R Susino

1340h SH23C-3339 POSTER Two-Fluid 2.5D Magnetohydrodynamic Simulation and Model of the Sun’s Chromosphere: Q A Al Shidi, O Cohen


1340h SH23D-3341 POSTER II. Analysis of 3D plasma motions in a chromospheric jet formed due to magnetic reconnection: V Fedun, J J Gonzalez, F Guzmán, G Verth, R Sharma, S Shelyag, S Regnier

1340h SH23D-3342 POSTER Simulations Reveal a New Thermally-Driven Plasma Instability in the Solar Chromosphere: M M Oppenheim, Y S Dimant, W Longley, A Fletcher

1340h SH23D-3343 POSTER Propagation of a global coronal wave and its interaction with large-scale coronal magnetic structures: A Afanasev, A Zhukov

1340h SH23D-3344 POSTER Type II Solar Radio Bursts With Reverse Frequency Drifts Observed In Different Viewpoints: W Zong

1340h SH23D-3345 POSTER New Insights from Spectroscopic Snapshot Imaging of Weak Type III Radio Bursts using MWA: A Mohan, S Mondal, D Oberoi

1340h SH23D-3346 POSTER Evidence for Langmuir Solitons in Solar Type III Bursts: T Golla, R J MacDowall

1340h SH23D-3347 POSTER Element Abundances and the Source of the Slow Speed Solar Wind: J M Laming, A Vourlidas, Y K Ko, C Korendyke

1340h SH23D-3348 POSTER Signatures of Alfvén-mode and Slow-mode Waves and Structures in 3D Compressive MHD Turbulence: L Yang, H Li, S Li, L Zhang, J He

1340h SH23D-3349 POSTER Observational Analysis of Small-scale Magnetic Flux Ropes from Ulysses In-situ Measurements: Y Chen, Q Hu, J A le Roux

1340h SH23D-3350 POSTER Observational signatures of fluctuating moments associated with ion-cyclotron waves in the solar wind.: R Qudzi, B Maruca, D Verscharen, M L Stevens, B L Aliterman

1340h SH23D-3351 POSTER The 2017-Sep-10 EUV Wave and Its Implications for Global Coronal Seismology: L Ofman, W Liu, M Jin, M L DeRosa, J Silver, C Downs

1340h SH23D-3352 POSTER Modeling Kinetic Waves and Instabilities in the Solar Wind Alpha-Proton Plasma: L Ofman, L K Jian, D A Roberts


1340h SH23D-3354 POSTER Proton Core Effects on the Electromagnetic Ion-Beam Instability: R Navarro, J A Araneda
1340h **SH23D-3355 POSTER** Coherent Nonlinear Processes in Collisionless Plasmas with Positively and Negatively Charged Ions: **J A Araneda**, R Navarro, A Figueroa-Vinas, J D Avendano

1340h **SH23D-3356 POSTER** Spontaneous Excitation of Plasma Waves by an Intense Proton Beam in a Large Magnetized Plasma: **S Tripathi**, W N Gekelman, P Pribyl, B Van Compernolle, W Heidbrink

1340h **SH23D-3357 POSTER** Three-dimensional Evolution and Formation of Multiple Current-filaments in a Laboratory Arched Magnetized Plasma: **K Krynski**, S Tripathi, T Carter

1340h **SH23D-3359 POSTER** The Fluid-like Behavior of Kinetic Alfvén Waves in Space Plasma: **H Wu**, D Verscharen, R T Wicks, C H K Chen, J He, G Nicolaou

1340h **SH23D-3360 POSTER** Efficient generation of variable, high $k_\perp$, kinetic Alfvén waves: **S T Vincena**, W N Gekelman, P Pribyl, D Papadopoulos

1340h **SH23D-3361 POSTER** Whistler Wave Excitation using Ferromagnetic Antennas: **S Crisp**, W N Gekelman, P Pribyl, S T Vincena, K Papadopoulos

1340h **SH23D-3362 POSTER** Theoretical model of ion-acoustic shock wave structure in dusty plasma: **J G Alonso Guzmán**, G P Zank

1340h **SH23D-3363 POSTER** Waves at the electron plasma frequency in the magnetosheath: **J Soucek**, D Pisa, M Hajos, O Santolik


1340h **SH23D-3365 POSTER** Wave generation and heat flux suppression in astrophysical plasma systems: **G Roberg-Clark**, J F Drake, M Swisdak, C Reynolds

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**SH24A (CC) 202B**

**Tuesday 1700h**

The 2018 Parker Solar/Heliophysics Lecture (Virtual Session) (joint with SA, SM)

**Presiding:** Larry Paxton, Johns Hopkins University Applied Physics Laboratory; **Christina Cohen**, Caltech;

1700h Introductory Remarks:

1710h **SH24A-01** Our Heliosphere’s Interstellar Interaction: Observations and Discoveries: **D J McComas**
Join AGU in Honoring the 2018 Union Honorees

6:00 PM–8:00 PM
Convention Center: Ballroom A-C

Session Information

Oral Sessions
Sessions are being held in the Convention Center (CC) and Marriott Marquis (MM)

Poster Sessions
Posters are on display in the following venue throughout the week: Hall A-C (Poster Hall)

Session & Paper Numbering

Paper Numbers - A paper number designates the section, or other sponsoring group, and chronology of the presentation.
Example: A21A-01 = Atmospheric Sciences, Tuesday, AM, concurrent session A, first paper in that session.

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The program is current as of 06 December 2018. An omitted abstract ID number in the presentation order indicates that the abstract has been withdrawn by the presenter from the session. Please refer to the online program at https://agu.confex.com/agu/fm18/meetingapp.cgi/Home for updates.

Wednesday A.M.

SH31A (CC) 207B
Wednesday 0800h

Reconnection and Turbulence: Two Fundamental Processes Intertwined I (joint with SM)

Presiding: William Matthaeus, University of Delaware; Tulasi Parashar, University of Delaware; Michael Shay, University of Delaware; Colby Haggerty, University of Chicago;

0800h SH31A-01 Magnetic Reconnection in Turbulent Plasmas: Theory, Simulations and Observations: S Servidio
0812h SH31A-02 Stability of asymmetric magnetic reconnection x-line in periodic systems — an implication to laminar vs. turbulent diffusion region: Y H Liu, M Hesse, T C Li, M Kuznetsova, A Le


0848h SH31A-05 Biermann-battery reconnection in 3-D colliding plasmas: J Matteucci, W Fox, A Bhattacharjee

0900h SH31A-06 The formation of drift-Alfvén vortices near thin current sheets in low-β magnetosheath turbulence: D J Gershman, A F Vinas, J Dorelli, M Goldstein, J R Shuster, L A Avanov, B L Giles, C T Russell, R B Torbert, J L Burch

0912h SH31A-07 Compressible turbulence in Earth’s magnetosheath: energy cascade rate from the MHD to the ion-scales: N Andres Sr, F Sahraoui, L Hadid, R Ferrand, S Galtier, S Huang


0936h SH31A-09 PIC simulation studies of magnetic reconnection in the shock transition and downstream regions of Earth’s bow shock: N Bessho, L J Chen, S Wang, L B Wilson III, M Hesse


0800h SH31B-3606 POSTER Electromagnetic Turbulence in the Reconnection Current Layer with Anti-Parallel Configuration: K Fujimoto, R D Sydora

0800h SH31B-3607 POSTER Development and Application of Kinetic Entropy as a Diagnostic in Particle-in-Cell Simulations: H Liang, P Cassak, M R Argall, G L Delzanno, J Dorelli, J F Drake, M Hesse, W H Matthaeus, T Phan, V Roytershteyn, E escime@wvUedu, S Servidio, M A Shay, M Swisdak, R B Torbert

0800h SH31B-3608 POSTER Recreating Magnetopause Reconnection in Simulations and the Laboratory: New Results from the Terrestrial Reconnection Experiment (TREX): S Greess, J Egedal, A Stanier, J Olson, W S Daughton, A Le, A Millet-Ayala, R Myers, J Wallace, M Clark, C Forest

0800h SH31B-3610 POSTER Quadrupolar and Hexapolar Hall Magnetic Field during Asymmetric Magnetic reconnection without A Guide Field: L Sang, Q Lu, R Wang, K Huang, S Wang

0800h SH31B-3611 POSTER Magnetic reconnection associated lower hybrid drift waves in the turbulent magnetosheath: Z Voros, E Yordanova, D Graham, Y Narita

0800h SH31B-3612 POSTER Application of HPIC-LBM in large temporal-spatial scale 3D turbulent magnetic reconnection: H Yan, B Zhu, W Jin, D A Yuen, Y Shi

0800h SH31B-3613 POSTER Intermittency of interplanetary magnetic reconnection associated with high-frequency plasma waves: Y Wang, F Wei, X Feng

0800h SH31B-3614 POSTER Spiky Electric and Magnetic Field Structures and Reconnection in Flux Rope Experiments: W N Gekelman, S W Tang, P Pribyl, S T Vincena

0800h SH31B-3615 POSTER Kinetic Simulations of Fast Reconnection in Partially Ionized Plasmas: J Jara-Almonte, H Ji, W S Daughton, J Yoo, M Yamada, W Fox, F Pucci

0800h SH31B-3616 POSTER The formation of power-law particle energy spectrum in three-dimensional low-beta magnetic reconnection: X Li, F Guo, S Du, A Stanier, H Li

0800h SH31B-3617 POSTER Cluster observations of the most intense kinetic scale current sheets in the solar wind: A Vinogradov, I Vasko, A Artemyev, A A Petrukovich
0800h **SH31B-3618** *POSTER* Scalings of Plasmoid-Instability-Mediated Current Sheet Disruption and Onset of Fast Reconnection: Y M Huang, L Comisso, A Bhattacharjee

0800h **SH31B-3619** *POSTER* In situ study of the pathways of energy dissipation in turbulent reconnection in the Earth’s magnetosheath using MMS data: A Chasapis, W H Matthaeus, T Parashar, M A Shay, C C Haggerty, P Sharma, Y Yang, J Burch, T E Moore, C Pollock, B L Giles, W R Paterson, D J Gershman

0800h **SH31B-3620** *POSTER* Investigation of magnetic reconnection under a strong guide field: X Wang, Y Lin, L Chen, Z Guo


0800h **SH31B-3622** *POSTER* An MMS Event Study of 3D Asymmetric Reconnection with Extended MHD: J M TenBarge, A Bhattacharjee, A Hakim, J Juno, J Ng, L Wang

0800h **SH31B-3623** *POSTER* Scale magnetic reconnection in the turbulent magnetosheath: Kinetic PIC simulation study: P Sharma, M A Shay, C C Haggerty, T Phan, J F Drake, J M TenBarge, K G Klein, P Cassak, A Chasapis, M Swisdak

0800h **SH31B-3625** *POSTER* On the Ion and Electron Diffusion Ranges in the Frequency and Wavenumber Domain of Space Plasma Turbulence: J He, D Duan, X Zhu, L Zhang

0800h **SH31B-3626** *POSTER* Multi-spacecraft Observations of Reconnection in a Turbulent ICME Sheath: A P Dimmock, E Yordanova, Z Voros, K E J Kilpua, C Moestl, M Temmer

0800h **SH31B-3627** *POSTER* Role of the plasmoid instability in magnetohydrodynamic turbulence: C Dong, A Bhattacharjee, L Wang, Y M Huang, L Comisso

**SH31C** (CC) Hall A-C (Poster Hall)

**Wednesday** 0800h

**Collisionless Shock Waves in Astrophysical Plasmas Posters** *(joint with P, SM)*

**Presiding:** Lynn Wilson, NASA Goddard Space Flight Center; Drew Turner, University of California; Ali Sulaiman, University of Iowa; Alessandro Retino, Laboratoire de Physique des Plasmas;

0800h **SH31C-3628** *POSTER* Cross-Shock Potential in Rippled vs. Planar Quasi-Perpendicular Shocks Observed with MMS: E Hanson, O V Agapitov, F Mozer, V Krasnoselskikh, S D Bale, L A Avanov

0800h **SH31C-3629** *POSTER* Wave Emissions from the Lower-hybrid to the Electron Cyclotron Frequency in Quasi-perpendicular Shocks: a large-scale 2D PIC Simulation: L Muschietti, B Lembeye, V Decyk


0800h **SH31C-3631** *POSTER* MMS observations of whistler waves at interplanetary shock: H Wei, C T Russell, R J Strangeway

0800h **SH31C-3632** *POSTER* Wave-Particle Interaction with ULF waves in the Foreshock Region of Earth’s Bow Shock: E Lee, H E Kim, S Y Lee, G K Parks

0800h **SH31C-3633** *POSTER* Fine structure of the field and plasma waves within the front of a quasi-perpendicular shock: M A Balikhin, S N Walker, V Krasnoselskikh

0800h **SH31C-3634** *POSTER* MMS observations of intense whistler waves within Earth’s supercritical bow shock: Source mechanism, and impact on shock structure and plasma transport: A J Hull, L Muschietti

0800h **SH31C-3635** *POSTER* Multi-point observations of quasi-perpendicular interplanetary shock structures: A Koval, L B Wilson III, A Szabo

0800h **SH31C-3636** *POSTER* Multi-spacecraft observations of interplanetary shocks: X Blanco-Cano, P Kajdic, D Burgess, D Trotta, L Preisser

0800h **SH31C-3637** *POSTER* ARTEMIS Observations of Waves in Laminar and Turbulent Interplanetary Shocks: L Davis, C A Cartell, Z Cohen, A W Breneman, L B Wilson III

0800h **SH31C-3638** *POSTER* A SIR Multispacecraft Study: Microphysics: L Preisser, X Blanco-Cano, P Kajdic

0800h **SH31C-3639** *POSTER* Investigating the Formation of Laboratory Collisionless Shocks on the Big Red Ball: D Endrizzi, C Forest, J Egedal, A Stanier

0800h **SH31C-3640** *POSTER* Observations of kinematic relaxation at very-low Mach number inner planet bow shocks during ICMEs: S A Pope, M Gedalin, M A Balikhin

0800h **SH31C-3641** *POSTER* Simulation study of particle heating at quasi-perpendicular collisionless shocks: S Y Lee, H E Kim, E Lee, G K Parks
0800h **SH31C-3642 POSTER** PIC simulations of the self-reformation and surface ripples of the Earth’s bow shock: implications for MMS observations: **Z Yang**, Y D Liu, G K Parks, S Matsukiyo, Q Lu

0800h **SH31C-3643 POSTER** Kinetic simulations of particle energization by magnetized collisionless shocks in expanding laboratory plasmas: **K Lezhnin**, W Fox, J Matteucci, D Schaeffer, K Hermaschewski, A Bhattacharjee

0800h **SH31C-3644 POSTER** Density jump as a function of the field for parallel collisionless shocks: **A Bret**, R Narayan

0800h **SH31C-3645 POSTER** Criticality of Low-Mach-Number Interplanetary Shocks: **X Zhou**, M Gedalin, C T Russell, V Angelopoulos

0800h **SH31C-3646 POSTER** Statistical method to characterize the mean shape form of interplanetary shocks and its relation with ICMEs at 1 AU: **C Perez-Alanis**, T Nieves-Chinchilla, E Aguilar-Rodriguez, M Janvier, P Demoulin

0800h **SH31C-3647 POSTER** MMS Observations of accelerated He+ pick-up ions at perpendicular shocks: **M J Starkey**, S A Fuselier, M I Desai, J Burch, R G Gomez, J Mukherjee, R J Strangeway

0800h **SH31C-3648 POSTER** Suprathermal Electrons Near Earth Bow Shock: **Z Liu**, L Wang, Q Shi, M Oka, J He, H Tian, S D Bale, D L Turner


0800h **SH31C-3651 POSTER** Backstreaming electrons upstream of the nearly perpendicular Martian bow shock: Origin and production mechanism: **C Mazelle**, K Meziane, A M Hamza, D Mitchell, J R Espley, J S Halekas, B M Jakosky

0800h **SH31C-3652 POSTER** Nonequilibrium Ionization Analysis of a Coronal Shock Driven by a Coronal Mass Ejection: **J L Waczak**, J Raymond, C Shen, J Prchlik

0800h **SH31C-3653 POSTER** Dayside Response of the Earth’s Magnetosphere to Interplanetary Shocks: Determining the propagation speed of the pulse, ExB flow direction and Ex signature for a variety of shocks using Van Allen Probes, MMS, THEMIS and GOES data: **C A Colpitts**, K Bergstedt, C A Catteell, J P Dornebeck, K Kletzing, R Ergun, L Davis, S Tian

SM31D (CC) Hall A-C (Poster Hall)

**Wednesday 0800h**

**Machine Learning in Space Weather I Posters**

*Presiding: Enrico Camporeale, Centrum Wiskunde & Informatica; Ryan McGranaghan, NASA Jet Propulsion Laboratory; Thomas Berger, University of Colorado at Boulder; Jacob Bortnik, University of California Los Angeles;*

0800h **SM31D-3513 POSTER** A deep learning approach to forecast tomorrow’s solar wind parameters: **C Schnei**d, M Chandorkar, M Bobra, E Camporeale

0800h **SM31D-3514 POSTER** Quantitative Prediction of High-Energy Electron Integral Flux at Geostationary Orbit Based on Deep Learning: **Q Zhong**, L Wei, R Lin, S Liu

0800h **SM31D-3515 POSTER** Bayesian Inference of Radial Diffusion Parameters for the Earth’s Radiation Belt: a Deep Learning Framework: **E Camporeale**, R Sarma, M Chandorkar, A Drozdov, Y Shprits

0800h **SM31D-3516 POSTER** Generation of solar magnetograms and EUV images of Galileo sunspots by deep learning: **H Lee**, Y J Moon, E Park, T Kim

0800h **SM31D-3517 POSTER** Generation of Solar EUV images from HMI magnetograms by deep learning: **E Park**, Y J Moon, H Lee, T Kim

0800h **SM31D-3518 POSTER** Global magnetosphere modeling with empirical ring current pressure: **V G Merkin**, M I Sitnov, K Sorathia, G Stephens, A Y Ukhorskiy, J Lyon


0800h **SM31D-3520 POSTER** Machine Learning Algorithms for spacecraft Magnetic Field Interference Cancellation: Enabling Satellite Magnetometry without a Boom: **M Moldwin**, S Sharma, J Cutler
0800h **SM31D-3521 POSTER** Forecasting solar flare occurrence based on Convolutional Neural Network using SDO/HMI magnetograms and the flare occurrence of the previous day: S Shin, Y J Moon, H Chu

0800h **SM31D-3522 POSTER** Weakly- and Semi-Supervised Semantic Segmentation for Aurora Image Classification: H Desheng, C Niu, S Ren, H Hu, Z Hu, J Liang

0800h **SM31D-3523 POSTER** Using Machine Learning Models for Space Weather with the Divide and Conquer Approach: J Amaya, G Lapenta

0800h **SM31D-3524 POSTER** Classifying SuperDARN Backscatter using Machine Learning Algorithms: E Robb, X Shi, S Chakraborty, J M Ruohoniemi, J B H Baker, M Maimaiti

0800h **SM31D-3525 POSTER** Effects of Data Binning Techniques on Results of Analyzing Solar Wind and Geomagnetic Indices Data: S F Fung, A Zheng

0800h **SM31D-3526 POSTER** Automating the McIntosh Classification System using Machine Learning: M C Smith, A R Jones, L Sandoval

0800h **SM31D-3527 POSTER** Automatic detection of ICMEs at 1 AU: a deep learning approach: G Nguyen, N Aunai, D Fontaine, E Le Pennec, A Jeandet

0800h **SM31D-3528 POSTER** Solar Image Deconvolution by Generative Adversarial Network: L Xu, Y Yan, W Sun

0800h **SM31D-3529 POSTER** NARMAX Based MLT Dependent Forecast of Energetic Electrons at GEO: M A Balikhin, R Boynton, S N Walker


0800h **SM31D-3531 POSTER** Using Random Forest Algorithm to Predict Flare Index of Active Regions: W Branca


0800h **SM31D-3533 POSTER** How can machine learning help us to analyze CME's data?: L F Guedes dos Santos, T Nieves-Chinchilla, B J Thompson, M S Kirk

0800h **SM31D-3534 POSTER** Multiscale 3D structure of substorm currents obtained by mining spaceborne magnetometer data: G K Stephens, M I Sitnov, H Korth, S Ohtani, M Gkioulidou, S Ukhorisky

0800h **SM31D-3535 POSTER** Systematic Analysis of ML Techniques for Kp Prediction: Y Shprits, I S Zhelavskaya, R Vasile

0800h **SM31D-3536 POSTER** DeepEM: A Deep Neural Network for DEM Inversion: P J Wright, R Galvez, A Szenicer, R Thomas, M Jin, D Fouhey, C M M Cheung, A Munoz-Jaramillo, G Mackintosh

0800h **SM31D-3537 POSTER** Feature Engineering for Deep Learning to Forecast Solar Events: M Hartnett, J Cai, W H Carande, J Craft, A R Jones, K Kokkonen, T Morland, L Sandoval

0800h **SM31D-3538 POSTER** Machine Learning based Prediction of Filament Eruptions using Automated Detection & Tracking Technique: A D Joshi, Y Hanoka

0800h **SM31D-3539 POSTER** Solar Flare Forecasting: A Novel Deep Learning Approach: J Cai, W H Carande, J Craft, M Hartnett, A R Jones, K Kokkonen, T Morland, L Sandoval

0800h **SM31D-3540 POSTER** Predicting energetic storm particle (ESP) properties near 1 AU: M A Dayeh, J Nickell, M I Desai

### SM31E (CC) Hall A-C (Poster Hall)

**Wednesday 0800h**

**Quantifying Uncertainty in Space Weather Modeling and Forecasting I Posters**

**Presiding:** Steven Morley, Los Alamos National Laboratory; Gang Lu, National Center for Atmospheric Research; Sophie Murray, Trinity College Dublin;

0800h **SM31E-3541 POSTER** Recent Update of Automatic Solar Synoptic Analyzer (ASSA) for Analyzing Solar Activities: J Cho, S Hong, J Kim, J H Lee, Y K Kim, S Lee

0800h **SM31E-3542 POSTER** The Effects of Uncertainty in CME Initial Parameters on Space Weather Predictions: C Kay, N Gopalaswamy

0800h **SM31E-3543 POSTER** Identifying uncertainties in L1 measurements as predictors of conditions at the magnetopause: B Walsh, T Bhakypabul

0800h **SM31E-3544 POSTER** Assessment of Predictive Capabilities of L1 Monitors using Dst Index: J Holmes, J C Kasper

0800h **SM31E-3545 POSTER** Can MHD be used to forecast substorms?: J D Haiducek, D T Welling, S Morley, N Y Ganushkina, X Chu

0800h **SM31E-3546 POSTER** Ion And Electron Flux Predictions for the Inner Magnetsphere: Improved Energy and Spatial Coverage: M Denton, M Taylor, M G Henderson, J V Rodriguez
0800h SM31E-3547 POSTER Uncertainty Assessment of Radiation Belt Models at CCMC: Y Zheng, A C Kellerman, M C H Fok, L Rastaetter

0800h SM31E-3548 POSTER Assessing the consistency of data-driven whistler mode hiss wave scattering effects during storm-recovery via dedicated error metrics: V Loridan, J F Ripoll, M Denton, O Santolik, S A Thaller, A Drozdov, Y Shprits, G Cunningham, G D Reeves, S Morley

0800h SM31E-3549 POSTER Data Assimilation using 4D-Var for the Radiation Belt Environment: H C Godinez, M G Henderson

0800h SM31E-3550 POSTER Reanalysis of Long Term Radiation Belt Electron Fluxes Relying on Four Spacecraft, the VERB Code, and a Sequential Kalman Filter: J S Cervantes Villa, Y Shprits, A C Kellerman, A Drozdov

0800h SM31E-3551 POSTER Survey of Equatorial Fast Magnetosonic Waves Observed by RBSP: H Wei, L Xie, Z Pu, Y Xiong, J Li

0800h SM31E-3552 POSTER Uncertainty Analysis in Absolute Detection Efficiency of Coincident Particle Instrumentation: P A Fernandes, B Larsen, B P Weaver, D K Olson, H O Funsten, R M Skoug

0800h SM31E-3553 POSTER Comparison between operational and research simulations with CTIPe model during geomagnetic storm conditions: I Fernandez-Gomez, M Codrescu, M Fedrizzi, C Borries

0800h SM31E-3554 POSTER Comparison of Magnetic Field Measurements across the Geostationary Operational Environmental Satellites (GOES): F J Rich


1020h SH32A-01 Observational Aspects of CME Shock Formation and Challenges in Calculating the 1 AU Magnetic Connections to Shocks and SEP Sources.: S W Kahler


1050h SH32A-03 Filament Eruption Associated SEP Events: C Cohen, R A Mewaldt, G C Ho, N Thakur

1105h SH32A-04 Recent advances in 3He-rich SEP event observations: G M Mason

1120h SH32A-05 Solar Energetic Particle access to distant heliolongitudes: F Effenberger, T L Laitinen, S Dalla, A Kopp

1135h SH32A-06 Field Line Trapping, Transport, and Random Walk in an Expanding Medium with Implications for SEP Transport: R Chhiber, D J Ruffolo, W H Matthaeus, A V Usmanov, P Tooprakai, P Chuychai, M L Goldstein

1150h SH32A-07 Ion acceleration and the development of turbulence during 3D magnetic reconnection in impulsive flares: J F Drake, J Dahlin, M Swisdak, E Kontar

1205h SH32A-08 A novel and efficient technique for generating energetic 3He ions in multi-ion plasmas: A possible mechanism for enrichment of 3He in solar flares?: J P Ongena, Y O Kazakov

SH32B (CC) 209A-C

Wednesday 1020h

Solar Radiative Variability: From Minutes to Millennia—The Sun’s Influence on the Earth’s Space Environment, Atmosphere, and Climate I

Presiding: Martin Snow, University of Colorado at Boulder; Peter Pilewskie, University of Colorado Boulder; Odele Coddington, CU in Boulder--LASP; Natalie Krivova, ;
1020h **SH32B-01** Reconstructing Solar Irradiance Variations in the Last Millennium: **J Lean**

1035h **SH32B-02** Inferring Centennial Solar Variability Jointly from Instrumental and Paleoclimate Records: **S T Amdur, P J Huybers**

1050h **SH32B-03B** V2 Composite Solar Spectral Irradiance Data Set – Status and Plans: **M T DeLand, S V Marchenko, E E Floyd IV, R Tiruchirapalli**

1105h **SH32B-04** Solar 11-Year Cycle Signal in Stratospheric Nitrogen Dioxide based on Observations from the Network for the Detection of Atmospheric Composition Change: **S Wang, K F Li, S Sander, Y L Yung**

1120h **SH32B-05** On the importance of stratospheric ozone feedbacks for the simulation of solar effects on climate: **G Chiodo, L M Polvani**

1135h **SH32B-06** Temporal Variations in Solar Irradiance Since 1947: **A Tebabal, B Damtie, M Nigussie, E Yizengaw**

1150h **SH32B-07** Implementation of Solar Spectral Irradiance Measurements from the International Space Station: The TSIS-1 First Light and Early Mission Results: **E C Richard, D Harber, O Coddington, S Beland, M Chambliss, S Mauceri, P Pilewskie**

1205h **SH32B-08** The New "Community-Consensus TSI Composite" for Solar and Climate Researchers: **G Kopp, T Dudok de Wit, W T Ball, W Finsterle, C Frohlich, K Kokkonen, M Meftah, W K Schmutz**

1020h **SH32C-01** Interstellar Probe: A New Mission for a New Decade: **R L McNutt Jr**

1032h **SH32C-02** Interstellar Express: A New Chinese Space Mission to Explore the Outer Heliosphere: **C Wang, H Li**

1044h **SH32C-03** Enabling a Solar System Escape Mission via The NASA Space Launch System: **R Stough, R L McNutt Jr, M V Paul, B W Lathrop**

1056h **SH32C-04** Heliosphere Under the Influence of Variations in the Local Interstellar Medium: **R E Ratkiewicz, M Strumik**

1108h **SH32C-05** KBO Fly-by Science Enabled by an Interstellar Probe: **S Benecchi**

1120h **SH32C-06** Discovering the Origin of the Solar System: **S A Livi, R L McNutt Jr, G C Ho, F Allegrini, J M Raines**

1132h **SH32C-07** A Compact Plasma, Pickup Ions and Suprathermal Tails Composition Instrument for the Interstellar Probe: **G Gloeckler, S T Lepri, L A Fisk**

1144h **SH32C-08** Exploring the Unseen: Extra-Heliospheric ENAs Observations on an Interstellar Probe: **S V Barabash, X D Wang, C Lue**

1156h **SH32C-09** Interstellar Probe (ISP) Observations of the Solar System’s Debris Disks: **C M Lisse, R L McNutt Jr, P C Brandt, A R Poppe, M Horanyi, M B Zemcov**

1208h **SH32C-10** Kuiper Belt Planet Geoscience from Interstellar Probe: **K D Runyon, K Mandt, S A Stern, P C Brandt, R L McNutt Jr**

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**SH32C (CC) 207B**

**Wednesday 1020h**

**The Interstellar Probe Mission: Study Findings and Next Steps I**

Collisionless Shock Waves in Astrophysical Plasmas I (joint with P, SM)

Presiding: Lynn Wilson, NASA Goddard Space Flight Center; Drew Turner, University of California; Ali Sulaiman, University of Iowa; Alessandro Retino, Laboratoire de Physique des Plasmas;


1355h SH33A-02 Studying Magnetospheric Collisionless Beam Instabilities and ULF Waves in the Laboratory: P V Heuer, M S Weidl, R Dorst, D Schaeffer, C G Constantin, S T Vincena, S Tripathi, W N Gekelman, D Winske, D Larson, C Niemann

1410h SH33A-03 Laboratory Observations of Plasma Heating in High-Mach-Number Collisionless Shocks: D Schaeffer, W Fox, R K Follett, G Fiskel, J Matteucci, A Bhattacharjee, K Germanaschewski


1340h **SH33C-3654 POSTER** The Plasma Heliopause was like a Sphere: Evidence from Voyager 2-3 kHz radio emission (1992-1994): E C Roelof

1340h **SH33C-3655 POSTER** Critical Subsystem Analysis for a 1000 AU Interstellar Pathfinder Mission: B Boone, A L Beck, K Kufahl

1340h **SH33C-3656 POSTER** Mechanical considerations for Interstellar Probe: D Napolillo


1340h **SH33C-3658 POSTER** Johnson Thermo-Electrochemical Converter (JTEC), An Innovative Power Source For The Interstellar Mission: L Johnson

1340h **SH33C-3659 POSTER** Electrostatic Sail Propulsion Systems Can Enable Heliospheric or Solar Orbital Missions Very Quickly (< 10 years to Heliopause): B M Wiegmann, A DeStefano

1340h **SH33C-3660 POSTER** Interstellar Probe: The Compelling Science Case, Strawman Payload and Resources: P C Brandt, R L McNutt Jr, K Mandt, M V Paul, E Provornikova, C M Lisse, A M Rymer

1340h **SH33C-3661 POSTER** Using Energetic Neutral Atoms to study the structure of the Outer Heliosphere from Vantage Points Several Hundred AU from the Sun: R Demajistre, P C Brandt, E C Roelof, J H Westlake, M Gruntman, R L McNutt Jr

1340h **SH33C-3662 POSTER** An Analytical Model to Predict Directional Distribution of the Secondary ISN O Atoms at the Heliopause Derived From IBEX-Lo Observations: J Park, H Kucharek, N Paschalidis


1340h **SH33C-3664 POSTER** Energetic Neutral Atom Maps from the “Croissant-like” Heliosphere: M Z Kornbleuth, M Opher, A Michael, G Toth

1340h **SH33C-3665 POSTER** The Case for a Radio and Plasma Wave Receiver on an Interstellar Probe: W S Kurth, D L Kirchner

1340h **SH33C-3666 POSTER** Planetary Science with an Interstellar Probe: K Mandt, P C Brandt, R L McNutt Jr, M V Paul, K Runyon, A M Rymer, A Stern

1340h **SH33C-3667 POSTER** Energetic Neutral Atom (ENA) and Energetic Particle Observations from an Interstellar Probe: A B Crew, J H Westlake, D G Mitchell, P C Brandt

1340h **SH33C-3668 POSTER** Payloads Introduction for Chinese Interstellar Express Mission: A Zhang, H Li

1340h **SH33C-3669 POSTER** The Compact Dual Ion Composition Experiment (CoDICE) for the Interstellar Probe Mission: M I Desai, D E George, K Ogasawara, D J McComas, F Allegrini, S Weißenberg, S C Persyn, S A Livi

1340h **SH33C-3670 POSTER** Ion and Neutral Gas Mass Spectrometer Instrument for the Future NASA Interstellar Probe Mission: N Paschalidis, P Jeewoo, S Jones, J F Cooper, A Glocer, A Szabo

1340h **SH33C-3671 POSTER** A Compact, Low Resource, Energetic Electron Instrument for Interstellar Probe: C Parker, G C Ho, A B Crew, G Andrews, D G Mitchell, P C Brandt

**SH33D (CC) Hall A-C (Poster Hall)**

**Wednesday 1340h**

**Visions of Future Innovation Across Space Physics and Aeronomy II Posters 🌌 (joint with SA, SM)**

**Presiding: Carrie Black**, National Science Foundation; **Joshua Semeter**, Boston Univ; **Elsayed Talaat**, NOAA/NESDIS; **Roshanak Hakimzadeh**, NASA;

1340h **SH33D-3672 POSTER** Visions without vision: has the diversity of our “mind’s eyes” affected space (and other) science, and can we harness it better in the future?: N W Watkins

1340h **SH33D-3673 POSTER** Revealing the Multiscale Nature of Turbulence in Space Plasmas with an Innovative Swarm of Spacecraft: J Bookbinder, H E Spence, J C Kasper, K G Klein, G P Zank

1340h **SH33D-3674 POSTER** Revolutionizing our Understanding of Particle Energization in Space Plasmas Using On-Board Field-Particle Correlator Instrumentation: G G Howes, J L Verniero, D E Larson, P L Whittlesey, R Livi, S D Bale
1340h SH33D-3675 POSTER SETH, a Heliophysics Technology Demonstration: E J Summerlin, A A Pullikinen, N Paschalidis, S Jones, A Y Shih, N Savani, A Glocer, M C H Fok

1340h SH33D-3676 POSTER Solar wind turbulence effects on the magnetosphere: information theoretic approach: S Wing, J Borovsky, J Johnson


1340h SH33D-3678 POSTER Achieving High Quality Sciences by CubeSat Missions: X Li

1340h SH33D-3679 POSTER Distinguishing deterministic from stochastic processes in magnetospheric time series through the use of Jensen-Shannon measure of complexity: A Osmane, A P Dimmock, T I Pullikinen, M M Ala-Lahti, S W Good, K E J Kilpua


1340h SH33D-3682 POSTER Optimal Design of Magnetospheric Constellations: S L O Martin, A J Haldorf, T B Guild, P Maloney, M Esmond

1340h SH33D-3683 POSTER Exploring the Polar Mesosphere – a Grand Challenge: I Mann, J I Moen, K Blix, A R Fredriksen, R Graversen

SH33E (CC) Hall A-C (Poster Hall)

Wednesday  1340h

High-Energy Solar Investigations Through Next-Generation Spectroscopy: X-rays, Gamma Rays, and EUV Posters

Presiding: Amir Caspi, Southwest Research Institute; Lindsay Glesener, University of Minnesota; Amy Winebarger, NASA Marshall Space Flight Center;

1340h SH33E-3685 POSTER Accurate determination of the total accelerated electron rate and power using solar flare hard X-ray spectra from RHESSI and FOXSI: P Saint-Hilaire, E Kontar, N L S Jeffrey, G Emslie, S Christie, A Y Shih, L Glesener, S Krucker, A Caspi


1340h SH33E-3689 POSTER Determining Density from COSIE Data: A Ashraf, C Carter, A R Winebarger, C Bethge

1340h SH33E-3690 POSTER Determining the Optimum Resolution to Invert COSIE Spectrometer and Coronagraph Data: C Carter, A Ashraf, A R Winebarger, C Bethge

1340h SH33E-3691 POSTER RHESSI Imaging using Neural Networks: S Maloney, P Gallagher

1340h SH33E-3692 POSTER A multi-wavelength analysis of the September 2017 flaring events: M Piana, A M Massone, F Benvenuto, C Campi

1340h SH33E-3693 POSTER The Effect of Nanoflare Heating on Coronal Spectral Lines: M Lopez-Fuentes, J A Klimchuk
Factors That Determine the Properties of Solar Energetic Particle Events Posters

**Presiding:** David Lario, The Johns Hopkins University; Radoslav Bucik, Max Planck Institute for Solar System Research; Pertti Makela, Catholic University of America; Rahul Kumar, Princeton University;

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1340h **SH33F-3694** POSTER 3He enrichment as evidence for particle interaction with linear waves: S Liu

1340h **SH33F-3695** POSTER A Possible Mechanism for Enriching Heavy Elements in 3He-rich Solar Energetic Particle Events: G M Mason, B Klecker

1340h **SH33F-3696** POSTER The Crucial Importance of the Solar-energized 3He ions During the Formation of the Solar System: I Roth

1340h **SH33F-3697** POSTER Evidence for Enhanced Accelerated 3He in Solar Flares from Gamma-Ray Spectroscopy: R J Murphy, B Z Kozlovsky, G H Share

1340h **SH33F-3698** POSTER Preferential Heating and Acceleration of Heavy Ions in Impulsive Solar Flares: R Kumar

1340h **SH33F-3700** POSTER 3He-rich Solar Energetic Particles from Sunspot Jets: R Bucik, M E Wiedenbeck, R Gomez-Herrero, G M Mason, N Nitta

1340h **SH33F-3701** POSTER 3He-rich Solar Energetic Particle Events with no Measurable 4He: G C Ho, G M Mason

1340h **SH33F-3702** POSTER Fast and Wide CMEs without Associated Solar Energetic Particle Events: D Lario, R Y Kwon, I G Richardson, B J Thompson

1340h **SH33F-3703** POSTER Identifying the effect of coronal shocks on the longitudinal extent of >25 MeV proton events.: R Y Kwon, D Lario, B J Thompson, I G Richardson, A Vourlidas

1340h **SH33F-3704** POSTER The 2015 June 21 Coronal Mass Ejection and the Associated Solar Energetic Particle Event: P A Makela, N Gopalswamy, S Akiyama, S Yashiro, H Xie, N Thakur

1340h **SH33F-3705** POSTER Energetic Particle Observations Made by the High Energy Telescopes During the STEREO Mission: I G Richardson, T T von Rosenvinge, H V Cane, B J Thompson, R Y Kwon


1340h **SH33F-3707** POSTER Variations of Heavy Ion Abundances Relative to Proton Abundances in Large Solar Energetic (E > 10 MeV) Particle Events: J F Round, R D Loper, S W Kahler

1340h **SH33F-3708** POSTER Dependence of relativistic solar proton events on the associated solar activities: G Le

1340h **SH33F-3709** POSTER A study of the quiescent filament eruptions associated with and without Solar Energetic Particle Events: S Akiyama, N Thakur, C Cohen, N Gopalswamy, S Yashiro, P Makela, H Xie

1340h **SH33F-3710** POSTER The role of heliospheric current sheet effect on solar energetic particles at the injection stage: J Park, R Bucik, Y J Moon, S W Kahler

1340h **SH33F-3711** POSTER Prominence Eruption Associated Solar Energetic Particle Event of 2015 June 18: N Thakur, N Gopalswamy, S Akiyama, P A Makela, S Yashiro, H Xie, C Cohen

1340h **SH33F-3712** POSTER Connecting Shock Waves Properties in the Solar Corona with the Characteristics of Solar Energetic Particle Events: A Kouloumvakos, A Rouillard, R O Vainio, A Vourlidas, I Plotnikov, Y Wu, A N Afanasiev

1340h **SH33F-3713** POSTER Propagation Effects on the Spectrum Resulting From the 12 July 2012 CME, a Coupled MHD and Focused Transport Simulation Effort.: M Gorby, M A Dayeh, M L Mays, N Schwadron

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**SH33G (CC) Hall A-C (Poster Hall)**

**Wednesday 1340h**

**Solar Radiative Variability: From Minutes to Millennia—The Sun's Influence on the Earth's Space Environment, Atmosphere, and Climate Posters**

**Presiding:** Martin Snow, University of Colorado at Boulder; Peter Pilewskie, University of Colorado Boulder; Natalie Krivova; Odele Coddington, CU in Boulder--LASP;

1340h **SH33G-3714** POSTER Is There A Time Lag between TSI and Sunspot Area?: J N Lee, D L Wu

1340h **SH33G-3715** POSTER Plausible modulation of solar wind energy flux input on global tropical cyclone activity: H Li, C Wang
1340h **SH33G-3716** POSTER Regional Lightning Response to Ground Level Enhancements in Short-time: Q Wu, H Li, C Wang


1340h **SH33G-3718** POSTER The Multi-satellite Ultraviolet Solar Spectral Irradiance Composite (MUSSIC): M A Snow, E C Richard


1340h **SH33G-3721** POSTER Update to the Whole Heliosphere Interval (WHI) Solar Irradiance Reference Spectra (SIRS): S Beland, J W Harder, M A Snow, T N Woods

1340h **SH33G-3722** POSTER The Sensitivity of Empirical Regression Models of Solar Irradiance to Underlying Methodology: I McComas, O Coddington

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**SH33H (CC) Hall A-C (Poster Hall)**

**Wednesday 1600h**

**New Approaches to Studying the Middle Solar Corona Posters**

**Presiding:** Daniel Seaton, Cooperative Institute for Research in Environmental Sciences; James Mason, University of Colorado at Boulder; Matthew West, Royal Observatory Belgium; Neal Hurlburt, Lockheed Martin Solar and Astrophysics Laboratory;

1340h **SH33H-3723** POSTER Using the Geostationary Operational Environmental Satellite (GOES) Solar UltraViolet Imager (SUVI) to Observe the Solar Corona: J Darnel, D B Seaton

1340h **SH33H-3726** POSTER Observations of a Flare-Associated Current Sheet in the Extended EUV Corona: C R Totzauer, D B Seaton, J Darnel

1340h **SH33H-3727** POSTER Evolution of Coronal Cavity from Quiescent to Eruptive Phase in Association with Coronal Mass Ejection: R Sarkar, N Srivastava, M Mierla, M J West, E D'Huys

1340h **SH33H-3728** POSTER EUV Diagnostics of Optically Thick Plasmas using the 304 Å channel: M Kocher, E Landi, S T Lepri

1340h **SH33H-3729** POSTER Refinement of a Semi-Empirical Model to Understand Spectroscopic Indications of Alfven Waves in the Solar Corona: C R Gilbert, S R Cranmer

1340h **SH33H-3730** POSTER The Dependence of DOLP on Coronal electron Temperature, Speed and Structure: N L Reginald, L Rastaetter

1340h **SH33H-3731** POSTER Changes to Solar Diameter & Calculating Limb Darkening at Ultra Violet Wavelengths From Spacecraft Solar Eclipse Measurements: A M Ortiz, M A Snow

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**SH34A (CC) 204A-C**

**Wednesday 1600h**

**New Approaches to Studying the Middle Solar Corona I**

**Presiding:** Daniel Seaton, Cooperative Institute for Research in Environmental Sciences; James Mason, University of Colorado at Boulder; Matthew West, Royal Observatory Belgium; Neal Hurlburt, Lockheed Martin Solar and Astrophysics Laboratory;

1600h **SH34A-01** Unsolved Problems in the Middle Corona: S R Cranmer

1615h **SH34A-02** How Can Off-limb Spectroscopy Answer Fundamental Questions on the Genesis of the Solar Wind and CMEs?: A Vourlidas, Y K Ko, J M Laming, C Korendyke, L Strachan

1628h **SH34A-03** Identifying Slow Solar Wind Sources: N Alzate, N M Viall

1641h **SH34A-04** Eclipse and Spacecraft Observations of the Middle Corona: J M Pasachoff, D B Seaton

1654h **SH34A-05** Exploring the Transition Corona with the Coronal Spectrographic Imager in the EUV (COSIE): S L Savage, L Golub, E DeLuca


1722h **SH34A-07** Early Evolution of CMEs as Seen in Lyα and White Light by Future ASO-S/LST: L Feng, H Li, L Lu, B Ying, A Bemporad, M Jin, W Manchester, B Inhester, T Wiegelmann, W Gan
1735h **SH34A-08** PROBA-3/ASPIICS: Giant Formation Flying Coronagraph to Study the Low and Middle Solar Corona: **A Zhukov**

1748h **SH34A-09** Coronal Imaging Campaign with Solar UltraViolet Imager (SUVI): **S Tadikonda**, R R Minor, D B Seaton, G Comeyne, A Krimchansky
### Session Information

**Oral Sessions**  
Sessions are being held in the **Convention Center (CC)** and **Marriott Marquis (MM)**

**Poster Sessions**  
Posters are on display in the following venue throughout the week:  
**Hall A-C (Poster Hall)**

### Session & Paper Numbering

Paper Numbers - A paper number designates the section, or other sponsoring group, and chronology of the presentation.  
Example: **A21A-01** = Atmospheric Sciences, Tuesday, AM, concurrent session A, first paper in that session.

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The program is current as of 06 December 2018. An omitted abstract ID number in the presentation order indicates that the abstract has been withdrawn by the presenter from the session. Please refer to the online program at [https://agu.confex.com/agu/fm18/meetingapp.cgi/Home](https://agu.confex.com/agu/fm18/meetingapp.cgi/Home) for updates.

### Thursday A.M.

**A41K (CC) Hall A-C (Poster Hall)**

**Thursday 0800h**

Small Satellites Have Scientific Value, but Where Do They Fit In? | Posters (joint with IN, SA, SH)

**Presiding:** William Swartz, Johns Hopkins University Applied Physics Laboratory; David Klumpar, Montana State University; Pamela Millar, NASA Goddard Space Flight Center;


0800h **A41K-3106 POSTER** Earth Remote Sensing Results from the CUBesat MULTispectral Observing System, CUMULOS: D W Pack, C M Coffman, J R Santiago, R W Russell


0800h **A41K-3109 POSTER** Rainbow: a multistatic space lidar constellation: D B Josset, Y Hu, F Hovis, W Hou, V Morris, A Yue

0800h **A41K-3110 POSTER** TOMCAT: A SmallSat Lidar for Cloud/Aerosol Profiling and Hazard Events: M J McGill, J E Yorks

0800h **A41K-3111 POSTER** The Stratospheric Aerosol and Gas Experiment IV Pathfinder Instrument: C A Hill, R P Damadeo, M D Obland

0800h **A41K-3112 POSTER** A versatile University small satellite platform for space science: A Chandran, L C Chang, D N Baker

0800h **A41K-3113 POSTER** Preliminary results of the first year of operation of the SUCHAI-1 Cubesat: Langmuir probe and particle counter measurements: M A Diaz, C Gonzalez, P S Moya, M Martinez Ledesma

0800h **A41K-3114 POSTER** The Sheath-less Planar Langmuir Probe: D L Cooke

0800h **A41K-3115 POSTER** The FINE Mission - Demonstrating a New Capability to Measure Species-Dependent Fine-Scale Irregularities in LEO: J Cutler, L Habash Krause, R L Bishop, B E Gilchrist, O Leon, G Miars

0800h **A41K-3116 POSTER** The NanoMagSat Nanosatellite High-Precision Magnetic Project: G Hulot, J M Leger, P Vigneron, T Jager, F Bertrand, P Coisson, P Deram, A Boness, A Laurens, B Faure

0800h **A41K-3117 POSTER** Operation of Instruments for the Study of Space Storms (ISSS) on Next Generation Small Satellite-1: G Na, G W Na, J Sohn, K Kang, G H Shin

**SH41A** (CC) 204A-C

**Thursday 0800h**

**Novel Measurement Techniques for Space Plasma in Heliophysics and Planetary Science I**

**Presiding:** Keiichi Ogawara, Southwest Research Institute; Jason Gilbert, University of Michigan; John Bonnell, University of California;

0800h Introductory Remarks:

0804h **SH41A-01** In situ detection of extinct or extant microbial life on planetary surfaces: P Wurz, M Tulej, R Wiesendanger, R Lukmanov, A Riedo


0840h **SH41A-03** Recent Results from Tests of a Low-Voltage, Ultra-Compact Plasma Spectrometer: E escime@wvUedu, A M Keeese, L Neal, D S Thompson, M Dugas, S Ellison, J Tersteeg

0856h **SH41A-04** Predicting spacecraft charging effects due to Langmuir probe operation on a CubeSat using analytic equations: O Leon, W Hoegy, J McTernan, L Habash Krause, G Miars, B E Gilchrist


0928h **SH41A-06** A Hybrid Fluxgate and Search Coil Magnetometer Concept For Nanosat Missions: D Miles, B B Narod, D K Milling, I R Mann, D Barona, G B Hospodarsky

0944h **SH41A-07** The SunRISE Observatory: A Romero-Wolf

**SH41 B** (CC) 207B

**Thursday 0800h**

**Space Weather Research and Forecasting: Building Tomorrow’s Space Weather Architectures I (joint with NH, SA, SI)**

**Presiding:** Mario Bisi, STFC Rutherford Appleton Laboratory; Antti Pulkkinen, NASA/GSFC; Mark Gibbs, Met Office; Brent Gordon, NOAA Space Weather Prediction Center;

0800h Introductory Remarks: M M Bisi
SPA-Solar and Heliospheric Physics: AGU Fall Meeting 2018

0800h  **SH41C-3641** POSTER Dynamical Properties of He II EUV Surges that are Components of Solar Active Region Coronal Jets: **S A Hernandez**, A C Sterling, R L Moore, D A Falconer

0800h  **SH41C-3642** POSTER Magnetic Flux Emergence, Interchange Reconnection, Flux Cancellation, and Blow-out Eruptions in a Small Coronal Hole: **M Adams**, R L Moore, N K Panesar

0800h  **SH41C-3643** POSTER Fine Structures and Rotational Motions of an Erupting Solar Quiescent Filament: **Q Song**, S Yang

0800h  **SH41C-3644** POSTER Dependence of heating of active region coronal loops on their photospheric magnetic setting: **R L Moore**, S K Tiwari, J K Thalmann, N K Panesar, A R Winebarger

0800h  **SH41C-3645** POSTER Photospheric Magnetic Polarity of the Brightest Coronal Loops in a Solar Active Region: **U Baptiste II**, S K Tiwari, N K Panesar, R L Moore

0800h  **SH41C-3646** POSTER Where is the strongest field located in sunspots? - A statistical analysis using Hinode/Spectro-Polarimeter -: **J Okamoto**, T Sakurai

0800h  **SH41C-3647** POSTER 3-D Simulation Study of the Spreading/Elongation of Ribbons in Two-Ribbon Flares: **M Arencibia**, P Cassak, J Qiu, D W Longcope, E R Priest

0800h  **SH41C-3648** POSTER Si IV Resonance Line Emission During Solar Flares: NLTE radiation transfer simulations: **G S Kerr**, M Carlsson, J C Allred, P Young, A N Daw

0800h  **SH41C-3649** POSTER SDO/EVE Observations of Lyman Continuum Emission During Solar Flares: **R O Milligan**, M Machado, P J D A Simoes

0800h  **SH41C-3650** POSTER Microwave Brightness Variation along a Loop during a Solar Flare: **S Kim**

0800h  **SH41C-3651** POSTER Observation of Quiet Limb in He I 1083.0 nm, H Paschen alpha1281.8 nm and H Brackett gamma 2166.1 nm lines: **D P Choudhary**

0800h  **SH41C-3652** POSTER A Comparison of On-Disk Plume and Non-Plume Regions with the Interface Region Imaging Spectrograph and the Solar Dynamics Observatory: **S K Tiwari**, E A Avallone, B De Pontieu

0800h  **SH41C-3653** POSTER Evaluating the Performance of a Non-LTE Archive for Fast Inversion of Chromospheric Spectra: **C I Kiessner**, C Beck, S Gosain

0800h  **SH41C-3654** POSTER Constraints of temperature and density of plasma in non-equilibrium ionization state: **J Y Lee**, J Raymond, K Reeves, C Shen, Y J Moon

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**SH41C  (CC) Hall A-C (Poster Hall)**

**Thursday  0800h**

**Solar and Heliospheric Physics: General Contributions II Posters (joint with SA, SM)**

**Presiding:** J Hoeksema, Stanford University; Anthony Mannucci, Jet Propulsion Laboratory; Elizabeth MacDonald, National Aeronautics and Space Administration;

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0800h  **SH41C-3635** POSTER New developments and applications of Helioviewer Project services: **K G Vorobyev**, J Ireland, R Connolly

0800h  **SH41C-3637** POSTER The method for the detection and energy derivation of nano-flares based on deep learning: **T Kawai**, S Imada


0800h  **SH41C-3639** POSTER Faint solar X-rays observed with NuSTAR: **I G Hannah**, B Grefenstette, L Glesener, S Krucker, D Smith, H S Hudson, S M White, M Kuhar

0800h  **SH41C-3640** POSTER The Prevalence of O IV Density Diagnostics in UV Burst Spectra: **A Bacon**, C A Madsen, E DeLuca

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0801h  **SH41B-01** Future Steps and an Architecture for Predicting the Solar End of Space Weather: **M K Georgoulis**, P C Martens, R Angryk

0816h  **SH41B-02** New observations for actionable space weather forecasts: **N E Hurlburt**

0831h  **SH41B-03** Vision for US Air Force space weather operations: update on current status and plans for future changes: **M Farrar**

0838h  **SH41B-04** Australian Space Weather Research and Forecasting: **I H Cairns**, M L Parkinson

0845h  **SH41B-05** NOAA’s Current and Future Space Weather Architecture: **E R Talaat**

0852h  **SH41B-06** UK Preparedness: an Update on Current Activities and Future Plans in Capability and Understanding: **M Willis**, M Gibbs, C Armstrong

0859h  **SH41B-07** Heliophysics at NASA and the Science of Space Weather: **N J Fox**, J F Spann

0906h  **SH41B-08** Towards Improved International Space Weather Preparedness in the Context of the United Nations (UN) Committee on the Peaceful Uses of Outer Space (COPUOS): **I R Mann**

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**0913h Panel Discussion:**

**0958h Concluding Remarks:** **A A Pulkkinen**
0800h **SH41C-3655** POSTER He II 304 -proxy for magnetic field properties in far-side complex topologies: **I Ugarte-Urra**, L Upton, H Warren

0800h **SH41C-3656** POSTER Enhancing Solar Observations from GOES-R: Derived Products from the Extreme Ultraviolet and X-Ray Irradiance Sensors (EXIS) and Solar Ultraviolet Imager (SUVI): **M Tilton**, J Darnel, J L Machol, W F Rowland, D B Seaton


0800h **SH41C-3658** POSTER Properties of sunspot oscillations and wave propagation in NOAA AR 12470 as observed with ALMA and BBSO instruments: **Y Chai**, D E Gary, B Chen, K Reardon, G D Fleishman, V Yurchyshyn

0800h **SH41C-3659** POSTER Statistical studies of Equatorial Coronal Holes and Active Regions during the maximum phase of four Solar Cycles.: **N Karna**, M L Karna

0800h **SH41C-3660** POSTER Using NOAA and Mount Wilson Observatory Sunspot Data to Investigate the Impact of Joy’s Law Tilt on Simulations of Solar Cycle 22 with the Advective Flux Transport Model: **B Ness**, L Upton

0800h **SH41C-3661** POSTER Closing the Book on Solar Cycle 24: **J T Hoeksema**

0800h **SH41C-3662** POSTER Plage areas from seven historical Ca II K archives: **T Chatzistergos**, I Ermolli, N Krivova, S K Solanki

0800h **SH41C-3663** POSTER Synergy of observations and dynamo models to understand and predict solar activity cycles: **I Kitiashvili**

0800h **SH41C-3664** POSTER Predicting Sunspot Cycle 25 Using a Data Driven Solar Magnetic Field Simulations of Century Scale: **P Bhowmik**, D Nandy

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**SH41D** (CC) Hall A-C (Poster Hall)

**Thursday 0800h**

**Novel Measurement Techniques for Space Plasma in Heliophysics and Planetary Science Posters ☀**

*Presiding: Keiichi Ogasawara*, Southwest Research Institute; **Jason Gilbert**, University of Michigan; **John Bonnell**, University of California;

0800h **SH41D-3665** POSTER Investigating precipitating cusp electrons using Bifocal, a next generation electrostatic analyzer: **G D Andreone**, J S Halekas


0800h **SH41D-3668** POSTER Calibration and First-Light of the Energetic Particle Detectors on UCLA’s Electron Losses and Fields Investigation (ELFIN) CubeSats: **C Wilkins**, R Caron, V Angelopoulos, P R Cruise, M Chung, J Liu, A Runov, K Rowe, E Tsai, L Bingley

0800h **SH41D-3669** POSTER The micro-Charged Particle Telescope (μCPT) for the AeroCube-10 mission: **D L Turner**, J H Lee, C Q Nguyen, W R Crain Jr, A L Berman, J B Blake

0800h **SH41D-3670** POSTER ASHI: An All Sky Heliospheric Imager for viewing Thomson-scattered sunlight: **A Buffington**, B V Jackson, M Bracamontes, H S Yu, P P Hick, M M Bisi

0800h **SH41D-3671** POSTER An Interferometer Approach For Quantifying Space Varying Polarization From Single Shot Measurement.: **A B S**, M Pal, N Ghosh, D Nandy

0800h **SH41D-3672** POSTER Parametric Experiments In Mitigating Spacecraft Charging Via Plasma Contactor: **G Miars**, G L Delzanno, B E Gilchrist, O Leon, F Lucco Castello


0800h **SH41D-3674** POSTER Miniature Planar Ion Probe for CubeSat Missions: **L Gunter**, A Barjatya, R L Bishop

Space Weather Research and Forecasting: Building Tomorrow’s Space Weather Architectures Posters *(joint with NH, SA, SI)*

Presiding: Mario Bisi, STFC Rutherford Appleton Laboratory; Antti Pulkkinen, NASA/GSFC; Mark Gibbs, Met Office; Brent Gordon, NOAA Space Weather Prediction Center;

0800h **SH41E-3676** POSTER Latest Community Coordinated Modeling Center (CCMC) services and innovative tools supporting the space weather research and operational communities.: A M M Mendoza, M M Kuznetsova, L M Mays, L Rastaetter, A Chulaki, P J MacNeice, J S Shim, A Taktakishvili, Y M Collado-Vega, C Weigand, R Mullinix, T Tsui, A D Pembroke

0800h **SH41E-3677** POSTER Space Very Low Frequency Solar Radio Imaging Array: Y Yan, L Chen, W Wang, G Fang, B Tan

0800h **SH41E-3678** POSTER The Prediction of Bz Fields Using the CSSS Model and UCSD IPS Tomography: B V Jackson, H S Yu, A Buffington, P P Hick, M Tokumaru


0800h **SH41E-3680** POSTER Observations of a Coronal Mass Ejection using Interplanetary Scintillation (IPS) and Comparison with Numerical Models: R F González, O Chang, M M Bisi, R A Fallows


0800h **SH41E-3682** POSTER The UCSD Iterative Interplanetary Scintillation (IPS) Analysis Using an ENLIL 3-D MHD Model Kernel in Near Real Time: B V Jackson, H S Yu, P P Hick, A Buffington, D Odstrcil, M Tokumaru, M M Bisi

0800h **SH41E-3683** POSTER Nowcast of Kp and high cadence global geomagnetic indices: G Kervalishvili, J Matzka, C Stolle, J Rauberg

0800h **SH41E-3684** POSTER WSA-ENLIL+Cone Modeling of CMEs in 2010-2011 Using Multipoint Spacecraft Observations: L K Jian, D Odstrcil, M L Mays, R Kwon, S Akiyama

0800h **SH41E-3685** POSTER Improving MAG4's Forecasting of Drivers of Severe Space Weather: M A Fisher, D A Falconer, R L Moore, S K Tiwari

0800h **SH41E-3686** POSTER Providing Long-term Measurements of 5 - 50 MeV/nucleon Proton and Helium Intensities – A new Data Product for SOHO/EPHIN: L Berger, P Kühl, B Beber

0800h **SH41E-3687** POSTER Heavy Ion Composition and Flux Measurements as a New, Sustainable Window on Space Weather: Observations From the GOES-16 Energetic Heavy Ion Sensor (EHIS): J J Connell, C Lopate


0800h **SH41E-3689** POSTER A Solar Dynamo Amplitude (SODA) Prediction of Approximately 140 for Cycle 25’s F10.7 Radio Flux: J Getchius, W D Pesnell, K H Schatten

0800h **SH41E-3691** POSTER Response of Schumann resonance parameters to intense solar activity: A Ikeda, T Uozumi, A Yoshikawa, A Fujimoto, S Abe

0800h **SH41E-3692** POSTER Improving MAG4’s Forecasting of Drivers of Severe Space Weather: M A Fisher, D A Falconer, R L Moore, S K Tiwari
1121h **SH42A-05** Synthetic White-light Imagery for the Wide-field Imager (WISPR) on Parker Solar Probe: **P C Liewer, J Qiu, P Penteado, A Vourlidas, A F Thernisien, R Howard, G Nistico**

1135h **SH42A-06** Integrated Science Investigation of the Sun (ISIOS): Overview and Initial Results: **D J McComas**

1150h **SH42A-07** Parker Solar Probe SWEAP Science Operations: How we operate to measure plasma near the Sun: **K E Korreck, J C Kasper, A W Case, M L Stevens, D E Larson, P L Whittlesey, R Livi**

1205h **SH42A-08** The Radio Frequency Spectrometer onboard the Parker Solar Probe: **M Pulupa, S D Bale, K Goetz, D Gordon, P Harvey, D Seitz**

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**SH43D (CC) eLightning Theater II**

**Thursday 1020h**

**Empirical and Physics-Based Approaches for Predicting Solar Wind Speed** eLightning 🌊

**Presiding: Bala Poduval**, Space Science Institute Boulder; **Steven Cranmer**, Harvard-Smithsonian CfA; **Charles Arge**, NASA Goddard Space Flight Center;

1020h **P42C: The Effects of Impact Cratering on Mafic Rocks and Minerals I** eLightning Session:

1104h Introductory Remarks:

1105h **SH43D-35** Predicting the Ambient Solar Wind Speed using the Wang & Sheeley Empirical Relationship: **B Poduval**

1108h **SH43D-36** The S-Web as the Source of Slow Solar Wind: **A K Higginson, S K Antiochos, C R DeVore, R Scott**

1114h **SH43D-38** Global Solar Magnetic Maps using Reverse Active Region Modeling: **C J Henney, K Shurkin, C N Arge**

1117h **SH43D-39** Comparing WSA coronal and solar wind model predictions driven by ADAPT reverse active region maps: **C N Arge, C J Henney, K Shurkin, S Wallace**

1120h **SH43D-40** Does the Magnetic Expansion Factor Play a Role in Solar Wind Acceleration?: **S Wallace, C N Arge, Y Pihlstrom**

1123h Concluding Remarks:
Thursday P.M.

1340h SH43B-3692 POSTER Effects of Expansion on Acceleration, Evolution and Impact of CMEs in the Heliosphere: The 2017 September 10 Event: Y D Liu, B Zhu, X Zhao


1340h SH43B-3695 POSTER The Role of Thermal Nonequilibrium in Driving the Corona-Heliosphere Connection: S K Antiochos, M Schlenker, P J MacNeice, E Mason, P W Schuck

1340h SH43B-3696 POSTER Testing for the direct propagation of scaling fluctuations from the outer corona to the solar wind: S C Chapman, B Hnat, N W Watkins

1340h SH43B-3697 POSTER Back to the Future: Insights into the power spectrum of spatial clumps from the history of 1/f noise models: N W Watkins

1340h SH43B-3698 POSTER How Nanoflares Produce Kinetic Waves, Nano-Type III Radio Bursts, and Non-Thermal Electrons in the Solar Wind: H Che

1340h SH43B-3699 POSTER Encounters of Coronal Jets with Parker Solar Probe and Solar Orbiter: R Lionello, T Torok, J Linker, Z Mikic, J E Leake, M Linton

1340h SH43B-3700 POSTER Quantifying the Propagation of Coronal Mass Ejections from the Sun to Interplanetary Space Combining Remote Sensing and Multi-Point In Situ Observations: X Zhao, Y D Liu, H Hu, R Wang, M Liu

1340h SH43B-3701 POSTER The Variation of Helium Across a Two Solar Cycles: B L Alterman, J C Kasper, M L Stevens

1340h SH43B-3702 POSTER Tracking Flows and Disturbances in Coronagraph Data: B J Thompson, R Attié, C DeForest, S E Gibson, S A Hess Webber, M S Kirk, B Kosar, R Kwon, N M Viall

1340h SH43B-3703 POSTER Imaging the Young Solar Wind with PUNCH, the Polariometer to UNify the Corona and Heliosphere: C E DeForest


SH43B  (CC) Hall A-C (Poster Hall)

Thursday  1340h

Science of the Young Solar Wind: Coordinated Science Posters

Presiding: Kelly Korreck, Smithsonian Astrophysical Observatory; Yannis Zouganelis, Ecole Polytechnique; Barbara Thompson, NASA/GSFC; Nour Raouafi, Johns Hopkins University;
1340h **SH43B-3705 POSTER** The Contribution of the Metis Coronagraph to the Synergies of Solar Orbiter with the Parker Solar Probe Mission: **D Spadaro**


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### SH43C  (CC) Hall A-C (Poster Hall)

#### Thursday  1340h

**Origin of Neutrons and Singly Ionized Atoms in the Corona and Interplanetary Space Posters**

*Presiding: Shadia Habbal*, Institute for Astronomy; **Vincenzo Andretta**, INAF - Osservatorio Astronomico di Capodimonte; **Daniele Spadaro**, INAF-Osservatorio Astrofisico di Catania; **Angelos Vourlidas**, Johns Hopkins University Applied Physics Laboratory;

1340h **SH43C-3708 POSTER** SOHO/UVCS observations of low-charge ions close to the Sun during solar magnetic activity cycle #23: **V Andretta**, S Giordano, C Sasso, D Spadaro

1340h **SH43C-3709 POSTER** SOHO/UVCS Observations of the He I 58.4 Line Close to the Sun along the Solar Magnetic Activity Cycle #23: **S Giordano**, V Andretta, C Sasso, D Spadaro

1340h **SH43C-3710 POSTER** On the Detection of Fast Moving H, He and Neutral Atoms in the Solar Corona During the Total Solar Eclipses of 2015 and 2017: **S R Habbal**, A Ding, M Nassir, B Boe

1340h **SH43C-3711 POSTER** Statistical Study of ICMEs with Low Carbon Charge State Plasmas Detected from 1998 to 2011: **S Yao**, X Feng, D Li, G Li, X Yan

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### SH43E  (CC) Hall A-C (Poster Hall)

#### Thursday  1340h

**Effect of Solar Energetic Particles and Galactic Cosmic Rays on the Geospace Environment Posters**

*Presiding: Valeriy Tenishev*, University of Michigan Ann Arbor; **Natalia Ganushkina**, University of Michigan Ann Arbor;

1340h **SH43E-3712 POSTER** Cosmic Ray Modulation During Extremely Weak Solar Cycle: **S Miyake**, T Matsumoto, K Ryuho, T Sato, D Shiota, H Miyahara, S Imada, H Ueno

1340h **SH43E-3714 POSTER** Energetic protons at medium Earth orbit: Cross-calibration, data updates, and science discovery: **M Carver**, S Morley, J P Sullivan, B Norman

1340h **SH43E-3715 POSTER** Expected Particle Background Observed by STIX Instrument: **J Barylak**, A Barylak, M Steslicki, T Mrozek

1340h **SH43E-3716 POSTER** Measuring geomagnetic cutoff with Global Positioning System energetic proton data: **A M Wold**, M Carver, S Morley


1340h **SH43E-3718 POSTER** Role of Solar Alpha Particles in Predicting Geomagnetic Storms: **S Pant**, B Adhikari

1340h **SH43E-3719 POSTER** Solar energetic proton access to the magnetosphere during the 10-14 September 2017 particle event: **T P O’Brien III**, J E Mazur, M D Looper

1340h **SH43E-3720 POSTER** SOLAR MODULATION, FORBUSH DECREASES AND SOLAR ENERGETIC PARTICLES WITH AMS: **V Bindi**

1340h **SH43E-3721 POSTER** Variability of the energetic particle population in response to magnetospheric activity: **V Tenishev**, Y Shou, I Sokolov

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### SH43F  (CC) Hall A-C (Poster Hall)

#### Thursday  1340h

**Solar and Heliospheric Physics: General Contributions III Posters (joint with SA, SM)**

*Presiding: J Hoeksema*, Stanford University; **Anthony Mannucci**, Jet Propulsion Laboratory; **Elizabeth MacDonald**, National Aeronautics and Space Administration;

1340h **SH43F-3722 POSTER** A Statistical Analysis between Observed Coronal Holes during the Descending Phase of Solar Cycles 23 and 24 and the PFSS Model: **J Lee**, A D Minot, X Sun

1340h **SH43F-3723 POSTER** Analysis of Coronal Holes in the Descending Phase of Cycles 23 and 24 Using EUV and Magnetic Field Data: **A D Minot**, J Lee, X Sun

1340h **SH43F-3724 POSTER** The Sun’s Basal Corona: **S M White**, S Schonfeld

1340h **SH43F-3725 POSTER** Dependency of Mass Loss Rate of the Sun on Its Magnetic Variability over Solar Cycles: **W Mishra**, Z Mirtoshev, N Srivastava, Y Wang, J Zhang
1340h  **SH43F-3726 POSTER** Coronal Heating and the Magnetic Field in Solar Active Regions: D A Falconer, S K Tiwari, R L Moore

1340h  **SH43F-3727 POSTER** Realistic 3D MHD modeling of the emerging magnetic flux and corona: I Kitashvili, A A Wray, N N Mansour, A G Kosovichev, V M Sadykov

1340h  **SH43F-3728 POSTER** Exploring the Cool Pockets in the Solar Atmosphere: A E Vizzerra, H Uitenbroek

1340h  **SH43F-3729 POSTER** Signatures of Coronal Heating in Si IV Line Profiles: S Atwood, M McCarthy, C C Kankelborg

1340h  **SH43F-3730 POSTER** The Role of Asymmetries in Thermal Non-Equilibriums: J A Klimchuk, M Luna Bennisar

1340h  **SH43F-3731 POSTER** Exploration of Different Active Region Heating Models: Z Mikic, C Downs, R Lionello, J A Klimchuk, A R Winebarger

1340h  **SH43F-3732 POSTER** Geodesic Mesh Simulations for Space Physics: A Study of Reconstruction Parameters: P M LaChance, V A Florinski

1340h  **SH43F-3733 POSTER** Type I solar radio bursts observed with PL612 LOFAR station in Baldy: A Krankowski, K Kotulak, B Dąbrowski, L Błaszkiewicz, A Froń, T Sidorowicz, M Hajduk, K Śniadkowska

1340h  **SH43F-3734 POSTER** Beam Speeds and Source Longitudes for Type III Solar Radio Bursts from Magnetic Mapping Analyses: I H Cairns, B Li, D Graham, V V Lobzin, G Steward, D A Neudegg

1340h  **SH43F-3735 POSTER** Expansion Speeds of Coronal Mass Ejections (CMEs): L A Balmaceda

1340h  **SH43F-3736 POSTER** Analysis of Interplanetary Coronal Mass Ejections (ICMEs) Observed by Wind, DSCOVR and STEREO: M Gonzalez Álvarez, T Nieves-Chinchilla, L K Jian, L F Guedes dos Santos, L A Balmaceda, A Szabo

1340h  **SH43F-3737 POSTER** Multi-Spacecraft Predictions of Space Weather Fronts at Earth: Predictions Using Four L1 Spacecraft and Dynamic Time Warping: J Prchlik, M L Stevens

1340h  **SH43F-3739 POSTER** The Properties of Periodic Mesoscale Structures in the Solar Wind: K Wolfinger, N M Viall, L Kepko

1340h  **SH43F-3740 POSTER** Modeling the radial variations of energetic O and He ions through scattering and neutral charge-exchange in the inner heliosphere: J D Patterson, J W Manweiler, H Madanian


1340h  **SH43F-3742 POSTER** Solar cycle variation of the heliospheric plasma sheet thickness: C C Wu, K Liou

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**SM43B (CC) Hall A-C (Poster Hall)**

**Thursday 1340h**

**Magnetospheric Physics: General Contributions Posters (joint with SA, SH)**

*Presiding: Elizabeth MacDonald, NASA Goddard Space Flight Center; J Hoeksema, Stanford University; Anthony Mannucci, Jet Propulsion Laboratory;*

1340h  **SM43B-3538 POSTER** Study on the Curvature and Gradient of the Magnetic Field in Earth’s Cusp Region Based on the Magnetic Curvature Analysis Method: C Xiao, W Liu, C Shen, Z Rong

1340h  **SM43B-3539 POSTER** A new particle integrator for particle-in-cell (PIC) simulations: S Zenitani, T Umeda, T Kato

1340h  **SM43B-3540 POSTER** Suprathermal heavy ion plasma composition from Wind: A new dataset from STICS: J M Raines, P Tracy, R M Dewey, S T Lepri, N Y Ganushkina

1340h  **SM43B-3541 POSTER** The Relative Importance of Alfvén Wings and Geo-effective Length in Governing the Saturation of the Reverse Convection Potential Under Northward Interplanetary Magnetic Field (IMF): F D Wilder, R E Lopez, S Eriksson, K H Pham, D Lin

1340h  **SM43B-3542 POSTER** Steady State Characteristics of the Terrestrial Geopause: H S Trung, M W Liemohn

1340h  **SM43B-3543 POSTER** Progress in Magnetosphere Modeling at the CCMC: L Rastatter, D De Zeeuw, M M Kuznetsova


1340h  **SM43B-3545 POSTER** Simulation of Global Plasma Transportation using DyFK Model: Y Huang, J Tu, P Song
1615h **SH44A-02** Neutral Atoms in the Solar Corona: J C Raymond

1630h **SH44A-03** Origin of Neutral Particles and Ions with Low Charges States in the Heliosphere: R F Wimmer-Schweingruber, L Berger, V Heidrich-Meisner

1645h **SH44A-04** Endogenous magnetic reconnection and its role in the diffusive emission of solar coronal plasmas: M Asgari-Targhi, B Coppi, B Basu, L Golub

1700h **SH44A-05** Studying Coronal Heating with Data Driven Active Region Modeling using GX Simulator: S Schonfeld, J A Klimchuk

1715h **SH44A-06** Power spectrum power-law indices as a diagnostic of coronal heating: J Ireland, N M Viall, S J Bradshaw, M S Kirk

1730h **SH44A-07** Deriving properties of Coronal Mass Ejections (CMEs) using in-situ charge state distributions to constrain plasma heating in the corona: Y Rivera, E Landi, S T Lepri, J A Gilbert

1745h **SH44A-08** The Faint Young Sun Paradox Mitigated by a Sustained Initial Massive Solar Wind: P C Martens
Session Information

Oral Sessions
Sessions are being held in the Convention Center (CC) and Marriott Marquis (MM)

Poster Sessions
Posters are on display in the following venue throughout the week:
Hall A-C (Poster Hall)

Session & Paper Numbering

Paper Numbers - A paper number designates the section, or other sponsoring group, and chronology of the presentation.
Example: A21A-01 = Atmospheric Sciences, Tuesday, AM, concurrent session A, first paper in that session.

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<th>Discipline</th>
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Day     Time
1  = Monday 1 = AM 0800–1000
2  = Tuesday 2 = AM 1020–1220
3  = Wednesday 3 = PM 1340–1540
4  = Thursday 4 = PM 1600–1800
5  = Friday 5 = PM 1815–1915

The program is current as of 06 December 2018. An omitted abstract ID number in the presentation order indicates that the abstract has been withdrawn by the presenter from the session. Please refer to the online program at https://agu.confex.com/agu/fm18/meetingapp.cgi/Home for updates.

Friday A.M.

SH51A  (CC) 207B

Friday  0800h

Particle Acceleration and Transport at the Sun and in the Inner Heliosphere I

Presiding: Linghua Wang, Peking University; Gang Li, University of Alabama in Huntsville; Richard Mewaldt, Caltech; Robert Wimmer-Schweingruber, Univ Kiel;

0800h SH51A-01 Anticipated breakthroughs in SEP understanding with the Parker Solar Probe: M I Desai


0848h **SH51A-04** Effects of Coronal Magnetic Field Structures on the Transport of Solar Energetic Particles: **L Zhao**, M Zhang


0912h **SH51A-06** Solar Wind Suprathermal Electrons and What we Could Expect From Parker Solar Probe & Solar Orbiter: **M Maksimovic**

0936h **SH51A-07** Theory, Simulations, and Observations of Suprathermal Ions at Strong Interplanetary Shocks: Implications for the Source Population: **J Giacalone**, D Lario, S T Lepri


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**SH51B (CC) Hall A-C (Poster Hall)**

**Friday 0800h**

**Parker Solar Probe Takes the Plunge Posters**

**Presiding:** Justin Kasper, University of Michigan; Stuart Bale, University of California Berkeley;

0800h **SH51B-2814 POSTER** First flight data from the Digital Fields Board on the Parker Solar Probe FIELDs instrument: **D Malaspina**, R Ergun, M Bolton, M Kien, D Summers, K Stevens, A Yehle, V Hoxie, S D Bale, K Goetz, M Pulupa, P Harvey

0800h **SH51B-2815 POSTER** First Results from the Fluxgate Magnetometers (MAGs) on Parker Solar Probe: **R J MacDowall**, D Sheppard, J Odom, S Murphy, R J Oliversen, M K Choi, P Lawton, E A Bickel, S D Bale, K Goetz, P Harvey

0800h **SH51B-2816 POSTER** First results from the FIELDs instrument suite on Parker Solar Probe: **S Bale**, T Dudok de Wit, K Goetz, P Harvey, R J MacDowall, D Malaspina, M Pulupa

0800h **SH51B-2817 POSTER** First results from the SCM search-coil magnetometer onboard Parker Solar Probe: **T Dudok de Wit**, C Agrapart, S Bale, T A Bowen, P Fergeau, K Goetz, P Harvey, G Jannet, V Krasnoselskikh, M Kretzschmar, D Malaspina, P Martin, M Pulupa, C Revillet, M Timofeeva


0800h **SH51B-2819 POSTER** Orbit Classification for the Parker Solar Probe (PSP) Mission: **D J Rodgers**, M B Kusterer, N E Raouafi, R B Decker

0800h **SH51B-2820 POSTER** STEREO Observations During the First Perihelion Pass of Parker Solar Probe: **T A Kucera**, S D Bale, G A de Nolfo, A B Galvin, R Howard, J G Luhmann, M L Mays, W T Thompson, N M Viall

0800h **SH51B-2821 POSTER** Solar Gamma Ray and Neutron Science with the EPI-Hi/HET Telescope on PSP: **R Mewaldt**


0800h **SH51B-2823 POSTER** Correcting PSP/SPAN VDF Measurements for Spacecraft Charging and B-Field Effects: **D McGinnis**, J S Halekas, D E Larson, P L Whittlesey, J C Kasper

0800h **SH51B-2824 POSTER** The Solar Probe Cup: data analysis and commissioning: **M L Stevens**, A W Case, K E Korreck, J C Kasper, D E Larson, P L Whittlesey, R Livi

0800h **SH51B-2825 POSTER** Solar Probe Cup Design, Operation, and Calibration: **A W Case**, J C Kasper, K E Korreck, M L Stevens, D E Larson, R Livi, P L Whittlesey


0800h **SH51C-2828** *POSTER* The PSP/SWEEP Data Processing Unit - Compressing a lot of information into a limited data allocation.: **D E Larson**, J C Kasper, P L Whittlesey, R Livi, A W Case, K E Korreck, D W Curtis, A Slagle, T Mercer, J S Halekas

**SH51C** (CC) Hall A-C (Poster Hall)

Friday 0800h

**Particle Acceleration and Transport in the Sun and in the Inner Heliosphere Posters**


0800h **SH51C-2829** *POSTER* Modeling the September 2017 SEP and LDGRF Events: **J M Ryan**, G A de Nolfo, D E Gary

0800h **SH51C-2830** *POSTER* Remote Observations of Electrons and Ions Near the Sun Through Gamma-Ray Observations: **G H Share**, R J Murphy

0800h **SH51C-2831** *POSTER* Solar energetic particle events observed by the PAMELA mission: **A Bruno**, E R Christian, G A de Nolfo, I G Richardson, J M Ryan

0800h **SH51C-2832** *POSTER* Modeling of Proton Acceleration in Application to a Ground Level Enhancement: **A N Afanasiev**, R O Vainio, A P Rouillard, M C Battarbee, A Aran, P Zucca

0800h **SH51C-2833** *POSTER* Using ADAPT-WSA Modeling to Test STEREO Connections to Solar Flare Electron Sources: **S W Kahler**, A K Petersen, C J Henney, C N Arge


0800h **SH51C-2835** *POSTER* Solar Energetic Electrons detected in the Earth’s cusp by the BD-IES instrument: **L Wang**, Q Zong, Q Shi, R F Wimmer-Schweingruber, S D Bale

0800h **SH51C-2836** *POSTER* A computational model for exploring particle acceleration during macroscale magnetic reconnection: **H Arnold**, J F Drake, M Swisdak, J Dahlin

0800h **SH51C-2837** *POSTER* The random walk of Interplanetary Magnetic Field lines due to the intersupergranular magnetic flux tubes and its effect on the transport of the Solar Energetic Particles in the inner Heliosphere: **A Moradi**, G Li

0800h **SH51C-2838** *POSTER* Improving the Multiple-Field-Line-Advection Model for Particle Acceleration with Alfvén Wave Turbulence: **Z Huang**, I Sokolov, D Borovikov, T I Gombosi

0800h **SH51C-2839** *POSTER* Combining MHD Simulation and in-situ observations to probe CME-driven shock geometry: **G Li**, L Zhao, M Jin

0800h **SH51C-2840** *POSTER* Drift and Diffusion of Energetic Charged Particles in Nonaxisymmetric Two-Component Magnetic Turbulence with Nonuniform Large Scale Field: **P Chuychai**, E Engelbrecht, D J Ruffolo

0800h **SH51C-2841** *POSTER* Tracking Solar Type II Bursts with the Sun Radio Interferometer Space Experiment (SunRISE): **A M Hegedus**, J C Kasper, W Manchester, J Lazio, A Romero-Wolf

0800h **SH51C-2842** *POSTER* The Electron Acceleration by ICME-driven Shocks at 1 AU During 1995-2014: **L Yang**, L Wang, Z Liu, G Li, R F Wimmer-Schweingruber, J He, C Y Tu, S D Bale

0800h **SH51C-2843** *POSTER* The Role of Magnetic Reconnection-Associated Processes in Local Particle Acceleration in the Solar Wind: **L Adhikari**, O Khabarova, G P Zank, L Zhao

0800h **SH51C-2844** *POSTER* Interplanetary Shock Acceleration of Electrons With Numerical Simulations: **G Qin**, F Kong

0800h **SH51C-2845** *POSTER* Spectral Properties and Transport Effects of Suprathermal Heavy Ions in Stream Interaction Regions: **R J Filwett**, M I Desai, R W Ebert, M A Dayeh

0800h **SH51C-2846** *POSTER* An unusual energetic particle flux enhancement associated with solar wind magnetic island dynamics: **L Zhao**, G P Zank, O Khabarova, S Du, L Adhikari, Q Hu, Y Chen

**SH51D** (CC) Hall A-C (Poster Hall)

Friday 0800h

**Large-Scale Interplanetary Structures and Their Space Weather Effects I Posters**

*Presiding: Chenglong Shen*, University of Science and Technology of China; **Noé Lugaz**, University of New Hampshire; **Fang Shen**, National Space Science Center, CAS; **Lan Jian**, NASA Goddard Space Flight Center;

0800h **SH51D-2848 POSTER** What causes CME travel time estimation errors: their kinematic measurements in the corona or the limited understanding of the forces in their IP propagation?: C R Braga, A Vourlidas, A Lago, R R S D Mendonça, E Echer, L Balmaceda, R Kwon

0800h **SH51D-2849 POSTER** Three-dimensional MHD simulation of solar wind using a new boundary treatment: Comparison with in-situ data at Earth: Z Shen, Z Yang, J Zhang, W Wei, X Feng

0800h **SH51D-2850 POSTER** Evolution of ICME structure in the inner heliosphere: a parametric study: E Provornikova, V G Merkin, S E Gibson, A V Malanushenko, C N Arge, A Vourlidas

0800h **SH51D-2851 POSTER** 2.5D Numerical simulations of ICMEs up to 1AU: E Chan, S Hosteaux, S Poedts

0800h **SH51D-2852 POSTER** Modeling the Thermodynamic State of a Coronal Mass Ejection (CME) Using Its Kinematics in the Heliosphere: W Mishra, Y Wang


0800h **SH51D-2854 POSTER** Sun to Earth MHD simulation of a CME model constrained by observed mass, speed, and poloidal flux: T Singh, M S Yalim, N V Pogorelov

0800h **SH51D-2855 POSTER** Why the Shock-ICME Complex Structure Is Important: Learning from the Early 2017 September CMEs: C Shen, Y Wang, Y Chi, X Mengjiao

0800h **SH51D-2856 POSTER** Classifying Counterstreaming Suprathermal Electrons and Investigating their Correlation with Interplanetary Coronal Mass Ejections and their Observed In-Situ Substructure: A K Petersen, S T Lepri, M W Liemohn


0800h **SH51D-2858 POSTER** Dependence of Interplanetary Coronal Mass Ejection Magnetic Properties on Their Solar Sources: S Pal, D Nandy

0800h **SH51D-2859 POSTER** Tracking and Validating ICMEs Propagating Towards Mars using STEREO Heliospheric Imagers Combined with Forbush Decreases Detected by MSL/RAD: J L Freiherr von Forstner, J Guo, R F Wimmer-Schweingruber, M Temmer, C Moestl


0800h **SH51D-2861 POSTER** The Internal Structure of ICMEs: Heavy Ion Composition and the Associated Magnetic Field: Y K Ko, T Nieves-Chinchilla, N Savani, A Vourlidas, J M Laming

0800h **SH51D-2862 POSTER** Study on the agreement between solar and interplanetary magnetic field north-south directions using 101 CME-ICME pairs: S K Sung, Y J Moon, J Y Lee

0800h **SH51D-2863 POSTER** Reconstruction of the near-Earth interplanetary coronal mass ejections during 1995-2015: Catalog of geometrical and physical properties: T Nieves-Chinchilla, L F Guedes dos Santos, A Vourlidas, N A Al-Haddad, N Savani, A Szabo

0800h **SH51D-2864 POSTER** Thermodynamic description of the dynamics of CMEs: A Flandes, H J Durand-Manterola


0800h **SH51D-2866 POSTER** Forecasting Periods of Strong Southward Magnetic Field Following Interplanetary Shocks: T M Salman, N Lugaz, C J Farrugia, R M Winslow, A B Galvin, N Schwadron

0800h **SH51D-2867 POSTER** Comparing Recurring Solar Wind Structures in the Previous and Current Approaches to Solar Minimum: A B Galvin, C J Farrugia, L K Jian, A Opitz

0800h **SH51D-2869 POSTER** The Coronal Hole Influence Parameter (CHIP) as an Important Parameter for Developing the Geomagnetic Storm Prediction Models: A A A Mohamed, N Gopalswamy

0800h **SH51D-2870 POSTER** Helium abundance profiles in the large-scale solar-wind phenomena: E E Grigorenko, Y I Yermolaev, I G Lodkina, M Y Yermolaev, N L Borodkova, M Riazantseva, L Rakhmanova

0800h **SH51D-2871 POSTER** Statistical Survey of Solar Wind Dynamic Pressure Pulses based on WIND Observations: P Zuo, X Feng

0800h **SH51D-2872 POSTER** Identifying the arrival of complex structures at 1AU using the seesaw space: T Niembro, A Lara
0800h **SH51D-2873 POSTER** Enhancement of Geomagnetic Storm Intensity Due to Shock-Magnetic Cloud Interaction: X Mengjiao, C Shen

0800h **SH51D-2875 POSTER** Cosmic ray short burst observed with the Global Muon Detector Network (GMDN) on June 22, 2015: C R Braga, K Munakata

**SH51E (CC) Hall A-C (Poster Hall)**

**Friday 0800h**

**Fundamental Physics of the Solar Corona and Inner Heliosphere Posters**

**Presiding:** Chadi Salem, University of California Berkeley; Olga Panasenco, Advanced Heliophysics; Marco Velli, University of California Los Angeles; Yannis Zouganelis, Ecole Polytechnique;

0800h **SH51E-2876 POSTER** A Study of Coronal Holes in Emission at Low Frequencies by the Murchison Widefield Array: M M Rahman, P I McCauley, I Cairns

0800h **SH51E-2877 POSTER** Observations of Condensations at Coronal Hole Boundaries: Dynamics and Implications: E I Mason, S K Antiochos, A N Daw, M Schlenker

0800h **SH51E-2878 POSTER** Coronal Hole Lifespans at Lower Latitudes Studied with the McIntosh Archive: I Hewins, S E Gibson, D F Webb, R McFadden, B A Emery, T A Kuchar

0800h **SH51E-2879 POSTER** Very Large Array Measurements of Coronal Angular Broadening: J E Kooi, A Singh, P Bardhan, I Sutcliffe

0800h **SH51E-2880 POSTER** Measurement of Equatorial Coronal Magnetic Fields Using Faraday Rotation: M N Kenny, J E Kooi, M G Allen

0800h **SH51E-2881 POSTER** Using Thomson-Scattering Brightness to Enhance Coronal Magnetic Field Measurements: M G Allen, J E Kooi, M N Kenny

0800h **SH51E-2882 POSTER** In Situ Categorization and Coronal Origins of Different Solar Wind Types: O Panasenco, M Velli, A Panasenco, R Lionello, R D’Amicis

0800h **SH51E-2883 POSTER** The Onset of Magnetic Reconnection in the Solar Corona: L K S Daldorff, J E Leake, J A Klimchuk, K J Knizhnik

0800h **SH51E-2884 POSTER** Scattering Effects on Type II and Type III Bursts: V Krupar, M Maksimovic, A Szabo, O Santolik, E Kontar, J Sourcek, O Kruparova

0800h **SH51E-2885 POSTER** New Evidence for Third Harmonic Radiation in Interplanetary Type III Solar Radio Bursts: M J Reiner, R J MacDowall

0800h **SH51E-2886 POSTER** Pseudostreamer Signatures in the Solar Corona and Inner Heliosphere: M P Miralles

0800h **SH51E-2887 POSTER** Differences in the elemental fractionation of Mg, Si, and Fe in the solar wind: V Heidrich-Meisner, L Berger, R F Wimmer-Schweingruber

0800h **SH51E-2888 POSTER** A Three-Dimensional MHD Simulation of the Solar Corona and Solar Wind with Turbulence Transport and Heating: A V Usmanov, W H Matthaeus, M L Goldstein, R Chhiber

0800h **SH51E-2889 POSTER** Onset and evolution of fast reconnection including the Hall effect: C Shi, A Tenerani, M Velli

0800h **SH51E-2890 POSTER** Simulation of temperature anisotropy instabilities in the solar wind with the semi-implicit fully kinetic expanding box code EB-iPic3D: M E Innocenti, A Tenerani, M Velli

0800h **SH51E-2891 POSTER** The Electric Fields of the Sun and Solar Wind: C F Driscoll

0800h **SH51E-2892 POSTER** A new approach to identify interplanetary Alfvénic fluctuations: J Liu, C Wang

0800h **SH51E-2893 POSTER** The Effect of Turbulence on the Evolution of Magnetic Field Magnitude Fluctuations in the Solar Wind: D A Roberts

0800h **SH51E-2894 POSTER** investigating the temporal decorrelation of the incompressible MHD turbulence: S Bourouaine, J C Perez

0800h **SH51E-2895 POSTER** Effect of turbulent cascade partitioning among ion species on the solar wind formation: D Borovikov, K Klein, B van der Holst, D Verscharen, B D G Chandran


0800h **SH51E-2898 POSTER** How Solar Orbiter will observe small-scale time variations of the solar wind and identify characteristic structures: G Nicolaou, C J Owen, D Verscharen, R T Wicks

0800h **SH51E-2899 POSTER** Inertial Kinetic-Alfvén Turbulence in a Space Plasma: S Boldyrev, V Ruytershpleyn, C H K Chen
0800h **SH51E-2900 POSTER** Solar Wind Turbulence From MHD Down to Electron Kinetic Scales: Artemis Observations: **C S Salem**, J W Bonnell, E Hanson, C C Chaston, K G Klein, D Verscharen, C Lacombe, D J Sundkvist

0800h **SH51E-2901 POSTER** Whistler waves in the inner heliosphere from 0.3 to 1 AU: **V K Jagarlamudi**, O Alexandrova, L Bercic, T Dudok de Wit, V Krasnoselskih, M Maksimovic


0800h **SH51E-2903 POSTER** Modeling the Composition and Properties of Solar Wind: **M Lavarra**, A Rouillard, P L Blelly

0800h **SH51E-2904 POSTER** The statistical properties of solar wind temperature parameters near 1 AU observed by Wind: **L B Wilson III**, M L Stevens, J C Kasper, K G Klein, B Maruca, S D Bale, T A Bowen, M Pulupa, C S Salem

0800h **SH51E-2905 POSTER** An Analysis of the Solar Wind Angular Momentum Using WIND Data: **M McManus**

0800h **SH51E-2906 POSTER** Unexpected Structures in the Slow Wind near the Stream Interface: **Y Liu**, J Huang, Z Qi, C Wang, B Klecker

0800h **SH51E-2907 POSTER** Simple Dependence of Proton Density and Temperature on Solar Wind Speed and Compression: **C M Bert**, J C Kasper, K G Klein, A W Case, M Maksimovic, A Zaslavsky

0800h **SH51E-2908 POSTER** Solar wind Suprathermal Electrons around the Corotating Interaction Regions at 1 AU: **L Wang**, J Tao, G Li, R F Wimmer-Schweingruber, L K Jian, J He
SH53A  (CC) 204A-C

Friday  1340h

Fundamental Physics of the Solar Corona and Inner Heliosphere II

Presiding: Chadi Salem, University of California Berkeley; Marco Velli, University of California Los Angeles; Yannis Zouganelis, Ecole Polytechnique;

1340h SH53A-01 A new generation of numerical models and tools for Parker Solar Probe and Solar Orbiter: A P Rouillard
1355h SH53A-02 Wave propagation within 3D MHD simulations of the heliosphere: V Réville, C Shi, M Velli, R K Ulrich, T V Tran
1410h SH53A-03 Three-dimensional, magnetohydrodynamic simulation of the solar wind acceleration from the coronal base to 0.1 au: M Shoda, T K Suzuki, M Asgari-Targhi, T Yokoyama
1425h SH53A-04 On the evolution of reflection-driven Alfven turbulence from the photosphere to 40 solar radii: Simulations, theory and future Parker Solar Probe observations: J C Perez, B D G Chandran
1440h SH53A-05 Particle Heating and Energy Partition in Low-$\beta$ Guide Field Reconnection with Kinetic Riemann Simulations: Q Zhang, J F Drake, M Swisdak
1455h SH53A-06 Generation of constant-B states in high-$\beta$ plasmas: A Tenerani, M Velli

SH53B  (CC) 207B

Friday  1340h

Large-Scale Interplanetary Structures and Their Space Weather Effects II

Presiding: Chenglong Shen, University of Science and Technology of China; Noé Lugaz, University of New Hampshire; Fang Shen, National Space Science Center, CAS; Lan Jian, NASA Goddard Space Flight Center;

1340h SH53B-01 Generalizing Flux Rope Evolution in the Heliosphere: P Hess
1355h SH53B-02 Reconstructing 3D Solar Wind Structures in the Inner Heliosphere from STEREO Dual Views: Y Wang, X Li
1425h SH53B-04 Interplanetary Magnetic Flux Ropes and Their Solar Sources: Implications for Flux Rope Origination: Q Hu, Q Jiong
1455h SH53B-06 Forecasting space weather driven by coronal mass ejections and their sheath regions: K E J Kilpua, J Pomoell, E Lumme, D J Price, E Palmerio
1510h SH53B-07 Launching Hydrodynamic and Magnetic CME-like Structures into the Operational Heliospheric Space Weather Models: D Odstrcil, A P Rouillard, N Savani

SM53A  (CC) 201

Friday  1340h

Quantifying Uncertainty in Space Weather Modeling and Forecasting II

Presiding: Steven Morley, Los Alamos National Laboratory; Gang Lu, National Center for Atmospheric Research; Sophie Murray, Trinity College Dublin;

1355h SM53A-02 Ensemble approaches to forecasting the near-Earth solar wind: M J Owens, P Riley, T S Horbury

1440h **SM53A-05** Ensemble Spread as a Precursor to Extreme Space Weather Events: **E M Lynch**, A S Sharma, E Kalnay, K C Eure

1455h **SM53A-06** Using the NCAR Model Evaluation Tools (MET) to Evaluate Predictions of Ionospheric Total Electron Content (TEC): **T L Jensen**, N Maruyama, D Fuller-Rowell, G H Millward, T J Fuller-Rowell, J L Vigh, J Halley-Gotway

1510h **SM53A-07** Uncertainty in simulating the ionosphere-thermosphere response to geomagnetic storms due to lower atmosphere and high-latitude forcing: **N M Pedatella**, H Liu, G Lu, A D Richmond

1525h **SM53A-08** Accurate and Reliable Probabilistic Forecast Generated from a Deterministic Model: **E Camporeale**, X Chu, O V Agapitov, J Bortnik

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**U53A (CC) 202A**

**Friday 1340h**

The Challenges of Recognizing Implicit Bias in Earth and Space Sciences and Strategies for Minimizing Its Impact in the Coming Decades of AGU **(Virtual Session)**

Presiding: Hazel Bain, University of Colorado at Boulder; Alexa Halford, Aerospace Corporation Chantilly; Blair Schneider, University of Kansas;

1340h Welcoming Remarks:

1345h **U53A-01** Implicit Bias: Where’s It Come From? Do I Have It? Should I Do Something About It?: **M A Holmes**

1400h **U53A-02** Gender-Age Co-author Networks in the Earth and Space Sciences: Young boys and Old Boys: **B Hanson**, J C Lebar, B M Williams, K S Blaufuss

1415h **U53A-03** Partners in Diversity: An Institutional Framework for Effective Program Administration for theRetention and Graduation of Diverse Student Populations: **R Roper Nedd**

1430h **U53A-04** Enacting Collective Cultural Change in the Geosciences through Bystander Intervention: **A Mattheis**

1445h **U53A-05** Implicit Bias and Letters of Recommendation: **K Dutt**


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**SM54A (CC) 204A-C**

**Friday 1600h**

**Fundamental Physics of the Solar Corona and Inner Heliosphere III**

Presiding: Olga Panasenco, Advanced Heliophysics; Marco Velli, University of California Los Angeles; Yannis Zouganelis, Ecole Polytechnique;

1600h **SH54A-01** Kinetic plasma physics in the inner heliosphere: Expectations for Parker Solar Probe: **S D Bale**


1630h **SH54A-03** Quasilinear Consequences of Perpendicular Ion Heating: **H A Isenberg**, B J Vasquez

1645h **SH54A-04** Using magnetic helicity to diagnose wave vector direction in solar wind turbulence.: **R T Wicks**, D Verscharen, L D Woodham, M A Forman

1700h **SH54A-05** Resolving Velocity-Space Signatures of Particle Energization Mechanisms Onboard Modern Spacecraft: **J L Verniero**, G G Howes, D Stewart

1715h **SH54A-06** Evidence for Electron Landau Damping in Solar Wind Turbulence: **C H K Chen**, K G Klein, G G Howes

1730h **SH54A-07** Solar Wind Isotropy Problem: Importance of Ion-Electron Kinetic Coupling: **M H Yoon**

1745h **SH54A-08** Stability Analysis of Core-Strahl Electron Distributions in the Solar Wind: **K Horaites**, P Astfalk, S Boldyrev, F Jenko

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**SM54A (CC) 201**

**Friday 1600h**

**Machine Learning in Space Weather II ** (joint with SA, SH)

Presiding: Enrico Camporeale, Centrum Wiskunde & Informatica; Ryan McGranaghan, NASA Jet Propulsion Laboratory; Thomas Berger, University of Colorado at Boulder; Jacob Bortnik, University of California Los Angeles;
1600h **SM54A-01** Solar EUV Spectral Irradiance by Deep Learning: **C M M Cheung**, A Szenicer, R Galvez, D Fouhey, P J Wright, M Jin, A Munoz-Jaramillo, G Mackintosh, R Thomas

1613h **SM54A-02** Machine Learning and the "Holy Grail" of Space Weather Forecasting: **T I Gombosi**, Y Chen, W Manchester, S Zou, A O Hero, E Landi, G Toth, J C Kasper

1641h **SM54A-04** Predicting Time Lagged Effects of Solar Disturbances from Heliospheric Images: A Deep Learning Approach: **M Chandorkar**, E Camporeale, C Furthlener, M Sebag

1654h **SM54A-05** Data Assimilation in the Solar Wind: **M Lang**, M J Owens, P Browne, P J van Leeuwen

1709h **SM54A-06** Specifying High-altitude Electrons using Low-altitude LEO Systems: The SHELLS Model: **S G Claudepierre**, T P O'Brien III

1721h **SM54A-07** Predicting GPS TEC maps using Deep Spatio-Temporal Residual Networks: **S Singhana**, B Kunduri, M Maimaiti, J B H Baker, J M Ruohoniemi


1747h **SM54A-09** Automated Identification of Coronal Mass Ejections with Deep Learning: **L Feng**, P Wang, Y Pan, Y Gan, Y Zhang, L Lu