First Solar Probe Plus Workshop: Scientific Program

Pasadena, Avery House, Monday, March 25, 2013

18:00 - 20:00 Registration & Reception

Pasadena, Beckman Institute Auditorium, March 26-28 2012

Tuesday, March 26

8:20 - 8:30 **Marco Velli**, Welcome & Opening Remarks

8:30 - 8:45 **Madhulika Guhathakurta**, (Invited) *Living With a Star Future: Opportunities and Challenges*

8:45 - 9:15 **Nicola Fox & Andy Driesman**, (Invited) *The Solar Probe Plus mission*

9:15 - 9:45 **William Matthaeus** (Invited) *The role of coherent structures in heating and particle acceleration in the turbulent solar wind plasma*

9:45 - 10:15 **Gary Zank** (Invited) *The Transport of Turbulence throughout the Heliosphere*

10:15 - 10:35 **Marco Velli**, *Some problems in solar wind acceleration theory*

10:35 - 11:00 Coffee Break

11:00 - 11:20 **Jim Drake**, *Ion heating and acceleration from reconnection during coronal heating and impulsive flares*

11:20 - 11:40 **Petr Hellinger**, *Evolution of the proton velocity distribution function and their thermal energetics in the solar wind: Helios reloaded*

11:40 - 12:00 **Milan Maksimovic**, *Solar Wind Electrons : open questions and challenges for Solar Probe Plus & Solar Orbiter*

12:00 - 12:20 **Stuart Bale**, *Solar wind electron heat flux: the transition from Spitzer-Harm to the collisionless limit and implications for astrophysics*

12:20 - 12:40 **Zoran Mikic***The Usefulness of Global MHD Solar Wind Models for the Solar Probe Plus Mission*

12:40 - 14:30 Lunch

14:30 -14:50 **Justin Kasper**, *Sensitive test for ion-cyclotron resonant heating in the solar wind*

14:50 - 15:20 **Chris Russell**, *The Radial Variation of Ion Cyclotron Waves and Mirror Modes in the Solar Wind*

15:20 - 15:40 **Hanying Wei** *Ion Cyclotron Wave Storms in the Solar Wind*

15:40 - 16:00 **David Malaspina**, *Spacecraft charging and ion wake formation in the Solar Probe Plus plasma environment*

16:00 - 16:30 Coffe Break

16:30 -16:50 **Christopher Chen**, *Kinetic Scale Density Fluctuations in the Solar Wind*

16:50 - 17:20 **Alexis Rouillard** (Invited), *What can combined in-situ measurements of SEPs and remote-sensing observations of coronal and heliospheric shocks tech us in preparation for Solar Probe Plus?*

17:20 - 17:50 **Craig De Forrest** (Invited), *Imaging Solar Wind Structures from the Corona to the Heliosphere*
17:50 - 18:15 **Chris St. Cyr** (Invited) *Solar Orbiter Update*

Wednesday, March 27

8:30 - 8:50 **Jean Perez**, *Alfvénic turbulence and heating in coronal hole*
8:50 - 9:10 **Zdenek Nemecek** *Overview of interesting results from a fast solar wind monitor (BMSW)*
9:10 - 9:30 **Andrea Verdini** *Which kind of coronal turbulence? constraints from heliospheric data, a numerical approach to the inverse problem*
9:30 - 9:50 **Olga Panasenco** *The Solar Wind from Pseudostreamers and Their Immediate Environment*
9:50 -10:10 **Ron Ghosh** *The Interaction of Structures With Turbulence and Their Impact on Heating*
10:10 - 10:30 **Mark Linton** *Current Sheet Reconnection as Related to In-Out Pairs in Coronal Streamers*
10:30 - 11:00 Coffee Break
11:00 -11:20 **Daniel Verscharen**, *Beam Instabilities Driven by Alpha Particles with Temperature Anisotropies in the Fast Solar Wind*
11:20 - 11:40 **Chadi Salem**,*Investigating the Nature and Properties of Kinetic-scale Electromagnetic Fluctuations in the Solar Wind*
11:40 - 12:00 **Volker Bothmer** *Coronal and solar wind dynamics around Solar Probe Plus perihelia*
12:00 - 12:20 **Merav Opher** *Update from the BU-CME Group: Accurate Prediction of CME Deflection and Magnetic reconnection in the interior of interplanetary CMEs*
12:20 - 12:40 **Christina Kay**, *Forecasting A CME's Altered Trajectory: ForeCAT*
12:40 - 14:30 Lunch
14:30 - 15:00 **Mihir Desai** (Invited) *Suprathermal and Solar Energetic Particles Key questions for Solar Probe Plus*
15:00 - 15:30 **Joe Giacalone** (Invited) *Theoretical Aspects of Solar-Energetic Particle Acceleration and Propagation in the Inner Heliosphere*
15:30 - 16:00 **David Lario** (Invited) *Extreme SEP intensities in the inner heliosphere*
16:00 - 18:00 Coffee break/Posters/Discussion Sessions
19:00 - 22:00 Conference Dinner at Avery House

Thursday March 28

8:30 - 8:50 **Paulett Liewer** *Influence of Coronal Magnetic Fields on Propagation Direction of CMEs*
8:50 -9:10 **Hairong Lai** *Heliocentric radial variation of interplanetary field enhancements*
9:10 - 9:30 **Nathan Schwadron** *Particle Acceleration in the Low Corona: Coupling between MHD results and energetic particle models including self-excited waves*

9:30 - 9:50 **Mark Wiedenbeck** *Multispacecraft Observations of Accelerated Ions and Electrons from Impulsive Solar Energetic Particle Events*
9:50 -10:10 **Igor Veselovsky** *Plasma streams in the solar wind flow and its formation regions near the Sun: scaling for the Solar Probe Plus Mission*
10:10 -10:30 **Tony Case** *Resurrection of the DSCOVR Faraday Cup*
10:30 - 11:00 Coffee break
11:00 - 11::20 **Chris St. Cyr** *STEREO Interplanetary Dust Measurements*
11:20 - 11:50 **Jonathan Cirtain** (Invited) *Observations of magnetic field dissipation in solar coronal active regions and associated plasma heating*
11:50 -12:10 **Paul Bellan** *Laboratory investigation of dynamics of solar-like plasma-filled magnetic flux tubes*
12:10 - 12:30 **Jens Rodmann** *Imaging dust sublimation zones with Solar Probe Plus/WISPR*
12:30 - 14:30 Lunch
14:30 - 14:50 **Silvano Fineschi** *The METIS coronagraph on Solar Orbiter and Solar Probe Plus: observational synergies*
14::50 -16:00 Discussion Session/Posters/ and Conclusions
16:00 -16:30 Coffee break
16:30 - 17:30 Discussion Session/Posters/ and Conclusions

Poster presentations

Solar wind magnetic spectrum and turbulence level at plasma kinetic scales O. Alexandrova et al.

Heavy Ion Heating at CME Shocks and Implications for Heavy Ion Heating Mechanisms K. Korreck et al.

Will SPP probe the output of a Grand Minimum-state Sun?, R. Leamon et al.

Ion Heating and Wave Modes on Kinetic Scales in the Magnetosheath and Across the Magnetopause, C. Salem et al.

Constraints on the O5+ Temperature Anisotropy in the Coronal Holes, Nour Eddine Raouafi et al.

Interplanetary field enhancements: momentum transfer between solar wind and picked up nanoscale charge dust particles enabled by magnetic forces, H. Lai et al.

Spatial and temporal variations in interplanetary shock occurrence in the inner solar system, H. Lai et al.

The Evolution of Debris Co-orbiting with 2201 Oljato: A Thirty-year Study Using Pioneer Venus and Venus Express, C. Russell, et al.

Properties Of Mirror Mode Storms At 1 AU, O. Enrquez-Rivera et al.

Simulated Plasma and Energetic Proton Environment at SPP on a Close Approach Solar Fly-by During a Coronal Mass Ejection, K. Kozarev et al.

Monopole-dipole spacecraft potential: observations and effects on electron moments, M. P. Pulupa et al.

Inner Heliosphere Dust: Possibilities of Measurement by the FIELDS experiment, A. Zavlasky et al.

A fast solar wind monitor: Principles and design J. Safrankova et al.

NASAs New High Intensity Solar Environment Test Capability K. Wright et al.

A Burst Mode Trigger to Capture High Resolution Measurements of Interplanetary Shocks: Lessons from STEREO C. Russell, et al.

The Very Unusual Interplanetary Coronal Mass Ejection of July 23, 2012: A Blast Wave Mediated by Solar Energetic Particles, C. Russell