SHINE Meeting, 2005 July 11-15
Working Group 2 Sessions

Monday, July 11

11:30 – 12:30 Plenary Talk: *Sub-Surface Fields* (George Fisher, UC Berkeley)

14:00 – 17:00 Topical Session (1/1): Are CMEs Driving the Solar Wind at Maximum or Along for the Ride? (Chairs: Richardson and Roussev)
Science Discussion: (1) What are the origins of variations in solar wind properties during the solar cycle, e.g., magnetic field strength, composition (He), modulation of cosmic rays, etc; to what extent do CMEs play a role?; (2) How does the heliosphere respond to episodes of unusually enhanced solar activity, such as October – November of 2003? and (3) Do (I)CME properties vary during the solar cycle?

14:00 – 14:30 Invited Paper: *Variation in Average Solar Wind Conditions During the Solar Cycle – Is There a Role for ICMEs* (Ian Richardson, NASA/GSFC)
14:30 – 15:00 Invited Paper: *Solar Cycle Variations of CME/ICME Properties* (Mat Owens, Boston Univ.)
15:00 – 15:15 General Discussion
15:15 – 15:45 Coffee Break
15:45 – 16:15 Invited Paper: *The Nature and Variability of the Open Magnetic Flux in the Heliosphere From In-situ Observations and MHD Models* (Sue Lepri, Univ. of Mich.)
16:45 – 17:00 General Discussion

Optional Talks (instead of Pete Riley?):
1. *Solar Cycle Variation in the He/p ratio* (Justin Kasper, MIT)
2. *Sources of Solar Wind Through the Solar Cycle* (Janet Luhmann, SSL/UCB)
SHINE Meeting, 2005 July 11-15
Working Group 2 Sessions

Tuesday, July 12

09:00 – 10:00  Plenary Talk: Shocks and Particle Acceleration (Marty Lee, UNH)

10:30 – 12:30  Topical Session (1/2): Modeling and Observations of Interplanetary shocks, (l)CMEs and SEPs (jointly with WG3; Chairs: Richardson and Roussev):
Science discussion: (1) How well do current modeling studies agree with observations?; (2) What is the 3-D structure of ICMEs and the related shock waves?; (3) How do shock parameters, shapes, and lateral extents change during propagation through the heliosphere?; and (4) How do the configurations of shocks and magnetic fields near the Sun influence particle acceleration (e.g., by shocks, stochastic acceleration at flare sites) and transport?

10:30 – 11:00  Invited Paper: Using Energetic Particles to Understand the Interplanetary Characteristics of CMEs and Their Shocks (Hilary Cane, NASA/GSFC)
11:00 – 11:30  Invited Paper: Characterizing Interplanetary Shocks at 1 AU (Justin Kasper, MIT)
11:30 – 11:45  Contributed Paper: Geometry of the Interplanetary CME and Shock Deduced From the Network Observation of the Cosmic Ray Anisotropy (Takao Kuwabara, BRI & Univ. of Del.)
11:45 – 12:00  General Discussion

14:00 – 17:00  Topical Session (2/2): Modeling and Observations of Interplanetary shocks, (l)CMEs and SEPs (jointly with WG3; Chairs: Roussev (or Desai/Giacalone) and Richardson):

14:00 – 14:30  Invited Paper: Post-Shock Compression and Forward-Reverse Shock Pair Resulting From CME Interaction With a Bimodal Solar Wind (Chip Manchester, Univ. of Mich.)
14:30 – 15:00  Invited Paper: Determination of the Properties of Interplanetary Shocks (Adam Szabo, NASA/GSFC)
15:15 – 15:45  Coffee Break
15:45 – 16:15  Invited Paper: SEP Acceleration at CME-Driven Shocks: The Possible Role of Acceleration in the Sheath Between the Shock and the CME (Jozsef Kota, Univ. of Ariz.)
16:15 – 16:45  Invited Paper: Particle Acceleration at CME-Driven Shocks (Chee Ng, NASA/GSFC)
16:45 – 17:00  General Discussion

14:00 – 17:00  Topical Session (1/1): Origin and Evolution of the Solar Wind (jointly with WG1; Chairs: Roussev and Plunkett):
Science discussion: (1) How well do we understand the physical connection from the photosphere through the corona to the heliosphere?; (2) What is the topology of the open magnetic field of the Sun, and how does it evolve?; and (3) What are the sources for heating and acceleration of the solar wind?
14:00 – 14:30 Invited Paper: TBD (Len Fisk, Univ. of Mich.)
14:30 – 15:00 Invited Paper: Constraints on Coronal Hole Topology (Spiro Antiochos, NRL)
15:00 – 15:15 Contributed Paper: Origin of Heliospheric Magnetic Field Polarity Inversion at High Latitudes (Marco Velli, JPL/Caltech)
15:15 – 15:45 Coffee Break
15:45 – 16:15 Invited Paper: Relating the Sub-Parker Spiral Structure of the Heliospheric Magnetic Field to Dynamic Sources of Solar Wind (Nathan Schwadron, SwRI)
16:15 – 16:45 Invited Paper: TBD (Scott McIntosh, SwRI; or Bob Leamon, NASA/GSFC)
16:45 – 17:00 General Discussion
Thursday, July 14

09:00 – 10:00 Plenary Talk: *End-to-end Modeling of CMEs and SEPs* (Tamas Gombosi, Univ. of Mich.)

10:00 – 10:30 Coffee Break

10:30 – 12:30 Topical Session (1/2): End-to-End Modeling of CMEs and SEPs (jointly with WG1 and WG3; Chairs: Abbett and Roussev):
Science discussion: (1) What are the numerical challenges in modeling CMEs and SEPs from the Sun to the Earth?; (2) What needs to be done to improve present models of CME initiation and evolution in the low corona?; and (3) How are solar particles accelerated at CME-driven shocks and transported in interplanetary space?


11:00 – 11:30 Invited Paper: *TBD* (*Zoran Mikic*, SAIC)

11:30 – 11:45 Contributed Paper: *Solar and Heliospheric Models at the CCMC* (*Peter MacNeice*, Drexel Univ.)

11:45 – 12:00 General Discussion

14:00 – 17:00 Topical Session (2/2): End-to-End Modeling of CMEs and SEPs (jointly with WG1 and WG3; Chairs: Roussev and Abbett):

14:00 – 14:30 Invited Paper: *Solar Energetic Particles: Acceleration and Transport in Realistic Magnetic Fields* (*Igor Sokolov*, Univ. of Mich.)

14:30 – 15:00 Invited Paper: (*Gang Li*, IGPP/UCR)

15:00 – 15:15 General Discussion

15:15 – 15:45 Coffee Break


16:45 – 17:00 General Discussion

Optional Contributed Talks:

1. *An MHD Model of Differential Rotation* (*Roberto Lionello*, SAIC)
3. *Orientation of Flux-rope CMEs and their Connections to ICMEs* (*Qiang Hu*, IGRR/UCR)
5. *The Solar Wind in the Outer Heliosphere* (*John Richardson*, MIT)
6. *Interplanetary Magnetic Clouds and Their Geoeffectiviness* (*Cynthia Lopez-Portela*, UNAM – Mexico City)