

Agenda First Team ISSI; April 2015 DATE: April 15

Monday

Morning – Review of observations

Ed Stone (MAG; Cosmic Ray observations)

Matt Hill (LECP)

Afternoon- John Richardson (plasma)

Rosine L. (UVS)

V. Sterten (dust)

Tuesday

(9:00am) Morning - Discussion on the Width of Heliosheath

Opher: New view of the helisphere: Heliospheric Jets

Jokipii – comments on the jets

Drake: Analytic model of width of the heliosheath

Afternoon-

L. Fisk

V. Izmodenov (width of the HS)

Macek

E. Stone – current sheet normal (Burlaga)

Wednesday

Morning 9:00am – Discussion on the Draping of the Magnetic Field Ahead of the Heliopause

Opher: summary of comparison of the models (Florinski/Izmodenov/Opher)

R. Jokipii – ideal draping around Heliopause

Izmodenov: Moscow's model; flows and fields; new model of PUI

Afternoon - Discussion of the modulation of the cosmic rays

-Jokipii (GCR)

- Florinski (GCR)

-E. Stone (GCR)

Discussion of the structure of the Heliopause

-Florinski

-Strumik

Thursday

9:00am Morning:

- Richardson - Magnetic Flux Conservation
- Opher – Magnetic Flux Conservation with Time Dependence (1 plot)
- Topic for Discussion: (a) Spacing of sectors
  
- Izmodenov – discussion on nH
  
- M. Hill (B; delta and lambda)

Afternoon –

- Discussion on structure of sector under small variation of VR
- Florinski (turbulence on ISM)
- possible topics for discussion:  
(b) effect of turbulent lobes on acceleration of particles like ACRs.

Friday – morning – cont of discussion

*Meeting adjourn noon*

Draft of Topics/Agenda for Next Meeting:

V. Izmodenov: Check if his runs show a tendency for the Non Orthodox Heliosphere: Two Lobes Structure

J. Drake: PIC simulation of reconnection with a variable sector (under a shear flow)

R. Jokipii: Behavior of GCRs outside Effect of Magnetic Field Profile outside the HP on anisotropy of GCRs; TeV cosmic rays hot spots; Effect of Magnetic Field Profile outside the HP on anisotropy of GCRs/Ideal Draping (Ph. Isenberg)

M. Opher: Draping of the Magnetic Field Lines (Global Reconnection Pattern/Ideal Draping) – magnetic flux with longitude (V1; V2 and at TS)

J. Richardson: Density and Magnetic Field Correlations? VR fluctuations inside and outside the sector (hourly data) ; (with more V2 data re-visit the “data-back-of the envelope” estimate of the magnetic flux (ed. Stone idea- hourly data)

L. Fisk/G. Gloeckler: discrepancy of nH ; minor component of ACR (Carbon)

V. Florinski: ISSI run completed and delivered. Can he see a two lobe/jet structure

M. Strumik: test particle transport of GCRs/ACRs – new simulations (HP)

M. Hill: ACR carbon; variability of sector spacing with distance (supersonic solar wind; HS); electron anisotropy

Veerle: constraints from dust on the time variations of filtering of HS

- Should we have a paper/comparison of the models? Ok. M. Opher will start a draft
  - Why the turbulence is so weak outside the HP?
  - Can magnetic islands accelerate particles (R. Jokipii)
- 

## Overall Topics

### Draping of the Field

- comparison between models; R. Jokipii / M. Opher ----V. Izmodenov will send us his aspect ratio shape of the ellipsoid capturing the HP.

### Thickness of the HS

- how much energy do we need to remove from HS to thin it?

E.g., how can we accelerate polar flows to thin the HS?

Cooling downstream the TS: gedanken experiment (V. Izmod/Opher/ V. Florinski)

---gedanken experiment to reproduce Fisk/Gloeckler model----[not possible now]

### Structure of the HP – can we predict for V2

J. Drake will do 3D PIC simulations

Interchange instability due to curvature-stabilization issues at V1 and V2 (V. Florinski); meandering of field could stabilize it.

M. Strumik: magnetic islands pressure anisotropy in resistive MHD at V2

### Magnetic Flux in the HS

### Flows at V2

Estimate

### Structure of the Heliosphere

ENAs (Florinski/ Opher (?) /Izmod. (??))-> including the tail

Effects of variations of flow ahead of the HP by tens of degrees of order of 20-30 years