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METEOROLOGISKA INSTITUTET
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Solar wind influence on the inner magnetosphere

Session 1 + splinter on Monday

Presentations by Shri Kanekal, Jörg-Micha Jahn, Alexander Kozlovsky, Tuija Pulkkinen, Mai Mai Lam, Yoshizumi Miyoshi, Vahe Peromian, and Yihua Zheng

Brief presentations by Bill Lotko, Yuri Shprits, Alexander Kozlovsky, Iannis Dandouras, and Jerry Goldstein



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Topics covered 1/2

- **Solar wind driver**
 - characterization of the driver properties (*eg. Jahn*)
 - coupling functions that characterize effects on the magnetosphere (*eg. Pulkkinen, many others*)
 - entry of solar wind plasma into the magnetosphere (*eg. Peromian, Lotko*)



Topics covered 2/2

- **Effects on the magnetosphere - ionosphere system**
 - auroral ionosphere (eg. *Kozlovsky, Pulkkinen*)
 - magnetotail activity and convection (eg. *Pulkkinen, Zheng, Lotko, Peromian*)
 - inner magnetosphere including ring current, radiation belt electrons, plasmasphere, and waves (eg. *Zheng, Kanekal/Baker, Lam, Miyoshi, Shprits, Dandouras, Goldstein*)



Open questions 1/2

- **Drivers:**
 - what are the major driving parameters in the solar wind that influence the magnetosphere?
 - prime parameters B_z , V , derived quantities E_y , P , other ?
- **How do the drivers differ by response?**
 - ions, electrons (plasma energies, RC/RB), ionospheric quantities, wave modes (EMIC, hiss, ULF), other ?



Open questions 2/2

- **Time scales**
 - what are the delays in responses and how do they arise?
 - wave mode travel times, convection, SW propagation, other?
- **Metrics**
 - how should we measure the quality of the driver parameters, models, simulations, theoretical predictions, ...
 - global measurements in ionosphere and magnetosphere, quality and availability of observations, cross calibration, data set combination, ...