

Abstract Submitted
for the TSS09 Meeting of
The American Physical Society

The Relationship Between Magnetosheath and Solar Wind Parameters¹ CRYSTAL RED EAGLE, PHYLLIS WHITTLESEY, ROBERT ALLEN, SOPHIA COCKRELL, ELIZABETH MITCHELL, RAMON LOPEZ, UT Arlington — In general, solar wind drives magnetospheric activity and is used to quantify it. In reality, it is the magnetosheath which is in contact with the magnetosphere. Parameters in the magnetosheath therefore modulate magnetospheric activity. We expect that the relationship between solar wind and magnetosheath parameters will have a linear relationship at low solar wind magnetic field values. However, at high solar wind magnetic field values, the LFM Global MHD code predicts a non-linear relationship between the solar wind and magnetosheath parameters. Using simultaneous spacecraft observations from WIND and GEOTAIL, we examine several periods of low solar wind magnetic field and high solar wind magnetic field to confirm the observed relationship between the magnetosheath and solar wind magnetic fields and compare this to the LFM Global MHD code predictions.

¹This material is based upon work supported by CISM, which is funded by the STC Program of the National Science Foundation under Agreement Number ATM-0120950

Robert Bruntz
UT Arlington

Date submitted: 03 Mar 2009

Electronic form version 1.4