

Abstract Submitted  
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**Determining the Viscous Potential from MHD Simulations and Comparing it to Observations**<sup>1</sup> ROBERT BRUNTZ, RAMON LOPEZ, Univ. of Texas at Arlington, MICHAEL WILTBERGER, UCAR, HAO, JOHN LYON, Dartmouth College — The viscous potential is produced by a mechanical interaction between the magnetosphere and the solar wind and is generally thought to have a value of about 20 kV. Preliminary investigations using the Lyon-Fedder-Mobarry global MHD simulation indicate that the viscous potential increases with increasing solar wind density. To determine if this is in fact the case, we have selected solar wind intervals where the ionospheric potential due to merging with the solar wind should be extremely small. During those periods, we use the DMSP satellites to determine the value of the transpolar potential, which we assume to be driven primarily by the viscous interaction. In this study we will compare those observations to the MHD results.

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Robert Bruntz  
Univ. of Texas at Arlington

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