Abstract Submitted
for the TSF07 Meeting of
The American Physical Society

Measures of Geo-effectiveness in Storms[1] ELIZABETH MITCHELL, RAMON LOPEZ, Univ. of Texas at Arlington — Geomagnetic storms are produced by solar wind disturbances causing large currents to flow throughout the magnetosphere. These currents are the magnetosphere's response to the solar wind electric field and the rate of the interplanetary magnetic field's reconnection with the magnetosphere. To gauge the geo-effectiveness of a storm, or the magnetosphere's response to the storm, we consider the ratio of the ring current injection rate (RCIR) to measures of the solar wind input. *Burton et al.* [1975] called this parameter α, using VB_s as the solar wind input. We calculate three versions of α: α_1 is the *Burton et al.* [1975] parameter, α_2 is the ratio of the RCIR to the *Newell et al.* [2007] universal coupling function, α_3 is the ratio of the RCIR to a measure of the dayside reconnection rate recently proposed by Borovsky. Using each of these values of α, we rank 100 storms with Dst < -75 nT, between 1995 and 2005. The top 10% and lowest 10% of storms are examined in detail to determine what characteristics they might have in common.

[1]This 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.

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Date submitted: 07 Oct 2007 Electronic form version 1.4