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**A Comparison of Integrated Electric Field with Substorm Activity** JENNIFER KISSINGER, TAMARA CULLENS, ALICIA MOSS, ROBERT BRUNTZ, RAMON LOPEZ, Florida Institute of Technology, Department of Physics and Space Sciences — When the interplanetary magnetic field (IMF) in the solar wind suddenly turns northward after pointing southward for  $\sim 1$ -2 hours, a substorm is usually triggered. A study was undertaken to compare strength and duration of substorms to electric field input prior to the onset into the Earth's magnetosphere. Periods for which the IMF pointed southward for 1-2 hours and then rapidly turned northward (i.e., when the  $B_z$  component of the solar wind is negative and turns positive) were found using the ACE satellite data available through CDAWeb. Using  $E_y = V_x B_z$ , the electric field data was integrated to determine an estimate of the solar wind input during these periods. The integrated electric field will be compared directly to substorm data to check for correlations between solar wind input and magnetospheric output.

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