Abstract Submitted
for the TSF17 Meeting of
The American Physical Society

Magnetopause Movement Under Strong Southward Interplanetary Magnetic Field[1] CHRIS SHERRILL, RICHARD BONDE, RAMON LOPEZ, University of Texas at Arlington — A continuous yet nonuniform stream of plasma emanating from the Sun is referred to as the solar wind. The solar wind carries with it the Sun's magnetic field, which is called the interplanetary magnetic field (IMF). The shape of Earth's magnetic field is controlled by the solar wind encountering it and is called the magnetosphere. The boundary between the Earth's magnetic and the IMF embedded in the solar wind is called the magnetopause, and its location is dependent on the upstream solar wind conditions. A series of spacecraft launched in 2007, called THEMIS, is in a highly elliptical orbit around Earth. These spacecraft's orbits allow them to cross over the magnetopause. When the IMF is directed southward, the magnetopause moves inward and this motion is generally referred to as magnetopause erosion. I will show a case where the THEMIS spacecraft crossed the magnetopause during a period of strong southward directed IMF and compare the magnetopause location as determined by THEMIS observational data to predicted values.

[1]NASA Grant NNX15AJ03G

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Date submitted: 21 Sep 2017 Electronic form version 1.4