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Studying how magnetopause erosion is affected by ionospheric conductivity, using GOES satellite data SPENCER DURRENBERGER, ROBERT BRUNTZ, RAMON LOPEZ, Univ. of Texas at Arlington — The solar wind confines Earth’s magnetic field into a “bubble,” called the magnetosphere. The boundary between the solar wind and Earth’s magnetosphere is called the magnetopause. At this surface, the pressures from the solar wind and Earth’s magnetosphere balance out. When the interplanetary magnetic field (IMF) turns southward, the magnetopause moves earthward, an effect known as magnetopause erosion. The phenomenon of erosion can also be detected by observing a weakening of the magnetic field on the dayside magnetosphere. We will use data from the geosynchronous GOES satellites when they are at local noon, which should be able to detect the weakening of the field, to study erosion. By examining GOES data for two years classified as “solar maximum” and “solar minimum,” we expect higher and lower ionospheric conductivities (respectively), and so we hope to identify a pattern that lends evidence towards an effect of solar cycle variation on magnetopause erosion.

Robert Bruntz
Univ. of Texas at Arlington

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