

Abstract Submitted
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Looking for polar cap potential saturation under strong northward Bz using DMSP satellite data¹ SOPHIA COCKRELL, ROBERT ALLEN, SHREE BHATTARAI, RAMON LOPEZ, UT Arlington — The ability to predict the effects of the solar wind on the near-Earth space environment is receiving attention due to the ever increasing use of satellites and aircraft by consumers and governments. The cross polar cap potential is one way of measuring interaction between the solar wind and Earth's magnetosphere. Recent simulations and ground based radar measurements have shown that the polar cap potential responds less and less to high values of northward interplanetary magnetic field (IMF), an effect known as saturation. To study this effect, we use data from a DMSP satellite, which flies at low altitude directly over Earth's polar caps. This data, gathered in situ, provides a more direct measurement of the polar cap potential. We will present an analysis of this data and compare it to simulation and radar results.

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