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Comparison of polar cap potential from AMIE and DMSP PHU NGUYEN, JAMIE STERRETT, KEVIN PHAM, RAMON LOPEZ, Univ. of Texas at Arlington — There exists a voltage across the polar cap due to the electric field generated from the interaction of the solar wind and Earth's magnetic field, known as the cross polar cap potential (CPCP). As satellites fly across the Earth's polar cap, they can indirectly measure the CPCP. The CPCP can also be estimated from measurements of magnetic perturbations on the ground due to electric currents in the ionosphere. We will present a comparison between the CPCP measured from the F13 satellite of the Defense Meteorological Satellite Program (DMSP) and the CPCP calculated from the Assimilative Mapping of Ionospheric Electrodynamics (AMIE) model. The comparisons will be binned into various solar wind conditions to determine the conditions under which the space-based DMSP measurement agrees with the ground-based AMIE model and when they differ.

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