

## **Uncertainty in solar wind forcing and its relation to polar cap potential saturation**

The polar cap potential, a measure of the magnetosphere's response to the solar wind driving, levels off during high values of the driver. Other geomagnetic indices also exhibit this behaviour with increasing solar wind forcing. Several explanations have been proposed for this saturation effect, but there has been no consensus. We show that the saturation may be a perception created by uncertainty in the solar wind measurements and its propagation to the polar cap. Correcting for this uncertainty reveals a true linear response across the full range of the solar wind driver values. If true, these findings indicate that extreme space weather events elicit a larger impact on Earth than what we'd expect if the geomagnetic indices were to saturate.



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4:00-5:00 p.m.

CAS 502

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