

# SEMINAR NOTICE

*Department of Physics and Engineering Physics*  
*University of Saskatchewan*

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**SPEAKER:** Daniel Billett, Institute of Space & Atmospheric Studies  
Physics and Engineering Physics

**TOPIC:** *Geomagnetic Storms: The time that air blew up 40 Starlink Satellites.*

**DATE:** Tuesday November 21st, 2023

**TIME:** 3:30-4:30 p.m.

**PLACE:** *Physics 103*

## **Abstract:**

In February 2022, a geomagnetic storm was triggered in Earth's upper atmosphere due to the impact of a coronal mass ejection from the sun. Coincidentally, SpaceX had the previous day launched 50 Starlink internet satellites into a low-Earth orbit. Due to the sheer amount of space weather energy dumped into the upper atmosphere, increasing the air density there drastically, many of the satellites could not maintain their operational altitude. 38 of the 50 Starlink burned up in the atmosphere 5 days after launch, costing around fifty million USD in damages for SpaceX.

In this seminar, I'll talk about the space conditions that led up to the February 2022 Starlink destruction event, the effect these had on Earth's upper atmosphere, and the consequences for SpaceX.