

Science Outreach – Athabasca presents...

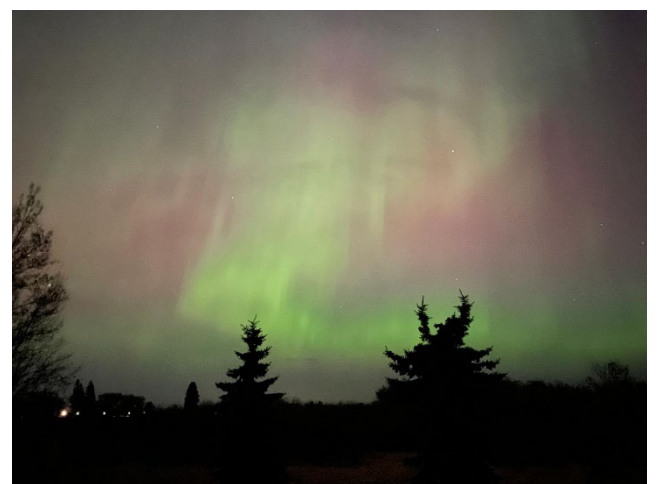
The Impact of Solar Storms on the Alberta Power Grid

**Speaker: Dr. Darcy Cordell,
Assistant Professor,
Athabasca University
Date: January 15, 2026
Place: Athabasca University
in Room 106, Governing Council
Chambers, 1 University Drive,
Athabasca, Alberta
Time: 7 PM to 8 PM**



The sun always produces a constant stream of particles ejected from its surface known as the solar wind. But sometimes it rapidly ejects an enormous mass of particles all at once and this is called a solar storm. If that large cloud of fast-moving particles hits the Earth's magnetic field, it causes it to bend and warp in complex ways over the course of minutes or hours, leading to well-known phenomena such as the northern lights. Beyond the northern lights, these magnetic variations also induce a weak electric field in the Earth which push currents into large, grounded infrastructure such as power transmission networks. These "geomagnetically induced currents" (GICs) can cause problems for power

systems, most notably in March 1989 when a solar storm caused the entire Hydro-Québec power grid to collapse. Here, I will present recent work modelling and measuring GICs in Alberta during recent solar storms showing their impact on the grid during May 2024 and October 2024 events, and extrapolating to more extreme scenarios. This work seeks to better understand this natural hazard to ensure continued reliable electricity for Albertans even during the most intense solar storm events.



Free community event!

This will be an in person and virtual event.

Events may be photographed, recorded and shared.

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