



RSPP seminars



UNIVERSITY OF
LEICESTER

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“Temporal behaviour of Birkeland currents in AMPERE”

Birkeland currents, also known as field-aligned currents, are currents which flow along Earth’s magnetic field lines, electrodynamically linking the magnetopause and partial ring current to the ionosphere. I use observations from the Active Magnetosphere and Planetary Electrodynamics Response Experiment (AMPERE) to investigate the Birkeland currents through the polar cap and the timescales of those currents. I will start by reviewing my work examining Birkeland currents in the context of the Dungey Cycle and particularly look at their magnitudes and location with respect to magnetic reconnection. Then, I will move onto looking at the timescales of currents’ reaction to components of the Interplanetary Magnetic Field (IMF) using the Spatial Information from Distributed Exogenous Regression (SPIDER) technique pioneered by Robert Shore at the British Antarctic Survey. I will follow this with some preliminary results of using SPIDER in a case study of a geomagnetic storm. If time allows, I will then present some wildly preliminary work which I’m very excited about.

Wednesday, July 31st at 2 pm in George Porter LTA