

## Boston University College of Arts & Sciences Center for Space Physics

## 2021-2022 SPACE PHYSICS SEMINAR SERIES

The Ion Superhighway: Understanding Ion Dynamics from Earth's Magnetotail to the Ionosphere

The Sun releases large chunks of energetic particles that can bombard the region of space enveloped by Earth's magnetic field, the magnetosphere, causing an event called a geomagnetic storm. During these storms, much of the energy from the Sun enters the magnetosphere through the magnetotail, the stretched region on the nightside of the Earth. Ions in the magnetotail are energized and accelerated Earthward, traveling in narrow channels. Ions traveling along this superhighway can get injected to the inner magnetosphere, where they can drive

particle acceleration and wave activity, and can also precipitate to the ionosphere, resulting in aurora. There are a lot of open questions about this process. I will present how we are using a global imaging technique combined with in situ satellite and ground-based measurements and simulations to address these questions.



**Thursday, March 31st** 4:00-5:00 p.m. 725 Commonwealth Ave | Room 502

Amy Keesee University of New Hampshire