



SPACE PHYSICS SEMINAR

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On the Structure and Motion of Auroras

Thursday, October 3, 2013

725 Commonwealth Ave.

Refreshments at 3:30pm in CAS 500

Talk begins at 4:00pm in CAS 502

Abstract:

The optical aurora is among the oldest and most valued diagnostics in space plasma physics, and yet the tools needed to access the full information in this signal are still being created. Two basic realities must be born in mind when interpreting an auroral image in the context of underlying physical drivers. First, a camera image represents a perspective projection; morphology in physical coordinates requires the application of inverse theoretic tools, such as tomography. Second, the information in the dimensions parallel and perpendicular to the magnetic field is fundamentally different — the former being governed by the physics of particle penetration, and the latter providing a projection of acceleration region dynamics. This tutorial talk will address the nuanced problem of auroral analysis and interpretation with respect to prominent models of magnetosphere-ionosphere coupling.