2025 Workshop: SCIMM

Long title
Self-Consistent Inner Magnetospheric Modeling
GEM-only session
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Description

We propose to have a stand alone session for our GEM focus group "Self-Consistent Inner Magnetospheric Modeling (SCIMM)" activity. In this session, we welcome contributed presentations about ring current modeling and wave-particle interactions in the inner magnetosphere. Our session aims to improve the physical understanding and modeling of the ring current interactions with and feedback from other populations (e.g., plasmasphere, radiation belts, and ionosphere), through theoretical studies, numerical modeling, and observations from satellite and ground-based missions. We will also summarize our previous GEM focus group activities during the past 5 years.

Justification

This is the final year for our GEM focus group SCIMM. Our stand alone session will provide a platform for the community to present the recent modeling studies in the inner magnetosphere. Our session focuses at the ring current dynamics and wave-particle interactions in this region. We also welcome the presentation topics about the relationship and coupling between ring current system and other systems (e.g., radiation belts, ionosphere, plasma sheet, magnetotail).

We will summarize our focus group activities during the past 5 years. We welcome comments and suggestions from the community about the future directions in the ring current modeling. These discussions will enlighten ideas about the next-generation modeling in the inner magnetosphere.

Related to CEDAR Science Thrusts:

Encourage and undertake a systems perspective of geospace
Explore exchange processes at boundaries and transitions in geospace
Explore processes related to geospace evolution
Manage, mine, and manipulate geoscience/geospace data and models
Workshop format
Short Presentations
Round Table Discussion
Keywords
Ring Current, Wave-Particle Interactions, Inner Magnetosphere Modeling, Wave Generation
List GEM Focus Groups (if any) you wish to avoid being in concurrent sessions with (due to overlapping research interests)
Magnetospheric Sources of Particle Precipitation and Their Role on Electrodynamic Coupling of Magnetosphere-Ionosphere-Thermosphere Systems
Radiation Belts as a System of Systems
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