2023 Workshop: Advances in Electrojet Currents

Long title
Advances in Ground-based and space-based auroral and equatorial electrojet currents
Conveners
Rafael Mesquita
Andrew Pepper
Astrid Maute
rafael.mesquita@jhuapl.edu
Description

Electrojet currents are ubiquitous and of extreme importance to Earth's ionosphere and upper atmosphere dynamics. In high-latitude, the auroral electrojet (AEJ), which has remarkable strength and persistence, drives many of the high-latitude phenomena. In low-latitude, the equatorial electrojet (EEJ), the narrow band of enhanced eastward flowing currents, resides in a system of highly coupled neutrals and plasma. Many advances in the study of these currents have been done in the past few years. From the study of the EEJ using SWARM data, to the use of SuperMAG to aid AEJ current modeling, to the upcoming EZIE mission to study the mesoscale AEJ; the community has produced many investigations on the electrojet currents. This workshop aims to showcase the latest advances on the study of electrojet currents.

Agenda

4:00-4:20 PM Bea Gallardo-Lacourt (AEJ Tutorial)

4:20-4:40 PM Patrick Alken (EEJ Tutorial)

4:40-4:53 PM Sam Yee

4:53-5:06 PM Dong Lin

5:06-5:19 PM David Hysell

5:19-5:32 PM Yen-Jung (Joanne) Wu

5:32-5:45 PM Rob Pfaff

5:45-5:58 PM Yongliang Zhang

Justification

Proposed science question(s) to be addressed:

What are the advances in the measurement techniques to study electrojet currents?
What are the latest numerical techniques to reconstruct electrojet currents?

What are the current investigations in the electrojet currents modeling?

How the associated questions will be addressed:

We will invite speakers to cover each of these questions from multiple points of view. This will be well distributed between ground-based and space-based, modeling and measurement techniques. An effort for covering different backgrounds will be made to produce an inclusive line-up.

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Develop observational and instrumentation strategies for geospace system studies
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