Contribution ID: **21** Type: **not specified**

Radial-dependence model of simulated Solar Energetic Electrons

Tuesday 3 February 2026 10:00 (25 minutes)

Solar activity, such as flares and Coronal Mass Ejections (CMEs), can accelerate protons, electrons and ions up to relativistic speeds causing Solar Energetic Particle (SEP) Events. These events can have a big role in the amount of radiation received by a spacecraft, astronaut missions or even high altitude flights. They can even afect Earth's navigation systems or cause communication blackouts when a SEP event is strong enough to produce a Ground Level Enhancement (GLE).
The effect of SEP events thoughout the whole heliosphere is just being unveiled by the Solar Orbiter (SolO) and Parker Solar Probe (PSP) missions, but is far from being well characterized. Using state-of-the-art models (PARADISE and EUHFORIA) we simulated the transport of electrons in the interplanetary medium to obtain radial distance dependences of their intensities and fluences.
In this brief and introductory presentation I will explain some of the physics underlying the transport of electrons in the inner heliosphere as well as discuss some of our findings.

Author: PRAT, Roger (Universitat de Barcelona)

Co-authors: Dr ARAN, Àngels (Universitat de Barcelona); Dr WIJSEN, Nicolas (KU Leuven)

Presenter: PRAT, Roger (Universitat de Barcelona)