



Contribution ID: 279

Type: Poster

Electron event of 11th July 2020: 3d modeling

Thursday, 9 September 2021 11:52 (13 minutes)

The near-relativistic electron event of 11th July 2020 was simultaneously observed by Solar Orbiter at a radial distance of 0.61 AU and by the Wind spacecraft at 1 AU. This event exhibited an unusual ratio between the peak intensities recorded by these two spacecraft, which suggests that the coronal transport was substantially suppressed. To model this event we apply our 3d propagation model which includes pitch angle scattering and focused transport. We show that to explain the observed slow decay of electron fluxes at the location of Solar Orbiter one has to consider the existence of a nearby reflecting boundary, which is supported by the magnetic field observations.

This study has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No. 101004159 (SERPENTINE).

Student poster?

Primary author: KARTAVYKH, Yulia (University of Kiel, Germany / Ioffe Institute, Russia)

Co-authors: Dr DROEGE, Wolfgang (Institute for Theoretical Physics and Astrophysics, University of Würzburg, Würzburg, Germany); Dr PACHECO, Daniel (Institut für Experimentelle und Angewandte Physik, Christian-Albrechts-Universität zu Kiel, Kiel, Germany); Dr ARAN, Angels (Departament de Física Quàntica i Astrofísica, Institut de Ciències del Cosmos (ICCUB), Universitat de Barcelona (UB-IEEC), Barcelona, Spain); Dr BALMACEDA, Laura (Heliophysics Science Division, NASA Goddard Space Flight Center, Greenbelt, MD, USA/George Mason University, Fairfax, VA, USA / George Mason University, Fairfax, VA, USA); Dr ESPINOSA LARA, Francisco (Universidad de Alcalá, Space Research Group, 28805 Alcalá de Henares, Spain); Dr GOMEZ-HERRERO, Raul (Universidad de Alcalá, Space Research Group, 28805 Alcalá de Henares, Spain); Dr KOLLHOFF, Alexander (Institut für Experimentelle und Angewandte Physik, Christian-Albrechts-Universität zu Kiel, Kiel, Germany); Dr LARIO, David (Heliophysics Science Division, NASA Goddard Space Flight Center, Greenbelt, MD, USA); Dr WIJSEN, Nicolas (Centre for mathematical Plasma Astrophysics, KU Leuven, Belgium)

Presenter: KARTAVYKH, Yulia (University of Kiel, Germany / Ioffe Institute, Russia)

Session Classification: Poster Session 10.6

Track Classification: Session 5 - Solar-Terrestrial Relations, Solar Wind, Space Weather and Space Climate