Contribution ID: **19** Type: **Poster**

On the transport of Galactic and Jovian electrons in a Fisk-type heliospheric magnetic field

Due to the fact that the mean free path of low energy (˜MeV) cosmic ray electrons of Jovian and galactic origin parallel to the heliospheric magnetic field (HMF) is significantly larger than their perpendicular mean free path, the study of their transport can in principle lead to new insights as to the geometry of the HMF. Such studies are facilitated by the fact that the transport of these low energy electrons has long been known to be relatively unaffected by drift processes. Specifically, Jovian electrons are particularly suited to such studies, given their decentral source in the inner heliosphere. In this study, the transport of these electrons is studied using a 3D, ab initio particle transport code that incorporates theoretical expressions for electron diffusion coefficients, as well as a two-component turbulence transport model. The relative effects of a Fisk-type HMF on computed Jovian and galactic electron intensities are compared with the effects of a standard Parker field.

Collaboration(s)

Author: ENGELBRECHT, Eugene

Presenter: ENGELBRECHT, Eugene

Session Classification: PO-1

Track Classification: Solar & Heliospheric Physics