



Contribution ID: 98

Type: **Poster contribution**

Modelling of the solar modulation of Jovian electrons in the inner heliosphere

Tuesday 4 August 2015 16:00 (1 hour)

The challenge regarding the modeling of the solar modulation of Jovian electrons lies in determining a reasonable source function which on its part influences the energy range where these particles dominate in the heliosphere. Another controversial issue is what the spectral index of these electrons should be, from the lowest to the highest energies of relevance to solar modulation. If this can be reasonably determined, it becomes possible to compute what the intensity of galactic electrons is at these rather low energies at the Earth. In this study the spectral shape and the value of the Jovian electron source function is revisited and investigated, using a large set of observations and a 3D numerical modulation model. Comparing the modeling with these observations, a new source function is determined, and when used in the model, indicates that Jovian electrons can dominate electron intensities in the inner heliosphere only up to about 25 MeV above which the contribution from galactic electrons becomes progressively larger. This is based on using a new very local interstellar spectrum for galactic electrons.

Collaboration

– not specified –

Registration number following "ICRC2015-I/"

112

Author: NNDANGANENI, Rendani (North-West University (Potchefstroom campus) South Africa)**Co-authors:** POTGIETER, Marthinus (North-West University); Prof. WEBBER, William (New Mexici State University)**Presenter:** NNDANGANENI, Rendani (North-West University (Potchefstroom campus) South Africa)**Session Classification:** Poster 3 SH**Track Classification:** SH-TH