Geophysical Research Abstracts
Vol. 12, EGU2010-10973, 2010
EGU General Assembly 2010

STEREO observations of CIR-associated energetic ions

Raul Gomez-Herrero (1), Olga Malandraki (2), Nina Dresing (1), Emilia Kilpua (3), Bernd Heber (1), Andreas Klassen (1), Reinhold Müller-Mellin (1), and Robert F. Wimmer-Schweingruber ()

(1) University of Kiel, IEAP, Kiel, Germany (gomez@physik.uni-kiel.de), (2) Institute for Astronomy and Astrophysics, National Observatory of Athens, Greece., (3) Department of Physical Sciences, Theoretical Physics Division, University of Helsinki, Finland

In absence of solar activity, Co-rotating Interaction Regions (CIRs) are a prevailing source of energetic ions observed near 1 AU. The twin STEREO spacecraft launched in October 2006, together with near-Earth observatories offer an excellent platform for multi-point studies of CIR. Time-shifting and back-mapping techniques allow the comparison of ion increases observed by different spacecraft at different times but associated to the same CIR. The analysis shows that CIR-associated ions frequently show significant differences, particularly at sub-MeV energies. We present several cases where these differences are linked to the presence of Interplanetary Coronal Mass Ejections (ICMEs) or small-scale interplanetary transients in the vicinity or embedded within the CIR. Evidence of the possible role of ICME-CIR interaction as sources of temporal variations in the CIR-associated ion increases are presented and discussed