Abstract number: S1-71
SEP anisotropy
30 min. invited talk

Observations of near relativistic solar electron events with STEREO - the importance of measuring anisotropies

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The two STEREO spacecraft perform Earth-like orbits around the Sun with an increasing longitudinal separation to the Earth of 22 degrees per year. A 360 degree view of the Sun was reached in February 2011, providing multi-point in-situ and remote-sensing observations of unprecedented quality. Together with close to Earth measurements, the STEREO spacecraft build an optimal platform to study solar energetic particles (SEPs) and its longitudinal variations with minimal radial gradient effects. While solar activity finally began to rise after the very deep minimum in 2010 to 2011, the STEREO spacecraft had reached a sufficient longitudinal separation to detect and investigate events with large longitudinal spreads. The mechanisms producing these unexpected wide particle spreads are subject to recent research. The comprehensive observations used and especiall the role of the anisotropy in order to disentangle source and transport processes and will be discussed.