



Compiling a STEREO SEP event list: 2007-2011

Athanasios Papaioannou (1), Olga E. Malandraki (1), Bernd Heber (2), Nina Dresing (2), Karl-Ludwig Klein (3), Georgia Tsiropoula (1), Raoul Gomez-Herrero (4), Richard A. Mewaldt (5), and Rami Vainio (6)

(1) Institute of Astronomy, Astrophysics, Space Applications and Remote Sensing, National Observatory of Athens, Greece (atpapaio@astro.noa.gr), (2) Christian-Albrechts-Universitaet zu Kiel, Leibnizstrasse 11, Kiel, D-24118, Germany, (3) Observatoire de Paris, Meudon, LESIA-CNRS UMR 8109, 92195, France, (4) SRG, University of Alcalá, 28871, Alcalá de Henares, Spain, (5) California Institute of Technology, MC 220-47, Pasadena, CA 91125, USA, (6) Department of Physics, POB64, 00014, University of Helsinki, Finland

The STEREO (Solar TERrestrial Relations Observatory) mission employs two nearly identical space-based observatories - one ahead of Earth in its orbit (STEREO-A: STA), the other trailing behind (STEREO-B: STB) aiming at providing the first-ever stereoscopic measurements of the Sun. STEREO recordings provide an unprecedented opportunity to identify the evolution of Solar Energetic Particles (SEPs) at different observing points in the heliosphere, which is expected to provide new insight on the physics of solar particle genesis, propagation and acceleration as well as on the properties of the interplanetary magnetic field that control these acceleration and propagation processes. In this work, two instruments onboard STEREO have been used in order to identify all SEP events observed within the rising phase of solar cycle 24 from 2007 to 2011, namely: the Low Energy Telescope (LET) and the Solar Electron Proton Telescope (SEPT). A scan over STEREO/LET protons within the energy range 6-10 MeV has been performed for each of the two STEREO spacecraft. We have tracked all enhancements that have been observed above the background level of this particular channel and cross checked with available lists on STEREO/ICMEs, SIRs and shocks as well as with the reported events in literature. Furthermore, parallel scanning of the STEREO/SEPT electrons in order to pinpoint the presence (or not) of an electron event has been performed in the energy range of 55-85 keV, for all of the aforementioned proton events, included in our lists. We provide the onset of all events for both protons and electrons, time-shifting analysis for near relativistic electrons which lead to the inferred solar release time and the relevant solar associations from radio spectrographs to GOES Soft X-rays and coronal mass ejections spotted by both SOHO/LASCO and STEREO Coronagraphs.