Geophysical Research Abstracts
Vol. 15, EGU2013-12004, 2013
EGU General Assembly 2013

Encounter of STEREO B with the Ion tail of Comet Elenin: STEREO/PLASTIC Observations

Harald Kucharek (1), Antoinette Galvin (1), Berndt Klecker (1,2), Kristin Simunac (1), Charles Farrugia (1), Robert Wimmer-Schweingruber (3), Lars Berger (3), and Christian Drews (3)

(1) University of New Hampshire, Space Science Center, Durham, United States (harald.kucharek@unh.edu, +1 603 862 0311), (2) Max Planck Institut fuer extraterrestrische Physik, Garching, Germany, (3) Christian-Albrechts-Universität zu Kiel, Institut fuer Experimentelle und Angewandte Physik, Kiel, Germany

In August 2011 Comet Elenin passed STEREO B spacecraft to within just 7 million kilometers (or 0.046AU). The comet's trajectory was almost in the same plane as the Earth's orbit and hence of the STEREO B spacecraft. STEREO B was in the tail region of the comet for at least a week. The comet continued pass the spacecraft and went inside the Earth's orbit closer to the Sun, during which the distance of STB and the comet increased. This configuration gave us the unique opportunity to study the composition of the comet tail and the temporal/spatial evolution of the comet's ion distribution for an extended 3-week time period. During the tail passage we observed suprathermal pickup ions H+ and He+ and singly charged water group ions (which are a clear signature of comet material). In this presentation we will report on the temporal/spatial evolution of the suprathermal ions within an energy range of 0.3keV/q to 80keV/q, the composition and their energy spectra during the passage of the comet.