Geophysical Research Abstracts
Vol. 15, EGU2013-9594, 2013
EGU General Assembly 2013

Observations of the transient fluctuations of the solar wind ion flux at the boundaries of the pressure change

Natalia Borodkova (1), Georgy Zastenker (1), Olga Chugunova (1,2)

(1) Space Research Institute RAS, Space Plasma, Moscow, Russian Federation (nlbor@mail.ru), (2) Institute of the Physics of the Earth, Moscow, Russian Federation

Plasma spectrometer BMSW was developed for the measurements of the main solar wind and magnetosheath plasma parameters – velocity, temperature, ion density and ion flux with high time resolution onboard the "Spektr-R" project. Since the beginning of measurements on August 2011 a lot of experimental data were received allowing to study, in particular, fine structure of the solar wind, pressure pulses, boundaries and so on. The paper presents case study results of several fast variable and transient events, connected with the crossing of sharp boundaries of the solar wind pressure pulses. It was shown the presence of large amplitude fluctuations in the solar wind ion flux with the period about 6-9 seconds close to the boundary of pressure change. Power spectra of these solar wind ion flux fluctuations revealed low-frequency and high frequency parts with different slopes and with the kink near 1Hz.