



Multiple X-line activity in the magnetotail

Alexandra Alexandrova, Rumi Nakamura, and Wai-Leong Teh

Space Research Institute, Austrian Academy of Sciences, Graz, Austria, Graz, Austria (alexandra.alexandrova@oeaw.ac.at)

We investigate the selected events of the in-situ X-line measurements by the Cluster spacecraft in the magnetotail, which show multiple X-line activity. We define the X-line passing by the spacecraft when the reversal of the ion bulk flow together with the reversal of the normal to the current sheet component of magnetic field are detected. As the multiple activity we consider the measurements of several characteristic reversals one after another. Using four spacecraft we obtain the motion for each structure, defined by the reversal. According to the motion and analysis of plasma parameters, we interpret the multiple activity as a several X-lines, appeared in different location in current sheet, or, for some events, as a one X-line oscillating in Earthward-tailward direction.