



Evolution and properties of the high-speed plasmoids in the magnetosheath near Bow shock

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Plasmoids, defined as plasma entities with a higher anti-sunward velocity component than the surrounding plasma, have been observed in the magnetosheath in recent years. Among other denominations, plasmoids are also called “magnetosheath jets” and can be classified by transient localized enhancements in dynamic pressure. Using measurements by the Magnetospheric Multiscale (MMS) spacecraft and criteria proposed by Gunell et al. (2014), Karlsson et al. (2012), Archer and Horbury (2013) and Plaschke et al. (2013), were identified several thousand events in distance up to 3 Earth radii from the bow shock. Based on our statistical analysis and previous studies, we discuss features of the “plasmoids” and “jets”, their properties, occurrence, relation to solar wind and foreshock conditions, and their sources.