



## **Night-side magnetopause: simultaneous observations of ARTEMIS and MMS**

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The night-side magnetopause plays an important role for magnetosheath plasma transport to magnetosphere. To investigate spatially and temporally variable magnetopause configuration we consider dataset of the magnetopause crossings by MMS and ARTEMIS spacecraft. Simultaneous observations at two radial distances allow us to compare characteristics of near-Earth magnetopause (probed by MMS) and magnetopause around the lunar orbit (probed by ARTEMIS). Using single spacecraft methods, we determine gradients of magnetic fields and some plasma characteristics (ion temperature, plasma number density, and ion bulk velocity) for MMS and ARTEMIS magnetopause crossings. Comparison of spatial scales of these gradients show the magnetopause thickening with the radial distance.