



## **Solar wind driving of asymmetries in the magnetosheath - magnetosphere system**

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Over the decades of in-situ measurements of the terrestrial magnetosphere it has been suggested and experimentally shown that various parameter dawn-dusk asymmetries arise. What is also apparent is that such asymmetries are delicately coupled to the properties of the solar wind. The IMF configuration has a considerable impact since its orientation dictates the shock geometry, thus driving different dawn-dusk plasma properties downstream. Magnetosheath asymmetries are notably important since the magnetosheath effectively modifies and reconfigures plasma before it enters the inner magnetosphere and therefore may play a role in driving asymmetries in the inner magnetosphere. We apply our existing statistical mapping tool which uses over 7 years of THEMIS and OMNI data to create statistical maps of plasma properties in the global magnetospheric system. We look at asymmetries of both steady state properties (e.g.  $B$ ,  $V$ ,  $n$ ), and also transient/kinetic features such as mirror mode activity. We focus specifically on 1. solar wind dependence and 2. the co-dependence between the magnetosheath and magnetospheric regions.