

Planetary and Interplanetary Shocks
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Shocks in the heliosphere are important regions where solar wind properties suffer dramatic changes and particles can be accelerated to high energies. Bow shocks can be generated in front of planets by the interaction of the solar wind with the planetary magnetic field/body. Interplanetary (IP) shocks can be driven by fast propagating coronal mass ejections or by solar wind stream interaction. Earth's bow shock has been studied for over 50 years and we know that phenomena upstream of the shock can modify its structure and the region downstream known as magnetosheath. Shocks characteristics and their associated phenomena depend on shock geometry, Mach number and plasma beta. In this talk we will discuss some of the phenomena observed in the complex regions formed by the upstream and downstream of heliospheric shocks, namely ULF waves, foreshock transients, magnetosheath jets and their interaction with the shocks. We will compare the properties of these phenomena at different bow shocks and IP shocks. Our knowledge about shocks in the solar wind provides insight about processes taking place in astrophysical environments, where shocks are ubiquitous and no *in-situ* data are available.