



Influence of upstream and downstream waves on shock front parameters

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Interplanetary (IP) shocks are complex structures surrounded by regions where a variety of waves exists in the dependence on different solar wind conditions. Every year, the Wind spacecraft register several IP shocks, some of them accompanied by with waves in upstream and downstream magnetic fields. However, the resolution of plasma measurements does not allow a detailed analysis of these waves. The new Spektr-R spacecraft may significantly help with this task because the onboard BMSW instrument measures solar wind parameters with a unique resolution of 30 ms.

In this paper, we study the waves in regions adjacent to IP shocks and present a detailed analysis of the shock ramp. We investigate frequencies and polarization of the observed waves in broad ranges of the solar wind parameters. Preliminary results suggest that the wave packets upstream are whistler like modes, whereas downstream waves are standing in the shock frame.