Geophysical Research Abstracts, Vol. 9, 09091, 2007
SRef-ID: 1607-7962/gra/EGU2007-A-09091

Lower hybrid waves at the terrestrial bow shock: Revisited

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Cluster data are used to investigate the level of lower-hybrid turbulence at the terrestrial bow shock, and its effect on the dissipation processes at the shock front. The remarkable property of lower hybrid waves is that they are able to interact with both electrons and ions. Therefore they can provide an efficient mechanism to transfer the directed kinetic energy of the ion bulk motion to the electrons. However, the Cluster data indicates that the level of LH turbulence is too low to provide an effective mechanism for electron energisation.