

**THE FINE STRUCTURE OF ION-SOUND
TURBULENCE OBSERVED IN THE TERRESTRIAL
BOW SHOCK TRANSITION LAYER.**

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High time resolution observations of the quasiperpendicular terrestrial bow shock by Cluster are used to investigate the occurrence of ion sound turbulence in the ramp and foot regions. The four independent probe potential measurements onboard a single satellite are used to distinguish between ion-sound and whistler turbulence. The joint wavevector-frequency spectra are calculated and the waves propagation characteristics are determined. These wave characteristics are used to argue that at least some of observed wave packets have been generated by local currents in the foot region. The amplitude of the ion sound turbulence is used to assess the importance of ion sound based anomalous processes on the energy redistribution at the shock front.