Investigation of the thickness of the Earth's bow shock by using k vector of the upstream wave

Eisuke Kurihara[1], # Tomoko Nakagawa[2]

[1] Tohoku Inst. Tech., [2] Communication Engineering, Tohoku Inst. Tech,

Thickness of the Earth's bow shock has been calculated from GEOTAIL MGF data by using variation of k vector of the upstream wave. The boundary between the upstream and the shocked region was deteremined from variation of k vector of the upstream waves, which changes its direction at the crossing of the bow shock. The direction of k vector at the crossing of the shock agreed with direction of the shock normal determined from the coplanar theory. The shock ramp width thus obtained was 0.1-5 times of the ion inertia length in agreement with Newbury and Russell(1998).
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