

Study on ionospheric irregularity echoes associated with meteor trail

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Stanford Quasi-Periodic Experiment (SQPE) was conducted in July-August in 1998 and 1999 in Stanford, California. We detected many meteor echoes as well as many quasi-periodic (QP) echoes. The data from the SQPE 1999 were analyzed to find Field-Aligned Irregularities (FAIs) induced in the meteor trail.

Doppler spectra of meteor and FAI echoes can be distinguished because FAI echoes have much wider spectra than those of the meteor echoes. At 16:43 on August 13 and at 15:33 on August 9, we found long-duration echoes which spectra clearly had wide secondary spectral peak in addition to the primary peak of the meteor trails. This indicates the existence of type-2 FAI associated with the meteor trail.