Ee-033 Room: C311 Time: June 10 11:15-11:30

## Quasi Periodic structures of visible auroras and Syowa East HF radar echoes

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The geomagnetic and geographic latitudes at Zhongshan Station are ~74.5 and ~69.4 degrees, respectively. The field of views of Syowa East HF Radar covers over Zhongshan Station. Periodic structure of HF radar echoes with period of ~5-10 minutes were found in the period of 12:10 (UT) to 13:50 (UT) in 3 August 1997. Fortunately interesting visible auroras were observed simultaneously using all-sky TV cameras. One of the most interesting characteristics of visible auroras is quasiperiodic variations in the intensity and / or spatial variation of auroras. We examined in detail the relation between the visible auroras and HF radar echoes.

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