

Development of receiver system of LF standard signal to study the dynamics of inner radiation belt

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We develop the observation system of the time and frequency standard signal in the LF range in order to study temporal and spatial characteristics of relativistic electron precipitation from the inner radiation belt. The precipitation of MeV electrons into the atmosphere causes strong ionization in the ionospheric D-region. The disturbance in the D-region can be remotely sensed by measuring the intensity and phase of the LF signals which propagate between the ground and the D-region. Test observation was started from Jan. 2006 at Tohoku University and confirm the performance of the receiver system. The receiver system will be installed at Rikubetsu observatory on March 2006 and the monitoring observation of LF signal will be started.