

Vertical Incidence Pulsed Ionospheric Radar (VIPIR) installed at Jang Bogo Station, Antarctica

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Vertical Incidence Pulsed Ionospheric Radar (VIPIR) was installed at Jang Bogo Station (JBS), Antarctica in March 2015 in order to monitor the ionosphere in the polar region. The VIPIR system consists of an inverted log periodic antenna (LPA) designed by CIRES, University of Colorado, HF radar developed by Scion Associates, and Dynasonde analysis software. With this powerful and sophisticated ionosonde system, we will continually monitor the ionosphere not only for the traditional ionospheric parameters including the electron density profile and ion drifts, but the three-dimensional electron density profile can also be constructed by inverting the measured data. The observed data from VIPIR will be utilized to study the ionosphere and thermosphere and their couplings in the auroral and/or polar cap regions over JBS, Antarctica, in combination with the observations for the thermosphere by Fabry-Perot Interferometer (FPI) simultaneously operated at JBS. In this study, we will report the current status of the radar system and its preliminary observations for the ionosphere.