



Jang Bogo Antarctic Ionosonde

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The Korean Polar Research Institute has established the Jang Bogo research station in Antarctica on Terra Nova Bay (74.62°S, 164.23°E). One of the space environment sensors installed in 2014 is a world class research ionosonde facility consisting of a Vertical Incidence Pulsed Ionospheric Radar (VIPIR) with Dynasonde signal processing. The VIPIR is an MF/HF radar operating from 0.5 to 25 MHz. The transmit antenna is a 36x75x75m dual vertical incidence log periodic design and the receive antenna is a 70x70m array of 8 orthogonal 4m active dipoles attached to 8 coherent digital receivers. Full resolution In-Phase and Quadrature data are recorded for post analysis. The low atmospheric noise and low interference combine with the high system performance to produce ionogram data of very high quality and allow measurements with high time resolution. The 2015 data were taken using the first generation VIPIR electronics on loan from Boulder. Antenna repairs and the installation of the second generation VIPIR electronics were completed at the end of 2015. Phase based Dynasonde analysis techniques are applied to the VIPIR data to perform echo detection and to derive electron density profiles and velocity vectors.