

U003-04

Room: Function Room A

Time: May 28 10:15-10:30

## Technological developments for the project of Antarctic Syowa MST/IS radar

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PANSY is a project to introduce the first MST (Mesosphere-Stratosphere-Troposphere) /IS (Incoherent Scatter) radar in the Antarctic to Syowa Station (39E, 69S), with the aim to comprehensively study the Antarctic atmosphere by observing the region with fine resolutions and good accuracy in a wide height range from 1 to 500 km. It is designed as an active phased array system consisting of 1045 crossed Yagi antennas with the center frequency and the peak transmitting power of 47MHz and 522.5kW, respectively. The receiver system is equipped with as many as 55 digital channels for variety of interferometer and imaging observation techniques. Since 2000 we have worked on various technical challenges such as limited power supply and severe weather condition, and successfully developed low power consumption transmitters, light-weight antennas and a construction method which requires less manual labor. The radar construction is going to start late 2010 at Syowa.

Keywords: Antarctica, Syowa station, MST/IS radar, atmospheric waves, general circulation