

## Study of polar atmospheric waves based on simultaneous wind and temperature observations by MF radar and Na lidar at Syowa

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The first comprehensive observations of wind and temperature in Antarctic mesosphere and lower thermosphere have been under way at Syowa (69S, 39S) using an MF radar and a Na temperature lidar since 2000. Nearly 100 nights of simultaneous wind and temperature data were obtained in each of the years, 2000 and 2001. Various waves including atmospheric gravity waves and atmospheric tides have been detected in both wind and temperature fields. So far, gravity wave analysis using the MF radar wind data alone shows that the wave activity maximises in winter months. Propagation directions and also momentum flux of gravity waves are to be estimated together with the lidar temperature data.