

Polar Mesospheric Summer Echoes and Wind Profiles Observed Above EISCAT Tromsø site

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Polar Mesospheric Summer Echoes (PMSE) are of interest for the study of ice particles and their charging and dusty plasma interactions as well as for neutral atmospheric dynamics and turbulence. A Tri-static observation with the EISCAT VHF radar showed signs of wind shear in Polar Mesospheric Summer Echoes (PMSE). The observations suggest that the PMSE contain sublayers that move in different directions horizontally. We present and discuss these observational results and address the limitations of the present EISCAT observation geometry. We compare the observations to wind observations carried with other radar at the same location. Future observations could benefit from combining several observation techniques including radar and lidar and also from combination with NLC observations. We discuss the opportunities of future observational programmes and the perspectives for preparing for studies with the upcoming EISCAT_3D.