610

TEMPERATURE AND DYNAMICS OF THE MESOSPHERE DURING THE FIRST COMPLETE SEASON OF PMSE OBSERVATIONS ABOVE DAVIS, ANTARCTICA

R J Morris[1], D A Holdsworth[1], A R Klekociuk[1], D J Murphy[1], R A Vincent[2]

[1]Australian Antarctic Division, Kingston, Tasmania, Australia, [2]University of Adelaide, Adelaide, South Australia, Australia

Considerable debate is ongoing as to whether there is a temperature difference between the northern and southern hemisphere polar mesopause regions of the atmosphere. In part this debate has been fuelled by the reported lack of southern hemisphere Polar Mesosphere Summer Echoes (PMSE) observations. Here we discuss PMSE detected above the high-latitude station Davis, Antarctica (78.0°E, 68.6°S geographic; 74.6°S magnetic) using a 55 MHz atmospheric radar during the 2004–2005 austral summer. We present the characteristics and morphology of southern hemisphere PMSE events observed during the interval 23 November 2004 to 18 February 2005. Coincident satellite (SABER and AURA) temperature measurements and ground-VHF radar backscatter observations are used to investigate the thermal and dynamic properties of the polar mesosphere region during conditions of PMSE occurrence. We also examine the horizontal wind field using co-located MF radar measurements.