



Temperature trends in the polar mesosphere during 2002-2005 using SABER/TIMED data

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The TIMED Satellite was launched on December 7, 2001 to study the dynamics and energy of the mesosphere and lower thermosphere (MLT). The SABER instrument on board TIMED is a limb scanning infrared radiometer designed to measure temperature and minor constituent vertical profiles and energetic parameters throughout the MLT region. In this study, we have concentrated on the polar mesosphere, to investigate the temperature characteristics of the region as a function of space and time. We have used the latest SABER research dataset for the analysis. Weekly averages are employed to make comparisons between the winter and summer, as well as to study the variability in different quadrants of each hemisphere. The sharp transition between summer and winter, as first demonstrated by Luebken (1999) using falling-sphere meteorological rocket data, is described for each hemisphere with a more comprehensive dataset. When possible, temperature profiles are compared with nearly coincident in situ measurements.