Midlatitude Mesosphere/lower Thermosphere meridional Winds and Temperatures during Winter

Ch. Jacobi (1), K. Fröhlich (1), C. Viehweg (1), G. Stober (1), and D. Kürschner (2)

(1) Institute for Meteorology, University of Leipzig, (2) Institute of Geophysics and Geology, University of Leipzig (jacobi@uni-leipzig.de /Fax: +49-97-32-899)

A meteor radar to measure horizontal winds in the 80-100 km height range and daily temperatures near 90 km is operating at Collm (51.3˚N, 13˚E) since summer 2004. The wind data are completed by LF lower E-region drift measurements. Here we present changes of the meridional wind in comparison with temperature fluctuations. Whereas in summer no direct correlation is visible, the meridional circulation is positively correlated with temperatures, so that northward winds are generally accompanied by higher temperatures. This behaviour is in accordance with the dynamical forcing of mesopause region temperatures, which is modulated by planetary waves and stratospheric warmings.