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Correlation of midlatitude Mesosphere/lower Thermosphere Winds and Temperatures during Winter

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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. Here we present intraseasonal changes of the meridional wind in comparison with temperature fluctuations. Whereas in summer no direct correlation is visible, the meridional circulation an temperature is positively correlated, so that northward winds are connected with higher temperatures. This behaviour is in accordance with the dynamical forcing of mesopause region temperatures, which is modulated by planetary waves and stratospheric warmings.