



Diurnal Cycle in Stratospheric Water Vapour and Ozone

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The ground-based Middle Atmospheric Water vapour RAdiometer MIAWARA measures the emission line of water vapour at 22 GHz in the frame of the "Network for the Detection of Atmospheric Composition Change" (the former NDSC). The bandwidth and the spectral resolution of the instrument allow us to retrieve water vapour profiles between 25 and 50 km with a temporal resolution of 4 hours after appropriate binning. MIAWARA is validated against satellite experiments and balloon borne in situ measurements. Data from MIAWARA give us the opportunity to investigate diurnal variations of water vapour in the stratosphere. A decline of 1% in the water vapour amplitude in the afternoon at all altitudes can be observed. An analysis of ozone data from a close by microwave radiometer, also operated in the frame of NDSC, reveals a negative correlation with respect to water vapour.