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Global Observations of Strato-Mesospheric Trace Gases with the Odin Sub-Millimetre Radiometer

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The Sub-Millimeter Radiometre (SMR) on board the Odin satellite, launched in February 2001, employs 4 tunable single-sideband Schottky diode heterodyne receivers in the 486-581GHz spectral range and a 1m telescope for passive observations of thermal emission originating from the Earth limb. Spectra are recorded using two high resolution auto-correlator spectrometers. Atmospheric measurements are performed in a time sharing mode with astronomical observations.
In the aeronomy mode, various target bands are dedicated to observations of trace constituents relevant to stratospheric/mesospheric chemistry and dynamics such as O_3, ClO, N_2O, HNO_3, H_2O, CO, and isotopes of H_2O and O_3. Profile information is retrieved from spectral measurements of a limb scan by inverting the radiative transfer equation for a non-scattering atmosphere.
The presentation provides an overview of the mission and describes results obtained so far from the Odin/SMR experiment.
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