COMPARISON OF OZONE PROFILES MEASURED BY THE ODIN SATELLITE INSTRUMENTS WITH GROUND-BASED, AIRBORNE, SATELLITE EXPERIMENTS AND MODEL COMPUTATIONS

A. Drouin (1), J. de La Noe (1) and the Odin Ozone Validation Group
(1) Observatoire de Bordeaux, Floirac

The Odin satellite carries two instruments measuring ozone spectra from which stratospheric ozone profiles are retrieved. Onboard Odin, the Sub-Millimeter Radiometer (SMR) measures an ozone spectral line at 501.4 GHz. Forward model and inversion codes using the Optimal Estimation Method permit the retrieval of vertical profiles in the altitude range 20-65 km. The UV-visible spectrograph of the OSIRIS instrument measures ozone absorption limb spectra in the ranges 300-340 and 400-700 nm. A code based on the technique described by Flittner et al. (2000) and McPeters et al. (2000) provides vertical profiles from 20 to 60 km. This work presents a comparison of Odin ozone profiles with those obtained by ground-based measurements from primary or complementary stations of the Network for the Detection of Stratospheric Change (NDSC) such as lidars, microwave radiometers and ozonesondes. Some additional comparisons are also performed with ozone profiles obtained by aircraft experiments, other satellite measurements and model computations.