



## **Early validation of SAGEIII/ISS ozone and aerosol products by lidar and sondes measurements at Haute-Provence Observatory, France**

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Various measurement techniques have been deployed for the monitoring of ozone and aerosols vertical distribution at Haute-Provence Observatory (OHP - 44°N, 6°E) within the Network for the Detection of Atmospheric Composition Changes (NDACC) since the 1980s. These techniques include two Differential Absorption (DIAL) lidars and balloon soundings for the measurements of tropospheric and stratospheric ozone profiles, and a backscatter lidar for the measurement of aerosols and temperature profiles. Aerosol extinction profiles are obtained at 532 nm. They can also be retrieved from the DIAL lidar signals at 355 nm. These measurements have been widely used in the past for trend studies and validation of satellite measurements, e.g. Hubert et al. (2016) and Khaykin et al. (2017). They are used in this study to evaluate the various ozone and aerosol extinction products of SAGEIII/ISS obtained in the vicinity of OHP since the beginning of instrument operation.

### References:

Hubert Daan, et al., Ground-based assessment of the bias and long-term stability of fourteen limb and occultation ozone profile data records, *Atmos. Meas. Tech.*, 9, 2497–2534, 2016  
Khaykin Sergey, et al., Variability and evolution of the midlatitude stratospheric aerosol budget from 22 years of ground-based lidar and satellite observations. *Atmospheric Chemistry and Physics*, European Geosciences Union, 2017, 17 (3), pp.1829-1845