La Reunion Island (21S, 55.5E) SHADOZ/NDACC station: First re-processed ozonesonde data and comparisons with lidar measurements at the Maïdo Observatory
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La Reunion Island (21°S, 55°) SHADOZ/NDACC station

First reprocessed ozonesonde data and comparisons with lidar measurements at the Maïdo Observatory

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Quadriennal Ozone Symposium Edinburgh, Scotland Sept 2016

ANCILLARY COMPARAISONS : Water Vapor, Temperature and zonal wind

MORGANE Campaign April-July 2015 (Maïdo ObservatoRy Gas and Aerosol Ndacc Experiment) : blind test intercomparison between lidars (T°, O3, and water vapour) from OPAR and from NASA/GSFC mobile laboratory in view of the (re)labellisation of OPAR lidars in the NDACC:

- Intercomparisons between Ozonesondes (ECC), Tropospheric (LiO3T) and Stratospheric (DIAL) lidars
- Comparisons between individual profiles show a mean agreement from 10.8% to 19.4% in the troposphere and from 3.1% to 10.3% in the stratosphere
- Comparison of the total ozone integrated column amount between the ozonesonde and OMI: from -6.0% to +5.9% and La Reunion SAOZ: from -4.0% to +4.1%

Between 17 and 20 km the stratospheric lidar’s measurements were polluted by the presence of aerosols coming from Chile and due to Calbuco volcano eruption

Water vapor Raman Lidar1200 and 5 radiosondes Modern M10

T° lidar and 2 radiosondes representative profiles

Wind lidar (45°) and a radiosonde Modern M10 (up to 40km)

**First reprocessed Ozone data (1998-2015)**

**NDACC-SHADOZ station**: 20.9°S 55.5°W 8 masl (Gillot airport)

**Applied Corrections**

- **Gravity**
  - 185 W, 91.6 W 3.8 W
  - 1.2 W 1.4 W
  - 1.1 W
  - 3 W 2 W
- **Background**
  - 3 W 1.6 W
  - 1 W
- **Preliminary results**

Maido Observatory: 21.0°S 55.4°E 2154 masl

In troposphere the displacement of the sonde trajectory with respect to the laser beam position could be large!

Left: mean ozone profiles (8): LI03T and ECC +/- 1 sigma
Right: mean relative difference LI03T/ECC +/- 1 sigma

**MORGANE Campaign April-July 2015**

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