



## **Nocturnal ozone monitoring by ground-based spectrophotometer Brewer**

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The capabilities of spectrophotometer Brewer allow ozone monitoring, as total column, also during the night by Focused Moon routine. In the Arctic region the nocturnal external temperatures are not so severe to avoid the management of a Brewer. So, since 2007 the measurements run in continuous mode utilizing, during the polar night, the UV albedo from the Moon. The nocturnal data of the ground based Brewer measurements in Arctic region are very useful to reconstruct the O<sub>3</sub> levels before the depletion season in spring time.

Within Italian polar research activity a Brewer is running in Ny Alesund (78.9° N, 11.9° E), Svalbard islands at the base “Dirigibile Italia” of Italian National Research Council, in agreement with the Norwegian Institute for Air Research (NILU) and Norwegian Polar Institute (NP). A similar instrument is placed in Vigna di Valle (42.083°N, 12.217° E) close to Rome, Italy, and it is under responsibility of ReSMA, Met Service of Military Air Force.

This paper shows the trend of total ozone content coming from the first Brewer winter campaign in 2007-2008 in Arctic region and the same kind of data monitored at mid latitudes in Italy. The comparison involves the effects of the Moon zenith angle and the Moon phases on measurements of ozone total column.

In order to validate the ground based measurements during the night as reference of satellite outputs, the results are over-imposed on MLS on EOS AURA and SCIAMACHY on ENVISAT data.