

ABSTRACT

The work compares the performance of different approaches and algorithms for the retrieval of ozone concentration profiles from measurements of the nadir-viewing Global Ozone Monitoring Experiment (GOME) instrument. Indeed the work is the result of an activity research supervised by ESA (European Space Agency) and carried out by different European research groups. An overall number of nine different algorithms has been considered exploiting the Optimal Estimation (Royal Netherlands Meteorological Institute, Rutherford Appleton Laboratory, University of Bremen, National Oceanic and Atmospheric Administration, Smithsonian Astrophysical Observatory), Phillips-Tikhonov Regularization (Space Research Organization Netherlands), Neural Network (Center for Solar Energy and Hydrogen Research, Tor Vergata University), and Data Assimilation (German Aerospace Center) approaches.