ABSTRACT

The paper is about the dimensionality reduction in remote sensing inversion problems using neural networks. The application domain is the estimation of ozone concentration profiles from the radiance measurements provided by the instrument Global Ozone Monitoring Experiment (GOME) on board of ESA satellite ERS-2. The complete dimensionality reduction technique includes the use of radiative transfer modeling with the final purpose of extracting the GOME spectral ranges most crucial for the inversion. The retrieval performance has been assessed by comparison with collocated profiles obtained with lidar measurements.