

GOME OZONE PROFILES AND TROPOSPHERIC OZONE MEASUREMENT

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Much of the current research and operational algorithm design for the determination of height-resolved ozone from the GOME instrument is based on the use of the optimal estimation technique. However, the original studies that determined the potential of GOME as a device for mapping tropospheric ozone were performed using nonlinear least-squares fitting of synthetic spectra generated with appropriate layered atmospheric models. This technique is now being applied to GOME flight data, employing additional constraints to ensure closure in the minimisation of the merit function, with promising results. Results from several test cases are presented. Additional approaches to the retrieval of height-resolved ozone from GOME employing eigenvector analysis of the spectral information are also presented.

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