

Contribution submission to the conference Bremen 2017

An improved total and tropospheric NO₂ column retrieval for GOME-2 — ●SONG LIU¹, PIETER VALKS¹, GAIA PINARDI², ISABELLE DE SMEDT², HUAN YU², and STEFFEN BEIRLE³ — ¹Institut für Methodik der Fernerkundung (IMF), Deutsches Zentrum für Luft- und Raumfahrt (DLR), Oberpfaffenhofen, Germany — ²Belgian Institute for Space Aeronomy (BIRA/IASB), Brussels, Belgium — ³Max Planck Institute for Chemistry (MPI-C), Mainz, Germany

This work focuses on an improved algorithm for the retrieval of total and tropospheric NO₂ columns from the Global Ozone Monitoring Experiment-2 (GOME-2). A larger 425-497 nm wavelength fitting window with correction for GOME-2 slit function variations is used to determine the NO₂ slant column density. The STRatospheric Estimation Algorithm from Mainz (STREAM) is applied to determine the stratospheric column density of NO₂. For the calculation of the air mass factor (AMF), a new surface Lambertian equivalent reflectance (LER) climatology based on GOME-2 observations and the IMAGES a priori NO₂ profile are used. Examples of the retrieved GOME-2 total and tropospheric NO₂ columns are shown for Europe and Asia.

Part: UP
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