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Polar ozone monitoring with GOME-2/MetOp

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The GOME-2 sensor is EUMETSAT's first operational ozone monitoring instrument: three identical instruments have been built, with the first sensor launched in October 2006 aboard the first of three MetOp satellites. GOME-2 continues the series of successful European satellite-borne atmospheric sensors starting with GOME, SCIAMACHY and OMI. Accurate measurements of total ozone and other trace gas species have been gathered by the GOME-2 sensor since March 2007. With the deployment of the two identical GOME-2 sensors in the next decade global ozone and trace gas data for the next 14 years will be provided. The main goal of this paper is to present first GOME-2 results from monitoring global total ozone in general and polar ozone in particular. We provide details on the operational near-real-time and off-line GOME-2 products supplied by DLR in the framework of EUMETSAT's O3M-SAF and DLR's WDC-RSAT projects. Additionally, the GOME-2 total ozone products are compared with ground-based and satellite-based observations from GOME and SCIAMACHY, as well as results from the coupled chemistry/climate model E39/C. Finally we show the 1995-2007 ozone hole evolution as monitored with GOME, SCIAMACHY and GOME-2.