

Solar UV/Vis/NIR Spectral Irradiance from SCIAMACHY and GOME

Mark Weber [weber@uni-bremen.de], Jochen Skupin, Stefan Noel, and Joseph Pagaran, Institute of Environmental Physics, University of Bremen, Bremen, Germany.

The Global Ozone Monitoring Experiment (GOME, 1995-present) and the Scanning Imaging and Absorption Spectrometer for Atmospheric Chartography (SCIAMACHY, 2002-present) measure solar irradiance at a moderately high spectral resolution (0.2-0.4 nm) covering the UV and visible spectral range (240-800 nm). SCIAMACHY also covers part of the NIR up to 2400 nm with some gaps where atmospheric water vapor absorption saturates. SCIAMACHY and SIM are currently the only space instruments that regularly observe the visible and NIR spectral range daily.

SCIAMACHY and GOME are primarily atmospheric sounders and they lack a rigorous in-flight calibration scheme. However, the GOME and SCIAMACHY measurements are still valuable for studying short-term solar variability of solar irradiances. From both GOME and SCIAMACHY a MgII c/w ratio has been successfully derived. Comparisons of SCIAMACHY solar irradiance with SIM and other solar data are presented. Some preliminary results on visible irradiance changes with the 27 day solar variability will be presented. Together with the three GOME2 launches in five year intervals starting in 2006, the “European” solar observations will be extended well into the next decade.