



The Mg II solar activity proxy indicator derived from GOME and SCIAMACHY solar UV measurements

J. Skupin, M. Weber, H. Bovensmann and J. P. Burrows

Institute of Environmental Physics (IUP), University of Bremen, Otto-Hahn-Allee 1,
28359 Bremen, Germany (jochen.skupin@iup.physik.uni-bremen.de/Fax: ++49 421 218 4555)

The Mg II index derived from daily solar observation in the near UV spectral region provides a good measure of the solar UV variability and can be used as a reliable proxy to model solar extreme UV. For solar-terrestrial climate interaction the establishment of a long time series spanning several decades is important.

GOME (Global Ozone Monitoring Experiment, 1995-present) and SCIAMACHY (SCanning Imaging Absorption spectroMeter for Atmospheric CHartography, 2002-present) are passive remote sensing instruments performing solar and atmospheric observations in the near ultraviolet, visible, and near infrared wavelength regions. Together with the second European ozone monitoring experiment GOME2 (to be launched in 2005) they complete a triple of similar instruments ensuring a continuous record of solar and atmospheric observations starting in 1995 and reaching well into the second decade of the 21st century, i.e. throughout the entire solar cycle 23 and the beginning of solar cycle 24. In addition to the daily solar measurements of GOME and GOME2, SCIAMACHY performs orbital (approx. every 100 min) solar observations offering the possibility to monitor solar variations on an hourly timescale.

A continuous solar Mg II index from 1995 to 2004 derived from GOME and SCIAMACHY solar measurements will be presented and validated with Mg II index data from NOAA/SBUV2 instruments.