File Revision Date:
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Data Set Description:

PI:	S. Simic, BOKU, AUT
Instrument:	UV Spectroradiometer (Bentham DM150)
Site:	Hoher Sonnblick, Austria (47.05N, 12.95E, 3106m)

Measurement Quantities:
cosine weighted spectral irradiance on a horizontal surface, 290 - 410 nm at 0.60 nm resolution (FWHM).
scans are taken at intervals of 0.5 hours from sunrise to sunset, scan duration is approx. 7 min

The data summaries on the NDSC database include the following:
1. Erythemal UV, ER (Wm-2) (McKinlay and Diffey 1987)
2. DNA-weighted UV, DNA (Wm-2) (Green et al. 1975)
3. Plant, PLA (Wm-2) (Green et al. 1974)
4. UVB (Wm-2)
5. UVA (Wm-2)

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<u>Instruments Description:</u>

entrance optics cosine response error is about 2% for SZA<=60 degrees
before 2005-01 cosine response error about 11% for SZA<=60 degrees

Wavelength shift is corrected with SHICrivm program, residual shift is lower than 0.02 nm in
Wavelength step size is 0.5 nm

Slit function:

Since 2009-08 FWHM approx. 0.60 nm
Before 2009-08 FWHM is approx. 0.77 nm
Straylight rejection specification of 1e-3 at 2.5 FWHM is met
Straylight rejection specification of 1e-5 at 6.0 FWHM not met

Absolute calibration uncertainties are lower than 10%.

Algorithm Description:
Control and acquisition software is Bentham Instruments Ltd. ss9103.exe, latest revision

Dark current is automatically deduced from routine measurements and calibration measurements
Reference irradiance interpolated (modified black-body, NIST SSBUV routine) between calibrated wavelengths
Wavelength shift calculated with SHICrivm algorithm program (version 3.075), wavelength shift corrected.
signal converted into irradiance with calibration constants from NIST and PTB calibrated radiation standards

Instrument History:
1997-01 start of continuous operation
2005-01 upgrade of entrance optics (reduced cosine error)
2007-10 installation of improved temperature stabilization
2008-11 begin of major service period due to mechanical fault in monochromator, erroneous data removed from submitted data sets
2009-08 re-entrance into regular operation, change in slit setup (-> change in resolution)