EDUCE- flagging report for spectral data from Potsdam, Germany

Authors/evaluators: JE Williams, PN den Outer and H Slaper (RIVM) FP14b : Flagging results for Potsdam, Germany:

Measurements details :

Location : Potsdam, Germany Elevation (m) : 107 Instrument name : Brewer#118 Instrument type : SCI-TECH MKIII Wavelength range (nm) : 290-325 Lat, Long : 52.3633, 13.0767 Date on which data was extracted : 28.11.02 (1996, 1997), 21.11.02 (1998), 29.10.02 (2000)Date on which slit function was extracted/received : 09.10.02 Years of submitted data : 2 complete, 2 sparse No spectra (per year) : 6567 (1996), 1116 (1997), 706 (1998), 5192 (2000) No spectra (total submitted) : 13581 Slit width (FWHM) (nm) : 0.5 SHIC version for analysis : 3 093

Special comments: For all datasets approximately 10% of the measurements have grey flags associated with the shift1 flag. However, more data from this instrument is available but has yet to appear online (with the last check being on 03.01.03).

Responsible operator/PI: Uwe Feister : <u>uwe.feister@dwd.de</u>

Operator comments: The operator has noted that there is a datagap between June 1997 and October 1998 which should be downloadable, but has yet to appear at the database. Moreover, the datasets 1999 and 2001, which should be readily available, have yet to be uploaded at the website.



| | Green | Yellow | Red | Black | Grey | Cor. | Green | Yellow | Red | Black | Grey | Cor. | Num |
|-----------------------|-------|--------|-----|-------|------|------|-------|--------|-----|-------|------|------|------|
| | % | % | % | % | % | % | | | | | | | |
| flag | | | | | | | | | | | | | |
| Shift1_flagging | 86.7 | 0.1 | 0.1 | 0 | 13 | 0 | 4794 | 8 | 6 | 0 | 719 | 0 | 5527 |
| start_irradiance_flag | 99.4 | 0.4 | 0.2 | 0.1 | 0 | 0 | 5492 | 22 | 9 | 4 | 0 | 0 | 5527 |
| Spike+local_shape | 92.2 | 6.2 | 1.3 | 0.1 | 0.1 | 0.1 | 5100 | 345 | 74 | 4 | 4 | 3 | 5530 |

Comments :

Full annual coverage (approximately 99%): excellent potential for use in climatological studies.

Overall data-quality impression : a fraction of spectra is of questionable quality, with 0.1% of poor quaity and 13% having undefined errors for the shift1 flag.

No black flags exist in any of the chosen flagging categories (with red flags < 1%). The percentage grey flags exceeds 15% for the Shift1 flag.

The shift1 flag indicates that the instrument some undefined calibration errors in the UVB region of the spectrum compared to an extra-terrestial solar spectrum.

3(0.1%) spectra with spikes are reported.

The distribution of errors is uniform throughout the year.





| | Green | Yellow | Red | Black | Grey | Cor. | Green | Yellow | Red | Black | Grey | Cor. | Num |
|-----------------------|-------|--------|-----|-------|------|------|-------|--------|-----|-------|------|------|-----|
| flag | % | % | % | % | % | % | | | | | | | |
| Shift1_flagging | 80.3 | 0.1 | 0 | 0 | 19.6 | 0 | 709 | 1 | 0 | 0 | 173 | 0 | 883 |
| start_irradiance_flag | 98.9 | 0.6 | 0 | 0.6 | 0 | 0 | 873 | 5 | 0 | 5 | 0 | 0 | 883 |
| Spike+local_shape | 90.1 | 7.8 | 1.7 | 0.3 | 0 | 0 | 796 | 69 | 15 | 3 | 0 | 0 | 883 |

Comments :

Limited annual coverage (approximately 25%): some potential for use in climatological studies.

Overall data-quality impression : a fraction of spectra is of questionable quality, with 19.6% having undefined errors for the shift1 flag..

A small number of black flags exist in some of the chosen flagging categories (with red flags < 2.0%).

The shift1 flag indicates that the instrument has some undefined calibration errors in the UVB region of the spectrum compared to an extra-terrestial solar spectrum. Although the dataset is smaller, the performance seems somewhat worse than the previous year.

No spectra with spikes are reported.

The distribution of errors is fairly uniform throughout the year.

<u> 1998:</u>



| | Green | Yellow | Red | Black | Grey | Cor. | Green | Yellow | Red | Black | Grey | Cor. | Num |
|-----------------------|-------|--------|-----|-------|------|------|-------|--------|-----|-------|------|------|-----|
| flag | % | % | % | % | % | % | | | | | | | |
| Shift1_flagging | 80.7 | 0 | 0 | 0 | 19.3 | 0 | 423 | 0 | 0 | 0 | 101 | 0 | 524 |
| start_irradiance_flag | 100 | 0 | 0 | 0 | 0 | 0 | 524 | 0 | 0 | 0 | 0 | 0 | 524 |
| Spike+local_shape | 89.7 | 8.4 | 1.7 | 0 | 0 | 0.2 | 471 | 44 | 9 | 0 | 0 | 1 | 525 |

Comments:

Low annual coverage (approximately 15%): limited potential for use in climatological studies.

Overall data-quality impression : a fraction of spectra is of questionable quality, with 19.3% having undefined errors for the shift1 flag.

No black flags exist in any of the chosen flagging categories (with red flags < 2%).

The shift1 flag indicates that the instrument some undefined calibration errors in the UVB region of the spectrum compared to an extra-terrestial solar spectrum. Although the dataset is smaller, no real differenc in instrument performance from the previous year.

1 (0.2%) spectrum with a spike is reported.

The distribution of errors is uniform throughout the year. No spring or summertime measurements available for this dataset.





| | Green | Yellow | Red | Black | Grey | Cor. | Green | Yellow | Red | Black | Grey | Cor. | Num |
|-----------------------|-------|--------|-----|-------|------|------|-------|--------|-----|-------|------|------|------|
| flag | % | % | % | % | % | % | | | | | _ | | |
| Shift1_flagging | 93.6 | 0 | 0 | 0 | 6.4 | 0 | 3784 | 0 | 0 | 0 | 258 | 0 | 4042 |
| start_irradiance_flag | 99.2 | 0.5 | 0.2 | 0.1 | 0 | 0 | 4009 | 22 | 7 | 4 | 0 | 0 | 4042 |
| Spike+local_shape | 92.9 | 5.6 | 1.3 | 0 | 0.1 | 0.1 | 3759 | 226 | 53 | 1 | 3 | 3 | 4045 |

Comments:

Full annual coverage (approximately 98%): excellent potential for use in climatological studies.

Overall data-quality impression : a useful fraction of potential high quality spectra.

A small number of black flags exist in some of the chosen flagging categories (with red flags < 1.5%).

The shift1 flag indicates that the instrument is relatively well calibrated in the UVB region of the spectrum compared to an extra-terrestial solar spectrum, with 6.4% of spectra having grey flags. The performance is better than the previous year.

3(0.1%) spectra with spikes are reported.

The distribution of errors is fairly uniform throughout the year.