EDUCE- flagging report for spectral data from Bilthoven, Netherlands

Authors/evaluators: JE Williams, PN den Outer and H Slaper (RIVM)

FP12 : Flagging results for Bilthoven, Netherlands:

Location: Bilthoven, Netherlands
Elevation (m): 9
Instrument name: Dilor2.XY.50
Instrument type: Dilor double scanning monochromator
Wavelength range (nm): 280-400
Lat, Long: 52.1208, 5.1883
Date on which data was extracted : 13.11.02(*1996*), 08.11.02(*1997*,*1998*), 11.11.02(*1999,2000)*
Date on which slit function was extracted/received : 09.10.02
Years of submitted data: 5 complete,
No spectra submitted (per year): 18675 (*1996*), 19269 (*1997*), 21544 (*1998*), 19191 (*1999*), 21292 (*2000*).
No spectra (total submitted): 99971
Slit width (FWHM) (nm): 0.32
SHIC version for analysis: 3_093

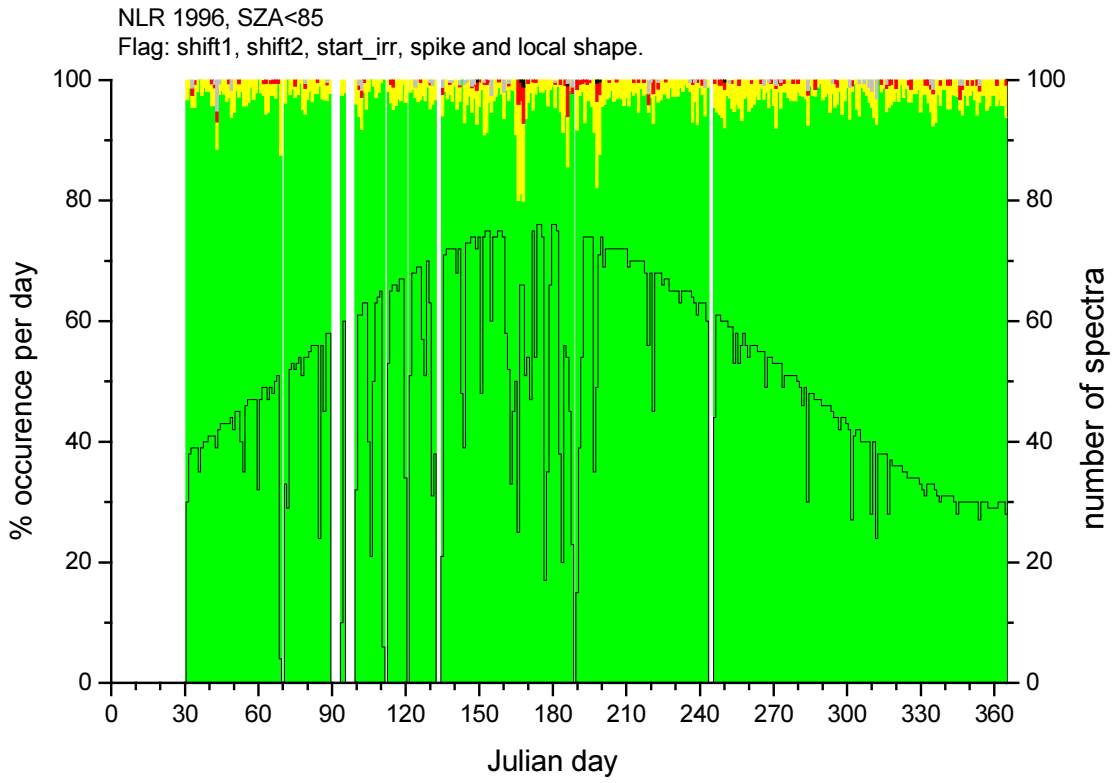
Special comments : The data was analysed for bad spectra before submission of the datasets to the database.

Responsible operator/PI: Rick.Tax; Rick.Tax@rivm.nl

Operator comments : No comments by the operator were received.

Tables of flagging statistics

1996:



flag	Green %	Yellow %	Red %	Black %	Grey %	Cor. %	Green	Yellow	Red	Black	Grey	Cor.	Num
shift1_flagging	99.5	0	0	0	0.5	0	15981	0	0	0	83	0	16064
shift2_flagging	99.9	0	0	0	0.1	0	16053	0	0	0	11	0	16064
start_irradiance_flag	95.1	4.5	0.3	0.1	0	0	15279	722	54	9	0	0	16064
Spike+local_shape flag	91	8.1	0.9	0	0	0	14614	1307	140	0	3	0	16064
Transmission_2	95.7	4.2	0.1	0	0	0	15369	669	24	0	2	0	16064

Comments :

High annual coverage (approximately 90%): high potential for use in climatological studies.

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

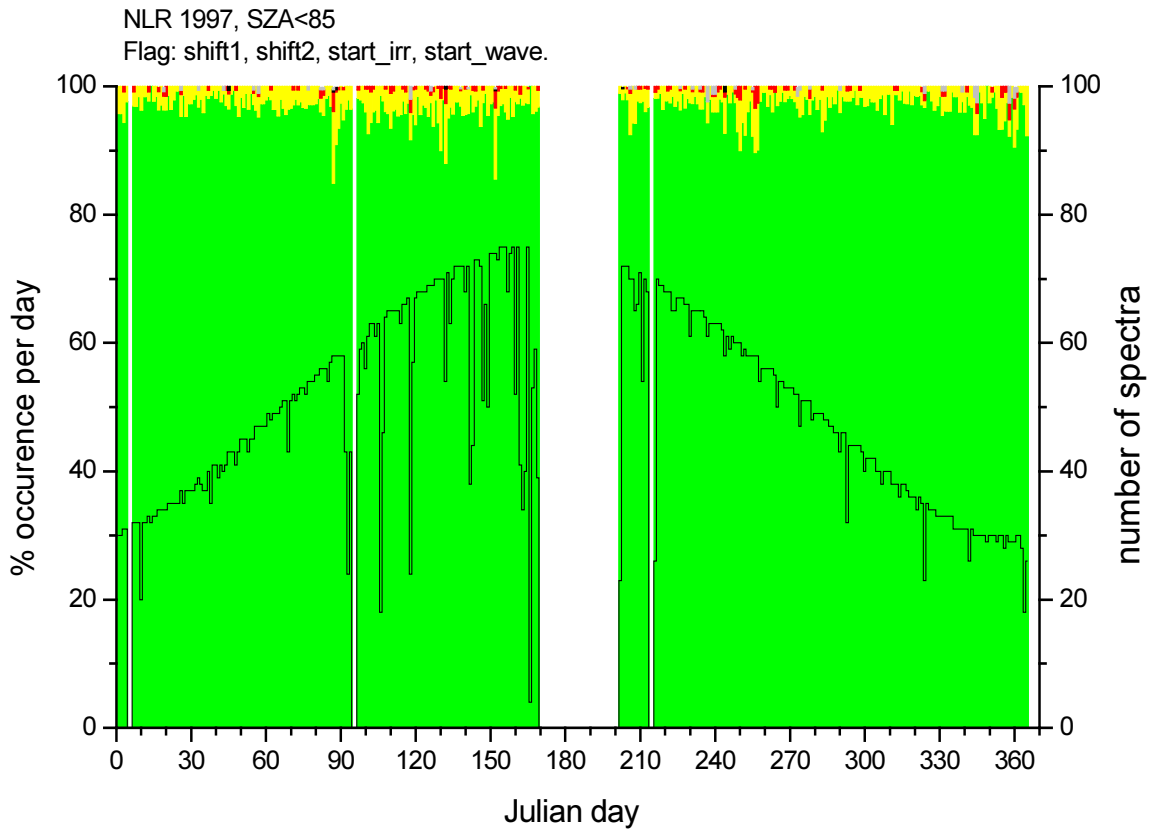
Black flags occur in the start_irradience category (with red flags < 1.0%). Moreover, a number of yellow and grey flags occur in some of the other flagging categories.

The shift1 and shift2 flags indicate that the instrument is well calibrated in both the UVA and UVB regions of the spectrum compared to an extra-terrestial solar spectrum.

No spectra with spikes are reported.

The distribution of errors is fairly uniform throughout the year, except for the grey flags which mostly occur before Julian Day 70, suggesting an undefined error occur with the calibration before this day.

1997



flag	Green %	Yellow %	Red %	Black %	Grey %	Cor. %	Green	Yellow	Red	Black	Grey	Cor.	Num
shift1_flagging	99.7	0	0	0	0.3	0	16060	0	0	0	52	0	16112
shift2_flagging	100	0	0	0	0	0	16110	0	0	0	2	0	16112
start_irradiance_flag	95.9	3.9	0.2	0	0	0	15452	627	26	7	0	0	16112
Spike+local_shape flag	91.1	7.9	1	0	0	0	14684	1268	155	1	4	2	16114
Transmission_2	96.3	3.5	0.1	0	0	0	15518	562	23	7	2	0	16112

Comments :

High annual coverage (approximately 90%): high potential for use in climatological studies.

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

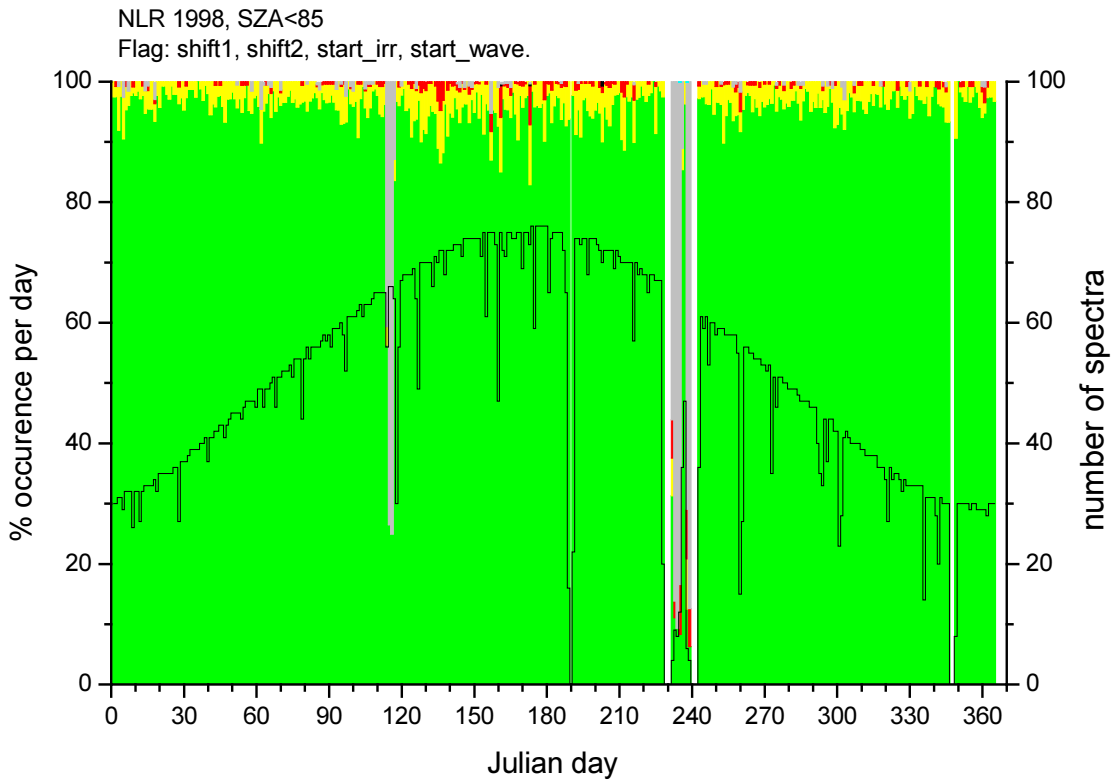
Yellow, red and black flags occur in some of the chosen flagging categories. Moreover, a number of grey flags are associated with the shift1 flag. No real difference from the performance the previous year.

The shift1 and shift2 flags indicate that the instrument is relatively well calibrated in both the UVA and UVB regions of the spectrum compared to an extra-terrestial solar spectrum.

2 (<0.1%) spectra with spikes are reported.

The distribution of errors is fairly uniform throughout the year.

1998:



flag	Green %	Yellow %	Red %	Black %	Grey %	Cor. %	Green	Yellow	Red	Black	Grey	Cor.	Num
shift1_flagging	98.2	0	0	0	1.8	0	17770	0	0	0	332	0	18102
shift2_flagging	98.8	0	0	0	1.2	0	17881	0	0	0	221	0	18102
start_irradiance_flag	95.8	3.8	0.2	0	0.1	0	17347	691	37	4	23	0	18102
Spike+local_shape flag	86.6	10.5	1.6	0	1.3	0	15689	1902	281	0	230	7	18109
Transmission_2	97.5	1.4	0.2	0	1	0	17645	245	33	0	179	0	18102

Comments :

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

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

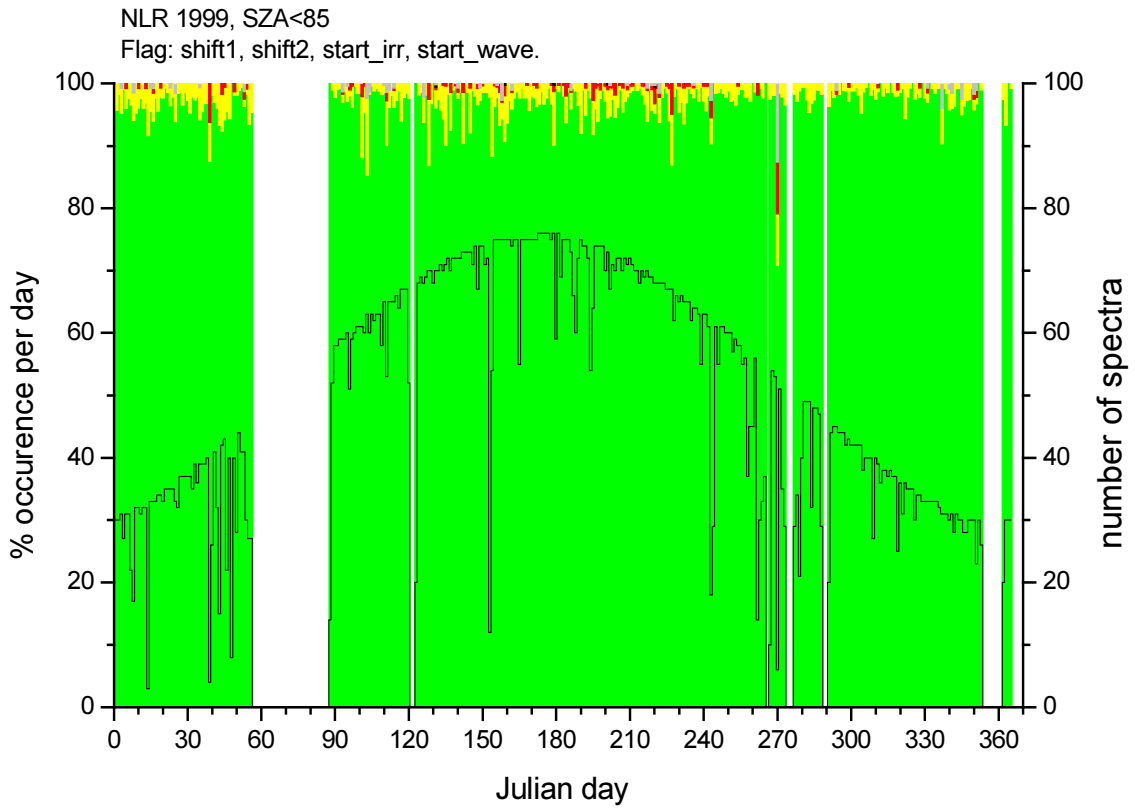
Black flags occur in the start_irradience category (with red flags < 2%). A number of grey flags occur in all of the flagging categories. Moreover, a moderate number of non-critical errors also occur for the spike + local_shape category. The performance is worse than the previous year.

The shift1 and shift2 flags indicate that the instrument is relatively well calibrated in both the UVA and UVB regions of the spectrum compared to an extra-terrestial solar spectrum, although there are some undefined errors which occur for both.

7 (<0.1%) spectra with spikes are reported.

The distribution of errors is non-uniform throughout the year, where a calibration error develops between julian days 230 to 240, after which the instrument performance improves. The number of red flags increases during the summer of this year.

1999:



flag	Green %	Yellow %	Red %	Black %	Grey %	Cor. %	Green	Yellow	Red	Black	Grey	Cor.	Num
shift1_flagging	99.5	0	0	0	0.5	0	16109	0	0	0	76	0	16185
shift2_flagging	100	0	0	0	0	0	16180	0	0	0	5	0	16185
start_irradiance_flag	97.2	2.7	0.1	0	0	0	15724	433	23	5	0	0	16185
Spike+local_shape flag	91.7	7.3	0.9	0	0.1	0	14835	1188	152	0	10	1	16186
Transmission_2	97.7	2.1	0.2	0	0	0	15809	333	39	0	4	0	16185

Comments :

High annual coverage (approximately 85%): high potential for use in climatological studies.

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

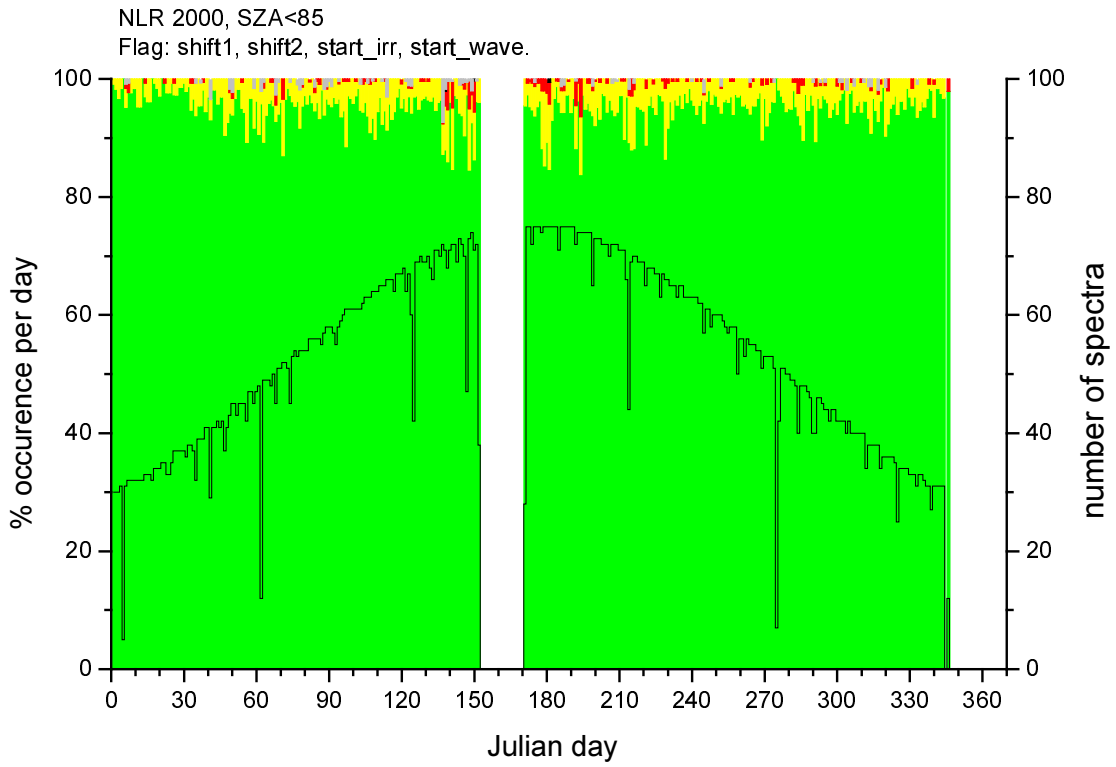
No black flags occur in any of the chosen flagging categories (with red flags < 1.0%). Moreover, a moderate number of yellow flags occur for the spike + local shape category.

The shift1 and shift2 flags indicate that the instrument is well calibrated in both the UVA and UVB regions of the spectrum compared to an extra-terrestial solar spectrum.

1 (<0.1%) spectrum with a spike is reported.

The distribution of errors is fairly uniform throughout the dataset, although very few red flags occur after Julian day 240.

2000



flag	Green %	Yellow %	Red %	Black %	Grey %	Cor. %	Green	Yellow	Red	Black	Grey	Cor.	Num
shift1_flagging	99.2	0	0	0	0.8	0	17133	0	0	0	145	0	17278
shift2_flagging	100	0	0	0	0	0	17274	0	0	0	4	0	17278
start_irradiance_flag	92.6	7.1	0.3	0	0	0	16003	1219	47	4	5	0	17278
Spike+local_shape flag	88.1	10.4	1.4	0	0.1	0	15225	1791	246	0	16	1	17279
Transmission_2	98.9	1	0.2	0	0	0	17082	169	26	0	1	0	17278

Comments :

High annual coverage (approximately 92%): High potential for use in climatological studies.

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

A few black flags occur in the start_irradience category (with red flags < 1.0%). Moreover, a number of grey flags occur for the shift1 category and yellow flags for the spike + local shape category.

The shift1 and shift2 flags indicate that the instrument is relatively well calibrated in both the UVA and UVB regions of the spectrum compared to an extra-terrestial solar spectrum.

1 (<0.1%) spectrum with a spike is reported.

The distribution of errors is non-uniform throughout the year, with the number of flags increasing towards the end of the year. Again, the spectra seems to become more abnormally shaped towards the end of the dataset.