EDUCE- flagging report for spectral data from Trondheim, Norway

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FP19 : Flagging results for Trondheim, Norway:

Measurements details :

Location: Trondheim, Norway
Elevation (m): 20
Instrument name: OL752
Instrument type: Optronic OL752 Spectrophotometer
Wavelength range (nm): 280-325
Lat, Long: 63.43, 10.47
Date on which data was extracted: 20.11.02 (*1999, 2000*), 19.11.02 (*2001*)
Date on which slit function was extracted/received: 24.09.98
Years of submitted data: 2 incomplete, 1 complete
No spectra (per year): 12777 (*1997*), 26963 (*1998*), 11869 (*1999*)
No spectra (total submitted): 51609
Slit width (FWHM) (nm): 1.1
SHIC version for analysis: 3_093

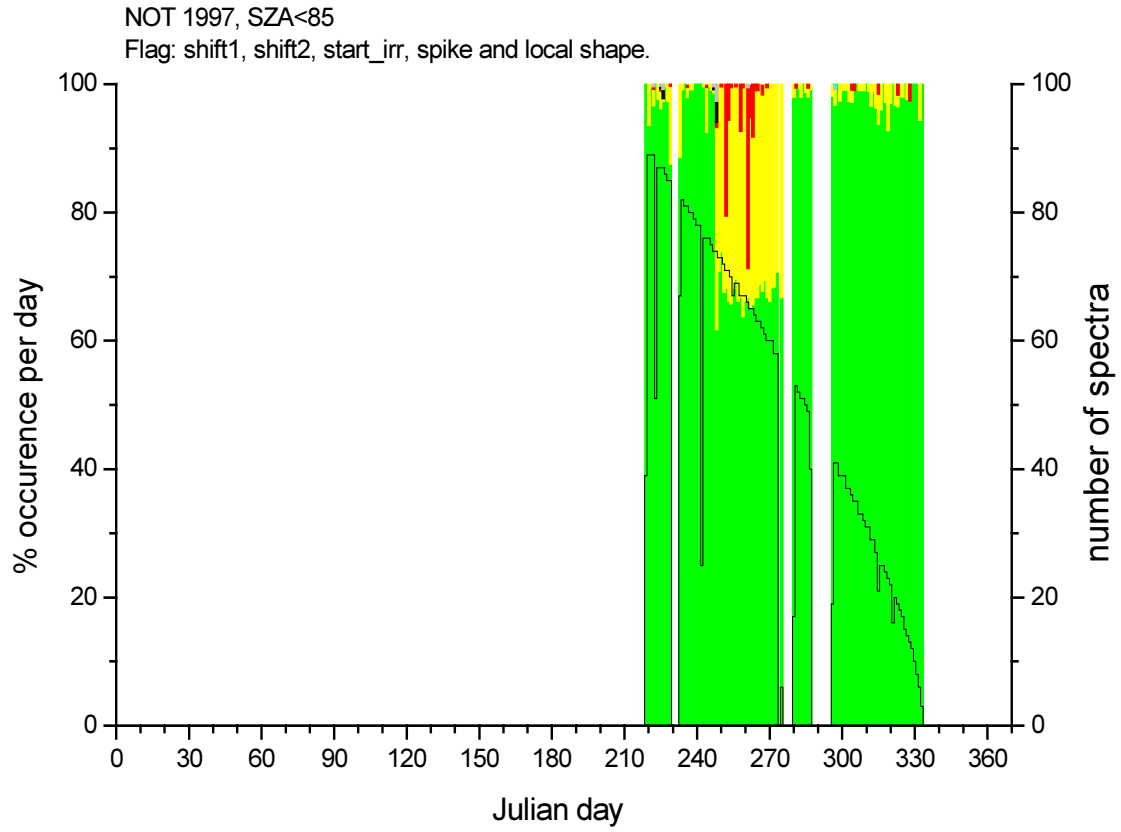
Special comments: A high number of spectra are taken each day compared to most other measurement stations. Data as retrieved from the EDUCE database probably have an error in the time-column for some datasets. Therefore, this report concerns the application of a 2hr time delay during the analysis of the 1998 and 1999 datasets.

Responsible operator/PI: Berit Kjeldstad : Berit.Kjeldstad@phys.ntnu.no

Operator comments: The operator commented that due to the relatively wide slit function of the instrument that the SHIC algorithm may experience some problems when attempting to make wavelength adjustments to the datasets.

Tables of flagging statistics:

1997:



flag	Green %	Yellow %	Red %	Black %	Grey %	Cor. %	Green	Yellow	Red	Black	Grey	Cor.	Num
Shift1_flagging	65.4	31.1	3.2	0	0.3	0	3285	1561	161	0	13	0	5020
Shift2_flagging	63.8	24.4	11.7	0	0.1	0	3205	1227	585	0	3	0	5020
start_irradiance_flag	99.9	0	0	0.1	0	0	5015	1	0	4	0	0	5020
Spike+local_shape	86.7	2.4	0.3	0.2	0	10.4	4860	133	18	9	0	583	5603
Transmission_2	98.7	1.1	0.2	0	0	0	4955	56	9	0	0	0	5020

Comments :

Limited annual coverage (approximately 30%): some potential for use in climatological studies.

Overall data-quality impression : a fraction of spectra has questionable quality, with 11.7% of poor quality and 0.1% having undefined errors with the shift2 flag.

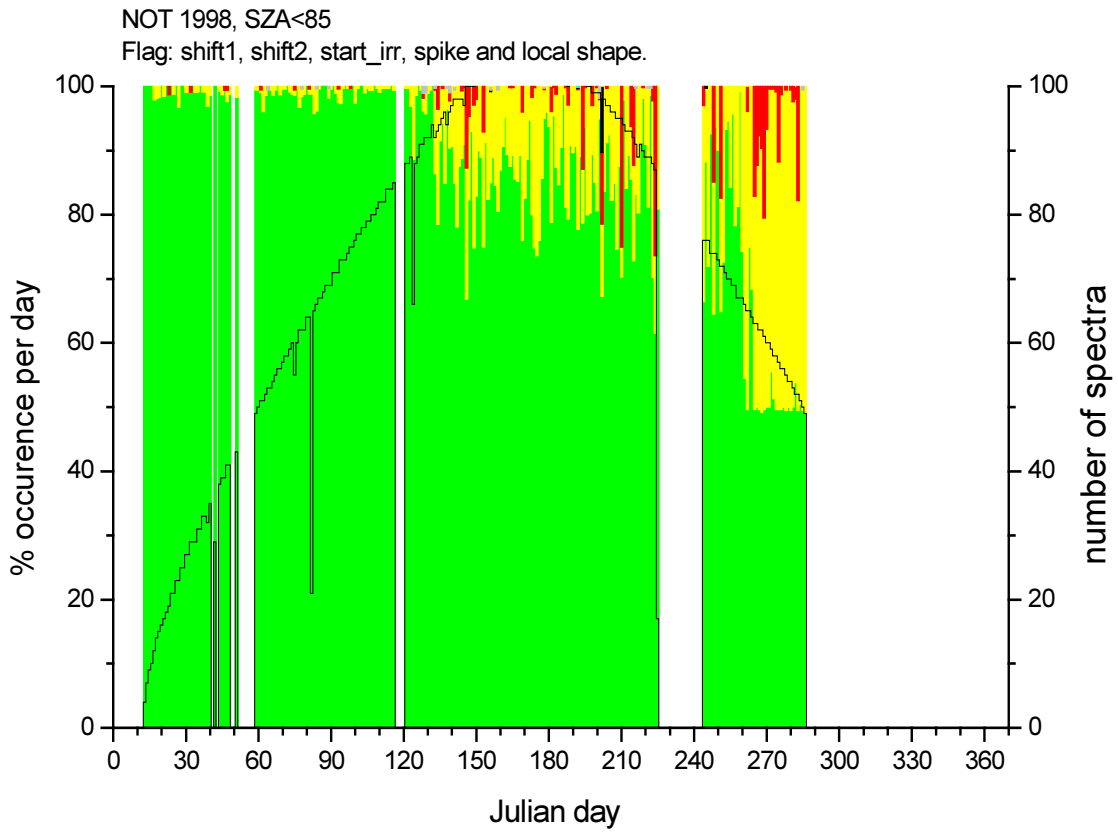
A few black flags exist in some of the chosen flagging categories (with red flags < 12%).

The shift1 and shift2 flags indicate that the instrument has some non-critical calibration errors in both the UVA and UVB regions of the spectrum for a third of the dataset, compared to an extra-terrestial solar spectrum.

583 (6.6%) spectra with spikes are reported.

The distribution of errors is non uniform throughout the dataset, with a high number of yellow flags occuring between Julian Day 250 and 275. After this day the number of yellows falls dramatically suggesting some re-calibration of the instrument occured.

1998:



flag	Green %	Yellow %	Red %	Black %	Grey %	Cor. %	Green	Yellow	Red	Black	Grey	Cor.	Num
Shift1_flagging	64.2	31.6	3.8	0.1	0.2	0	11370	5600	672	23	32	0	17697
Shift2_flagging	85.6	12.8	1.5	0.1	0	0	15145	2268	263	17	4	0	17697
start_irradiance_flag	99.9	0	0	0	0	0	17686	5	4	2	0	0	17697
Spike+local_shape	97.7	2	0.2	0	0	0	17300	361	35	1	0	8	17705
Transmission_2	98.7	0.7	0.4	0.1	0	0	17468	126	78	25	0	0	17697

Comments :

Moderate annual coverage (approximately 70%): medium potential for use in climatological studies.

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

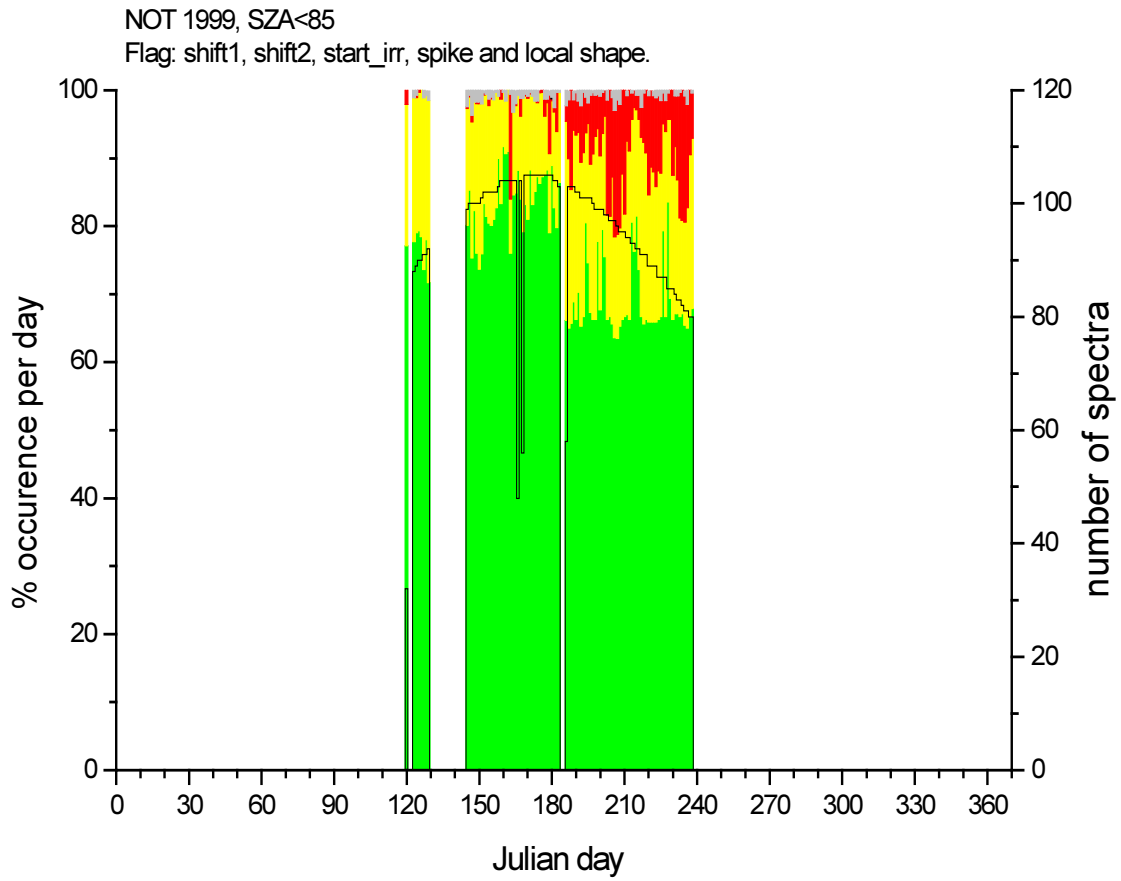
Black flags exist in all of the chosen flagging categories (with red flags < 4%). The percentage grey flags is 0.2% for the Shift1 flag.

The shift1 and shift2 flags indicate that the instrument has some non-critical calibration errors in both the UVA and UVB regions of the spectrum for a moderate part of the dataset, compared to an extra-terrestial solar spectrum. The performance is better than the previous year except for the transmission 2 category.

8 (<0.1%) spectra with spikes are reported.

The distribution of errors is non uniform throughout the dataset, with the incidence of both yellow and red flags increasing throughout the dataset.

1999:



flag	Green %	Yellow %	Red %	Black %	Grey %	Cor. %	Green	Yellow	Red	Black	Grey	Cor.	Num
Shift1_flagging	30	51.4	15.8	0	2.8	0	2839	4865	1500	0	265	0	9469
Shift2_flagging	15.1	51.2	33.5	0	0.2	0	1432	4846	3176	0	15	0	9469
start_irradiance_flag	99.7	0.2	0.1	0	0	0	9438	16	14	1	0	0	9469
Spike+local_shape	97	2.7	0.3	0	0	0	9181	260	28	0	0	0	9469
Transmission_2	98.9	1	0.1	0	0	0	9364	92	13	0	0	0	9469

Comments :

Limited annual coverage (approximately 35%): some potential for use in climatological studies.

Overall data-quality impression : a large part of the spectra is of questionable quality, with 33.5% of poor quality and 0.2% having undefined errors associated with the shift2 category.

One black flag exists in the start irradience flagging category (with red flags < 35%). The percentage grey flags exceeds 2% for the Shift1 flag.

The shift1 and shift2 flags indicate that the instrument has a large incidence of non-critical calibration errors in both the UVA and UVB regions of the spectrum for a substantial part of the dataset, compared to an extra-terrestial solar spectrum. The performance is worse than the previous year.

No spectra with spikes are reported.

The distribution of errors is non uniform throughout the dataset, with the incidence of both yellow and red flags increasing after JD 182 suggesting that some calibration error occurs after this date.