EDUCE- flagging report for spectral data from Rome, Italy

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Measurements details :

Location: Rome, Italy Elevation (m): 60 Instrument name: Brewer #67 Instrument type: Brewer Monochromator MK IV Wavelength range (nm): 280-325 Lat, Long: 41.900, 12.5166 Years of submitted data: 4 complete, 2 sparse No spectra submitted (per year): 104 (*1992*), 355 (*1993*), 571 (*1994*), 661 (*1995*), 1540 (*1996*), 11450 (*1997*), 10280 (*1998*), 6294 (*1999*), 7776 (*2000*), 9270 (*2001*) No spectra (total submitted): 49574 Slit width (FWHM) (nm):0.5 SHIC version for analysis: 3_093

Special comments: Many of the earlier datasets have sparse annual coverage

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Operator comments: No comments received from the operator.



	Green	Yellow	Red	Black	Grey	Cor.	Green	Yellow	Red	Black	Grey	Cor.	Num
flag	%	%	%	%	%	%					-		
Shift1_flagging*	98	0	0	0	2	0	348	0	0	0	7	0	355
start_irradiance_flag*	99.2	0.6	0	0.3	0	0	352	2	0	1	0	0	355
Spike+local_shape	96.1	1.7	2	0	0	0.3	342	6	7	0	0	1	356

Low annual coverage (approximately 10%): limited potential for use in climatological studies.

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

One black flag occurs in the start irradience flagging category (with red flags < 2).

The shift1 flag indicates that the instrument is well calibrated in the UVB region of the spectrum compared to an extra-terrestial solar spectrum, with 2% of spectra having grey flags.

1 (0.3%) spectrum with a spike is reported.

The distribution of errors is non-uniform throughout the year, where the number of flags increases throughout the year. A fairly sparse dataset means that no substantial coverage exists for any of the periods during this year.



	Green	Yellow	Red	Black	Grey	Cor.	Green	Yellow	Red	Black	Grey	Cor.	Num
flag	%	%	%	%	%	%							
Shift1_flagging*	96.5	0	0	0	3.5	0	549	0	0	0	20	0	569
start_irradiance_flag*	99.3	0.4	0.2	0.2	0	0	565	2	1	1	0	0	569
Spike+local_shape	94.4	3	2.6	0	0	0	537	17	15	0	0	0	569

Low annual coverage (approximately 10%): limited potential for use in climatological studies.

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

One black flag occurs in the start_irradience flagging category (with red flags < 3%). Moreover, a small number of grey flags are associated with the shift1 flag.

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.

No spectra with spikes are reported.

The distribution of errors is non-uniform throughout the year, where most of the flags occur during the spring and summer. A fairly sparse dataset means that no substantial coverage exists for any of the periods during this year.

<u> 1994:</u>





	Green	Yellow	Red	Black	Grey	Cor.	Green	Yellow	Red	Black	Grey	Cor.	Num
flag	%	%	%	%	%	%							
Shift1_flagging*	95.6	0	0	0	4.4	0	632	0	0	0	29	0	661
start_irradiance_flag*	96.7	0.8	1.1	1.5	0	0	639	5	7	10	0	0	661
Spike+local_shape	90.8	3.9	2.4	1.2	0	1.8	611	26	16	8	0	12	673

Low annual coverage (approximately 10%): limited potential for use in climatological studies.

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

A number of black flags occur in some of the flagging categories (with red flags < 4%).

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 4.4% of spectra having grey flags.

12 (1.8%) spectra with spikes are reported.

The distribution of errors is non-uniform throughout the year, where most of the flags occur during summer. A fairly sparse dataset means that no substantial coverage exists for any of the periods during this year.





	Green	Yellow	Red	Black	Grey	Cor.	Green	Yellow	Red	Black	Grey	Cor.	Num
flag	%	%	%	%	%	%					-		
Shift1_flagging*	98	0	0	0	2	0	1476	0	0	0	30	0	1506
start_irradiance_flag*	98.4	0.8	0.1	0.7	0	0	1482	12	2	10	0	0	1506
Spike+local_shape	93.4	1.4	1.3	0.2	0	3.8	1461	22	20	3	0	59	1565

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

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

A number of black flags occur in some of the 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 2% of spectra having grey flags.

59 (3.8%) spectra with spikes are reported.

The distribution of errors is non-uniform throughout the year, where most of the flags occur during spring. A fairly sparse dataset means that no substantial coverage exists for any of the periods during this year.



	Green	Yellow	Red	Black	Grey	Cor.	Green	Yellow	Red	Black	Grey	Cor.	Num
flag	%	%	%	%	%	%							
Shift1_flagging*	99.1	0	0	0	0.9	0	10974	0	0	0	105	0	11079
start_irradiance_flag*	99.5	0.2	0.1	0.2	0	0	11026	23	8	18	4	0	11079
Spike+local_shape	97.7	1	0.5	0.2	0.2	0.3	10852	115	60	26	26	32	11111

Full annual coverage (approximately 97%): excellent potential for use in climatological studies.

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

A number of black flags occur in some of the flagging categories (with red flags < 0.5%).

The shift1 flag indicates that the instrument is well calibrated in the UVB region of the spectrum compared to an extra-terrestial solar spectrum, with 0.9% of spectra having grey flags.

32 (0.3%) spectra with spikes are reported.

The distribution of errors is fairly uniform throughout the year, although most of the black flags occur during the summer. For the last 5 months the majority of flags are green.





	Green	Yellow	Red	Black	Grey	Cor.	Green	Yellow	Red	Black	Grey	Cor.	Num
flag	%	%	%	%	%	%					•		
Shift1_flagging*	98.9	0	0	0	1	0	10126	3	0	0	107	0	10236
start_irradiance_flag*	99.6	0.2	0.1	0.1	0.1	0	10193	18	9	7	9	0	10236
Spike+local_shape	98.3	0.4	0.4	0.1	0.6	0.1	10077	43	43	7	66	11	10247

Full annual coverage (approximately 97%): excellent potential for use in climatological studies.

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

A number of black flags occur in some of the flagging categories (with red flags < 1%).

The shift1 flag indicates that the instrument is well calibrated in the UVB region of the spectrum compared to an extra-terrestial solar spectrum, with 1% of spectra having grey flags.

11 (0.1%) spectra with spikes are reported.

The distribution of errors is fairly uniform throughout the year.





	Green	Yellow	Red	Black	Grey	Cor.	Green	Yellow	Red	Black	Grey	Cor.	Num
flag	%	%	%	%	%	%							
Shift1_flagging*	96.2	0	0	0	3.8	0	6054	0	0	0	238	0	6292
start_irradiance_flag*	99.4	0.4	0.2	0	0	0	6253	26	11	2	0	0	6292
Spike+local_shape	94.7	4	1	0.1	0	0.1	5965	253	65	6	3	9	6301

Moderate annual coverage (approximately 75%): medium potential for use in climatological studies.

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

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

The shift1 flag indicates that the instrument develops some calibration errors towards the end of the dataset in the UVB region of the spectrum compared to an extra-terrestial solar spectrum. For the start of the year the calibration is relatively good.

9(0.1%) spectra with spikes are reported.

The distribution of errors is non-uniform throughout the year, where most of the yellow and grey flags occur during the winter period which suggests that the some instrument become misaligned after Julain day 330.



	Green	Yellow	Red	Black	Grey	Cor.	Green	Yellow	Red	Black	Grey	Cor.	Num
flag	%	%	%	%	%	%							
Shift1_flagging*	98.4	0	0	0	1.6	0	7633	1	0	0	123	0	7757
start_irradiance_flag*	98.8	0.3	0.1	0.8	0	0	7662	27	6	62	0	0	7757
Spike+local_shape	95.9	2.7	0.5	0.6	0.1	0.3	7457	211	40	43	6	20	7777

Moderate annual coverage (approximately 80%): medium potential for use in climatological studies.

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

A number of black flags occur in some of the flagging categories (with red flags < 1.0%).

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. Around Julian Day \in 110 some undefined calibration errors begin to occur but the instrument seems to be quickly re-calibrated.

20 (0.3%) spectra with spikes are reported.

The distribution of errors is non-uniform throughout the year, with most of the flags occuring at the start of the year and around Julian day 110. The instrument appears to be re-calibrated during the year.

<u>2000</u>



	Green	Yellow	Red	Black	Grey	Cor.	Green	Yellow	Red	Black	Grey	Cor.	Num
flag	%	%	%	%	%	%					-		
Shift1_flagging*	99.5	0	0	0	0.5	0	9926	0	0	0	47	0	9973
start_irradiance_flag*	99.7	0.3	0	0	0	0	9943	28	2	0	0	0	9973
Spike+local_shape	98.3	1.4	0.3	0	0	0	9799	142	28	3	1	0	9973

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.

A small number of black flags occur in the spike + local shape category (with red flags < 0.5%).

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 0.5% of spectra having grey flags.

No spectra with spikes are reported.

The distribution of errors is non-uniform throughout the year, with most of the flags occuring in the first half of the dtataset.