ALFOSC grism data

Grism	rules/mm	*blaze*[a] [Â]	*central* [Â]	dispersion [Â/pixel]	resolution[b]	b [Â]	[Â]
3	400	3900	4320	2.3	690	6.2	3200-6700
4	300	4800	5800	3.0	710	8.1	3200-9100
5	300	6500	7000	3.1	830	8.4	5000-10250
6	600	3900	4020	1.5	980	4.1	3200-5550
7	600	5300	5260	1.5	1300	4.1	3850-6850
8	600	6500	7030	1.3	2000	3.5	5825-8350
9 [c]	79	17 orders		0.4 @ 5000Â 0.7 @ 7500Â	4500 3900	1.1 1.9	3300-11000
10 [e]	150	3800	3870	6.5	210	18	3300-10550
11 [e]	200	5200	5000	4.8	380	13	3900-9950
12 [e]	75	7300	6930	13	190	36	5100-11000
13 [c f]	316	5100	5250	0.5	3700	1.4	4800-5800 [g]
13 [c]	316	4 orders		0.35 @ 4050Â 0.5 @ 5250Â	4300 3700	1.0 1.4	3350-8660 [h]
14	600	4288	4630	1.4	1200	3.8	3275-6125
15 [f]	300	5268	5470	3.1	650	8.4	3200-9125
16	1000	4069	4250	0.77	1800	1.9	3500-5060

Grism	[Â]	2nd order [j]	Peak-to-peak fringe levels [k]
3	3200-6700	U 20% noticeable >6100	no fringes in wav range
4	3200-9100	U 20% noticeable >5900; B 5%	start 6700Â, 7% at 7500Â, 20-25% >8000Â

5	5000-10250	B/V 20% noticeable >9700	start 6700Â, 8% at 7500Â, 18% at 8000Â, >30% >9000Â
6	3200-5550	no 2nd-order light in wav range	no fringes in wav range
7	3850-6850	U >10% noticeable >6200	no fringes in wav range
8	5825-8350	no 2nd-order light in wav range	start 6500Â, 10% at 7500Â, >25% >8000Â
10[e]	3300-10550	U 2.5% noticeable >6200; B 0.5%	start 7500Â, 6% at 8000Â, 13% at 9000Â, >25% >9500Â
11[e]	3900-9950	14% at 4000Â noticeable >6900; B 4%	start 6800Â, 5% at 7500Â, 17% at 8500Â, 20-35% 9000-10000Â
12[e]	5100-11000	V 20% noticeable >9900; R 9%	start 7500Â, 3-5% 8000-10000Â
14	3275-6125	no 2nd-order light in wav range	no fringes in wav range
15[f]	3200-9125	U 25% noticeable >6100; B 5%	start 6500Â, 9% at 7500Â, 19% at 8000Â, >25% >8500Â

Click on the waveband to obtain an efficiency/transmission curve.
Click here for count rates.

Notes

a) Effective blaze wavelength, where measurements are available.
b) With a 0.5" slit. Note that CCD#7 suffers from charge smearing and that consequently 2-pixel resolution cannot always be achieved.
c) Echelle grism.
d) At 5000 Â
e) Grisms 10, 11 and 12 are cross-dispersers for grism 9. They can also be used as individual low-res grisms.
f) These grisms project the spectrum from red to blue on the chip.
g) This range is obtained with a special order sorter filter which is mounted in a square ALFOSC filterholder and located in its own drawer. The filter has

NOT filter ID #124 (see the filter list).
h) This wavelength range has gaps and is obtained with grism #10 as cross-disperser (see below).
j) This column lists the UBVR peak flux of the 2nd order wrt that of the 1st. These were measured with U#7, B#74, V#75, and R#76.
k) The peak-to-peak fringe levels were measured with CCD#7 (Loral). See a comparison between CCD#7 and CCD#8.

Echelle mode

Grism 9+10: spacial order overlap bluer than 4250Â, for the standard 8 arcsec slit length. The total wavelength range sampled is 3300-10350Â; the wavelength range with proper inter-order spacing is 4250-10350Â. Cross-disp is flipped with respect to g9+11 and g9+12.

Grism 9+11: noticable 2nd order effects (2nd order of g11) redward from 7400Â.The total wavelength range sampled is 3900-10350Â.

Grism 9+12: Good throughput in the red, but not very useful. Cross-dispersion too low except for echelle orders 6,7,8 corresponding to 7500-11000Â. Redward from 10000Â there are very significant 2nd order effects (from g12). Note that the Loral chip fringes 40% peak-to-peak in echelle order 7 (around 9500Â).

Grism 13+10: Grism 13 is usualy used with an order sorting filter in 3rd order, but can also be used with a cross-disperser. Grism 13+10 give an alternative for Grism 9+10, as spacial overlap is not a problem for this combination. For medium-resolution spectroscopy bluer than 4250Â this option is preferred over Grism 9+10. The orders of Grism 13 are too long for the chip: the total wavelength coverage is 3350-3610 (5th order), 3720-4430, 4770-5830, 7020-8660 (2nd order).

Staff procedures

- Grism status table