```
INT OBSERVING LOG (ISAAC NEWTON GROUP, LA PALMA)

TELESCOPE:             INT
DATE:                  1999 Sep 07/08
INT TAPE NR:           INTD 4173
OBSERVER:              M. Irwin + SNe
PROGRAMME:             WFS + M31
PATT/CAT:              WFS09
TELESCOPE OPERATOR:    M. Irwin
SUPPORT ASTRONOMER:

FOCUS:                 Prime
INSTRUMENT:            WFC
FILTER WHEEL (PF):     KP,g,r,i,z,U
CAMERA (IDS):          -
COLLIMATOR (IDS):      -
COLL. FOCUS (IDS):     -
GRATING (IDS):         -
DETECTOR:              EEV
PIXELS:                2048x4200
PIXEL SIZE (microns): 13.5
WINDOW:                Xstart=0, Xsize=2048, Ystart=0, Ysize=4200
BINNING:               in X=1, in Y=1

WEATHER:               Photometric and good seeing

OUTSIDE TEMP (deg C):   12              (FIRST HALF)
OUTSIDE TEMP (deg C):   12              (SECOND HALF)
HUMIDITY (%):           15              (FIRST HALF)
HUMIDITY (%):           20              (SECOND HALF)
CLOUD COVER (%):         0              (FIRST HALF)
CLOUD COVER (%):         0              (SECOND HALF)
DUST (0 - 2):            0              (FIRST HALF)
DUST (0 - 2):            0              (SECOND HALF)
SEEING (arcsec):        1.0             (FIRST HALF)
SEEING (arcsec):        0.9             (SECOND HALF)
AV. SEEING (arcsec):    0.9
NO. SEEING MEASURES:    12

UTC    TELESCOPE                CASELLA OUT   CASELLA IN    SEEING
       AZ   ZD  Focus  TubeTemp  Temp   Humid  Temp   Humid  Det./TV  Comments

DARK HOURS:            08:45
DOME OPEN (UTC):       20:00
MOON PHASE (D/G/B):        D
DK HRS LOST (WEATHER):00:00
DK HRS LOST (TELESC): 00:00
DK HRS LOST (DOME):   00:00
DK HRS LOST (INSTR.): 00:00
DK HRS LOST (DET.):   00:00
DK HRS LOST (COMPS.): 00:00
DK HRS LOST (A&G):    00:00
DK HRS LOST (OTHER):  00:00

COMMENTS:

Good seeing and photometric all night

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Run no. Object name              RA         Dec.     Equinox    AM    PA     UT       Exp. T.   Filter      Psys Channel  Binning Comments
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194642	Bias frame	0:00:00.00	+00:00:00.0	A	1.000	179.7	16:20:35.4	0.0	z	Gunn	Good
194643	Bias frame	0:00:00.00	+00:00:00.0	A	1.000	179.7	16:21:22.4	0.0	z	Gunn	bias
194644	Bias frame	0:00:00.00	+00:00:00.0	A	1.000	179.7	16:22:09.4	0.0	z	Gunn	frames
194645	Bias frame	0:00:00.00	+00:00:00.0	A	1.000	179.7	16:22:56.7	0.0	z	Gunn	
194646	Bias frame	0:00:00.00	+00:00:00.0	A	1.000	179.7	16:23:45.7	0.0	z	Gunn	
194647	Bias frame	0:00:00.00	+00:00:00.0	A	1.000	179.7	16:24:38.2	0.0	z	Gunn	
194648	Bias frame	0:00:00.00	+00:00:00.0	A	1.000	179.7	16:25:30.2	0.0	z	Gunn	
194650	Flat field	15:55:00.00	+34:59:59.9	J2000.00	1.086	179.7	19:45:17.0	2.9	U	RGO	
194651	Flat field	15:55:02.44	+35:00:30.0	J2000.00	1.088	179.7	19:46:30.5	4.6	U	RGO	
194652	Flat field	15:55:04.88	+35:01:00.0	J2000.00	1.090	179.7	19:47:44.4	8.1	U	RGO	
194653	Flat field	15:55:04.88	+35:01:00.0	J2000.00	1.093	179.7	19:49:17.4	6.9	z	Gunn	
194654	Flat field	15:55:02.44	+35:00:30.0	J2000.00	1.095	179.7	19:50:35.3	10.1	z	Gunn	
194655	Flat field	15:55:02.44	+35:00:29.9	J2000.00	1.098	179.7	19:52:12.6	4.1	i	Sloan	
194656	Flat field	15:55:00.00	+34:59:59.9	J2000.00	1.100	179.7	19:53:37.3	7.1	i	Sloan	
194657	Flat field	7:57:30.00	+17:30:00.0	J2000.00	1.103	179.7	19:55:06.2	7.0	B	Kitt Peak	
194658	Flat field	15:55:04.88	+35:00:59.9	J2000.00	1.106	179.7	19:56:29.6	10.1	B	Kitt Peak	
194659	Flat field	15:55:04.88	+35:01:00.0	J2000.00	1.109	179.7	19:58:08.2	11.7	g	Sloan	
194660	Flat field	15:55:02.44	+35:00:30.0	J2000.00	1.112	179.7	19:59:34.3	16.1	g	Sloan	
194661	Flat field	15:55:00.00	+35:00:00.0	J2000.00	1.114	179.7	20:00:54.4	24.1	g	Sloan	
194662	Focus run	18:42:45.00	+00:10:04.0	J2000.00	1.152	179.7	20:14:37.6	10.1	g	Sloan	
194663	sa110-361 U	18:42:44.99	+00:08:03.9	J2000.00	1.147	179.7	20:21:04.0	30.1	U	RGO	
194664	sa110-361 g	18:42:45.00	+00:08:03.9	J2000.00	1.146	179.7	20:22:35.8	10.1	g	Sloan	
194665	sa110-361 i	18:42:45.00	+00:08:03.9	J2000.00	1.145	179.7	20:23:49.2	10.1	i	Sloan	
194666	sa110-361 r	18:42:45.00	+00:08:03.9	J2000.00	1.145	179.7	20:25:02.2	10.1	r	Sloan	
194667	sa110-361 Z	18:42:44.99	+00:08:04.0	J2000.00	1.144	179.7	20:26:13.8	10.1	z	Gunn	
194668	sa110-361 test g	18:42:44.99	+00:08:04.0	J2000.00	1.142	179.7	20:29:28.6	100.0	g	Sloan	
194669	sa110-361 test KPB	18:42:45.00	+00:08:04.0	J2000.00	1.141	179.7	20:32:30.9	100.0	B	Kitt Peak	
194670	wfsj1610+5430_001	16:01:06.20	+53:10:00.1	J2000.00	1.262	179.7	20:38:55.9	599.5	U	RGO	
194671	wfsj1610+5430_002	16:01:02.00	+53:29:59.8	J2000.00	1.294	179.7	20:50:54.7	599.4	U	RGO	
194672	wfsj1610+5430_008	16:00:35.00	+55:30:00.0	J2000.00	1.342	179.7	21:03:02.6	598.9	U	RGO	
194673	wfsj1610+5430_009	16:00:30.20	+55:49:59.9	J2000.00	1.380	179.7	21:15:14.6	599.5	U	RGO	
194674	wfsj1610+5430_010	16:04:39.70	+53:10:00.0	J2000.00	1.389	179.7	21:27:05.7	599.5	U	RGO	
194675	wfsj1610+5430_011	16:04:37.20	+53:30:00.0	J2000.00	1.433	179.7	21:38:56.3	599.5	U	RGO	
194676	wfsj1610+5430_053	16:19:25.00	+55:29:59.9	J2000.00	1.435	179.7	21:51:16.8	599.3	U	RGO	
194677	wfsj1610+5430_054	16:19:29.80	+55:49:59.9	J2000.00	1.481	179.7	22:03:09.8	599.4	U	RGO	
194678	sa113-163 U	21:42:35.00	+00:16:46.0	J2000.00	1.232	179.7	22:16:58.3	30.1	U	RGO	
194679	sa113-163 g	21:42:35.00	+00:16:46.0	J2000.00	1.229	179.7	22:18:31.2	9.6	g	Sloan	
194680	sa113-163 i	21:42:35.00	+00:16:46.0	J2000.00	1.226	179.7	22:19:43.0	10.1	i	Sloan	
194681	sa113-163 r	21:42:34.99	+00:16:46.0	J2000.00	1.224	179.7	22:20:56.9	10.0	r	Sloan	
194682	sa113-163 Z	21:42:35.00	+00:16:46.0	J2000.00	1.221	179.7	22:22:08.9	10.1	z	Gunn	
194683	wfssgc028 verf	22:54:00.00	+00:00:00.1	J2000.00	1.422	179.7	22:27:16.5	599.4	g	Sloan	
194684	M31-microfld1	0:44:00.00	+41:33:59.9	J2000.00	1.570	179.7	22:41:46.6	359.3	r	Sloan	
194685	M31-microfld1	0:43:59.99	+41:33:59.9	J2000.00	1.527	179.7	22:48:57.6	359.7	r	Sloan	
194686	M31-microfld1	0:43:59.99	+41:34:00.0	J2000.00	1.486	179.7	22:56:20.3	359.8	g	Sloan	
194687	M31-microfld1	0:43:59.99	+41:34:00.0	J2000.00	1.450	179.7	23:03:24.2	359.2	g	Sloan	
194688	M31-microfld2	0:43:09.99	+40:58:15.0	J2000.00	1.400	179.7	23:13:09.7	359.8	r	Sloan	
194689	M31-microfld2	0:43:10.00	+40:58:15.0	J2000.00	1.369	179.7	23:20:14.4	359.6	r	Sloan	
194690	M31-microfld2	0:43:10.00	+40:58:15.0	J2000.00	1.339	179.7	23:27:44.2	359.8	g	Sloan	
194691	M31-microfld2	0:43:09.99	+40:58:14.9	J2000.00	1.312	179.7	23:34:46.5	359.8	g	Sloan	
194692	wfssgc053 verf	23:43:59.99	-00:00:00.1	J2000.00	1.313	179.7	23:44:57.4	599.5	g	Sloan	
194693	wfssgc065 verf	0:08:00.00	+00:00:00.0	J2000.00	1.355	179.7	23:57:09.6	599.5	g	Sloan	
194694	wfssgc046 g	23:30:00.00	-00:00:00.0	J2000.00	1.220	179.7	00:09:44.6	239.4	g	Sloan	
194695	wfssgc047 g	23:32:00.00	+00:00:00.0	J2000.00	1.212	179.7	00:15:40.5	239.9	g	Sloan	
194696	wfssgc048 g	23:34:00.00	-00:00:00.0	J2000.00	1.205	179.7	00:21:36.7	239.3	g	Sloan	Trailed
194697	wfssgc049 g	23:36:00.00	+00:00:00.1	J2000.00	1.198	179.7	00:27:38.6	239.8	g	Sloan	
194698	wfssgc050 g	23:38:00.00	-00:00:00.1	J2000.00	1.191	179.7	00:33:40.2	239.9	g	Sloan	
194699	wfssgc046 g	23:29:59.99	-00:00:00.0	J2000.00	1.172	179.7	00:39:50.0	239.8	g	Sloan	
194700	wfssgc047 g	23:32:00.00	-00:00:00.1	J2000.00	1.167	179.7	00:45:57.8	239.9	g	Sloan	
194701	wfssgc048 g	23:33:59.99	+00:00:00.0	J2000.00	1.162	179.7	00:52:22.0	239.8	g	Sloan	
194702	wfssgc049 g	23:36:00.00	-00:00:00.0	J2000.00	1.158	179.7	00:58:45.5	239.8	g	Sloan	
194703	wfssgc050 g	23:38:00.00	+00:00:00.0	J2000.00	1.155	179.7	01:04:50.5	239.9	g	Sloan	
194704	wfssgc048 rep	23:34:00.00	-00:00:00.0	J2000.00	1.148	179.7	01:10:51.8	239.4	g	Sloan	

194705	wfssgc072	g	0:21:59.99	-00:00:00.0	J2000.00	1.187	179.7	01:17:38.7	599.4	g	Sloan	
194706	wfssgc074	g	0:26:00.00	+00:00:00.0	J2000.00	1.175	179.7	01:29:41.8	599.4	g	Sloan	
194707	wfssgc075	g	0:27:59.99	-00:00:00.0	J2000.00	1.164	179.7	01:41:55.7	599.5	g	Sloan	
194708	sa113-163	U	21:42:35.00	+00:16:45.9	J2000.00	1.334	179.7	01:53:30.9	30.1	U	RGO	
194709	sa113-163	g	21:42:35.00	+00:16:46.0	J2000.00	1.339	179.7	01:55:06.9	10.1	g	Sloan	
194711	sa113-163		21:42:35.00	+00:16:46.0	J2000.00	1.347	179.7	01:57:04.7	10.1	i	Sloan	
194712	sa113-163		21:42:35.00	+00:16:45.9	J2000.00	1.351	179.7	01:58:19.8	10.1	r	Sloan	
194713	sa113-163		21:42:35.00	+00:16:46.0	J2000.00	1.356	179.7	01:59:33.2	10.1	z	Gunn	
194714	wfssgc086	g	0:50:00.00	+00:00:00.0	J2000.00	1.168	179.7	02:02:55.8	239.8	g	Sloan	
194715	wfssgc087	g	0:52:00.00	+00:00:00.0	J2000.00	1.164	179.7	02:08:51.5	239.9	g	Sloan	
194716	wfssgc088	g	0:54:00.00	-00:00:00.0	J2000.00	1.160	179.7	02:14:50.1	239.9	g	Sloan	
194717	wfssgc089	g	0:55:59.99	+00:00:00.0	J2000.00	1.156	179.7	02:20:55.6	239.8	g	Sloan	
194718	wfssgc090	g	0:58:00.00	+00:00:00.0	J2000.00	1.153	179.7	02:26:53.6	238.8	g	Sloan	
194719	wfssgc086	g	0:50:00.00	-00:00:00.0	J2000.00	1.145	179.7	02:32:58.0	239.7	g	Sloan	
194720	wfssgc087	g	0:52:00.00	+00:00:00.0	J2000.00	1.143	179.7	02:39:04.3	239.3	g	Sloan	
194721	wfssgc088	g	0:54:00.00	+00:00:00.0	J2000.00	1.142	179.7	02:45:14.8	238.1	g	Sloan	
194722	wfssgc089	g	0:56:00.00	-00:00:00.0	J2000.00	1.141	179.7	02:51:24.2	239.8	g	Sloan	
194723	wfssgc090	g	0:58:00.00	-00:00:00.1	J2000.00	1.141	179.7	02:57:26.5	239.8	g	Sloan	
194724	wfssgc091	g	1:00:00.00	+00:00:00.1	J2000.00	1.140	179.7	03:03:45.3	239.9	g	Sloan	
194725	wfssgc092	g	1:02:00.00	-00:00:00.0	J2000.00	1.141	179.7	03:09:47.9	239.9	g	Sloan	
194726	wfssgc093	g	1:04:00.00	+00:00:00.0	J2000.00	1.141	179.7	03:15:44.8	239.8	g	Sloan	
194727	wfssgc094	g	1:06:00.00	+00:00:00.1	J2000.00	1.142	179.7	03:21:42.6	239.4	g	Sloan	
194728	wfssgc095	g	1:07:59.99	+00:00:00.2	J2000.00	1.144	179.7	03:27:37.6	239.8	g	Sloan	
194729	wfssgc091	g	1:00:00.00	+00:00:00.0	J2000.00	1.151	179.7	03:33:40.4	239.9	g	Sloan	
194730	wfssgc092	g	1:01:59.99	-00:00:00.1	J2000.00	1.154	179.7	03:39:43.7	239.8	g	Sloan	
194731	wfssgc093	g	1:04:00.00	+00:00:00.0	J2000.00	1.157	179.7	03:45:48.6	239.8	g	Sloan	
194732	wfssgc094	g	1:06:00.00	+00:00:00.1	J2000.00	1.161	179.7	03:51:57.5	239.4	g	Sloan	
194733	wfssgc095	g	1:08:00.00	-00:00:00.0	J2000.00	1.165	179.7	03:58:04.7	239.4	g	Sloan	
194734	wfssgc131	extra	2:19:59.99	+00:00:00.1	J2000.00	1.144	179.7	04:04:28.9	239.9	g	Sloan	
194735	wfssgc106	g	1:30:00.00	+00:00:00.0	J2000.00	1.157	179.7	04:10:59.5	239.9	g	Sloan	
194736	wfssgc107	g	1:32:00.00	+00:00:00.2	J2000.00	1.160	179.7	04:16:58.4	239.8	g	Sloan	
194737	wfssgc108	g	1:33:59.99	+00:00:00.1	J2000.00	1.164	179.7	04:22:55.3	239.9	g	Sloan	
194738	wfssgc109	g	1:35:59.99	-00:00:00.0	J2000.00	1.169	179.7	04:28:51.4	239.8	g	Sloan	
194739	wfssgc110	g	1:38:00.00	-00:00:00.0	J2000.00	1.173	179.7	04:34:50.0	239.8	g	Sloan	
194740	wfssgc106	g	1:30:00.00	+00:00:00.0	J2000.00	1.193	179.7	04:40:54.5	239.7	g	Sloan	
194741	wfssgc107	g	1:32:00.00	-00:00:00.0	J2000.00	1.201	179.7	04:47:17.8	239.9	g	Sloan	
194742	wfssgc108	g	1:34:00.00	-00:00:00.0	J2000.00	1.208	179.7	04:53:33.4	239.8	g	Sloan	
194743	wfssgc109	g	1:36:00.00	-00:00:00.0	J2000.00	1.216	179.7	04:59:40.7	239.9	g	Sloan	
194744	wfssgc110	g	1:37:59.99	-00:00:00.1	J2000.00	1.225	179.7	05:05:45.3	239.9	g	Sloan	
194745	wfssgc131	extra2	2:20:00.00	+00:00:00.0	J2000.00	1.169	179.7	05:12:49.4	239.9	g	Sloan	
194746	wfssgc122	g	2:02:00.00	-00:00:00.0	J2000.00	1.204	179.7	05:19:15.7	239.8	g	Sloan	
194747	wfssgc123	g	2:04:00.00	+00:00:00.0	J2000.00	1.212	179.7	05:25:17.3	239.8	g	Sloan	
194748	wfssgc124	g	2:06:00.00	+00:00:00.0	J2000.00	1.220	179.7	05:31:14.7	239.8	g	Sloan	
194749	wfssgc122	g	2:01:59.99	+00:00:00.0	J2000.00	1.241	179.7	05:37:18.9	238.4	g	Sloan	
194750	wfssgc123	g	2:03:59.99	+00:00:00.0	J2000.00	1.251	179.7	05:43:27.1	0.0	g	Sloan	MCA timing
194751	wfssgc124	g	2:05:59.99	+00:00:00.0	J2000.00	1.262	179.7	05:49:29.8	0.0	g	Sloan	fu’d