INT OBSERVING LOG (ISAAC NEWTON GROUP, LA PALMA)

```
TELESCOPE:             INT
DATE:                  1999 Apr 17/18
INT TAPE NR:           INTD4025
OBSERVER:              N. Walton, P. Ruiz Lapuente and the team work French
PROGRAMME:             CATI4
PATT/CAT:              CATI4
TELESCOPE OPERATOR:    C. Martin
SUPPORT ASTRONOMER:    N. Walton

FOCUS:                 PRIME
INSTRUMENT:            WFC
FILTER WHEEL (PF):     U,B,V,r,i,Z
CAMERA (IDS):          ---
COLLIMATOR (IDS):      ---
COLL. FOCUS (IDS):     ---
GRATING (IDS):         ---
DETECTOR:              4xEEV
PIXELS:                2K x 4K
PIXEL SIZE (microns): 13.5
WINDOW:                none
BINNING:               none

WEATHER:               Good
OUTSIDE TEMP (deg C): 5.5          (FIRST HALF)
OUTSIDE TEMP (deg C): 5.8          (SECOND HALF)
HUMIDITY (%):          20          (FIRST HALF)
HUMIDITY (%):          10          (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):        1.1        (FIRST HALF)
SEEING (arcsec):        1.1        (SECOND HALF)
AV. SEEING (arcsec):
NO. SEEING MEASURES:     -

UTC    TELESCOPE                CASELLA OUT   CASELLA IN    SEEING
       AZ   EL  Focus  TComp    Temp   Humid  Temp   Humid  Det./TV  Comments

DARK HOURS:            08:20
DOME OPEN (UTC):       19:45
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:
```

Run no.	Object name	RA	Dec.	Equinox	AM	PA	UT	Exp. T.	Filter	Psys	Channel	Binning	Comments
160104	Bias frame	0:00:00.00	+00:00:00.0	J2000.00	4.558	179.7	13:51:40.8	0.0	i	Sloan	1	1 x 1	
160108	Bias frame	0:00:00.00	+00:00:00.0	J2000.00	4.558	179.7	13:54:32.2	0.0	U	RGO	1	1 x 1	
160112	Bias frame	0:00:00.00	+00:00:00.0	J2000.00	4.558	179.7	13:57:23.0	0.0	U	RGO	1	1 x 1	

160116	Bias frame	0:00:00.00	+00:00:00.0	J2000.00	4.558	179.7	14:00:14.2	0.0	U	RGO	1	1 x 1
160120	Bias frame	0:00:00.00	+00:00:00.0	J2000.00	4.558	179.7	14:03:05.5	0.0	U	RGO	1	1 x 1
160124	Flat field	4:25:46.00	+54:09:03.0	B1950.00	1.556	179.7	20:01:32.9	4.1	U	RGO	1	1 x 1
160128	Flat field	4:25:46.56	+54:09:08.0	B1950.00	1.574	179.7	20:05:14.9	9.5	U	RGO	1	1 x 1
160132	Bias frame	4:25:46.56	+54:09:07.9	B1950.00	1.589	179.7	20:08:27.1	0.0	U	RGO	1	1 x 1
160136	Flat field	4:25:44.86	+54:08:53.0	B1950.00	1.606	179.7	20:11:37.2	9.2	B	Kitt Peak	1	1 x 1
160140	Flat field	4:25:44.86	+54:09:12.9	B1950.00	1.625	179.7	20:15:08.6	21.0	B	Kitt Peak	1	1 x 1
160144	Flat field	4:25:47.13	+54:09:13.0	B1950.00	1.645	179.7	20:18:49.8	45.9	B	Kitt Peak	1	1 x 1
160148	Flat field	4:25:45.99	+54:09:13.0	B1950.00	1.675	179.7	20:22:51.4	196.9	r	SLOAN	1	1 x 1
160152	Focus run	9:57:26.00	-00:15:31.0	J2000.00	1.170	179.7	20:39:25.9	10.1	B	Kitt Peak	1	1 x 1
160156	sa101-427 kpB	9:57:26.00	-00:13:46.0	J2000.00	1.163	179.7	20:43:54.5	10.1	B	Kitt Peak	1	1 x 1
160160	sa101-427 r'	9:57:26.66	-00:17:06.0	J2000.00	1.161	179.7	20:47:24.6	10.1	r	SLOAN	1	1 x 1
160164	wfsngc005 B	10:07:59.99	+00:00:00.0	J2000.00	1.158	179.7	20:53:39.7	399.6	B	Kitt Peak	1	1 x 1
160168	wfsngc006 B	10:10:00.00	+00:00:00.0	J2000.00	1.151	179.7	21:04:41.5	399.6	B	Kitt Peak	1	1 x 1
160172	wfsngc007 B	10:11:59.99	-00:00:00.0	J2000.00	1.146	179.7	21:15:05.5	399.6	B	Kitt Peak	1	1 x 1
160176	wfsngc005 B 2nd	10:08:00.33	+00:00:05.0	J2000.00	1.141	179.7	21:26:21.9	399.6	B	Kitt Peak	1	1 x 1
160180	wfsngc006 B 2nd	10:10:00.33	+00:00:04.9	J2000.00	1.140	179.7	21:38:16.7	399.7	B	Kitt Peak	1	1 x 1
160184	wfsngc007 B 2nd	10:12:00.33	+00:00:05.0	J2000.00	1.142	179.7	21:48:59.7	399.8	B	Kitt Peak	1	1 x 1
160188	M67 r'	8:50:24.00	+11:49:00.0	J2000.00	1.148	179.7	22:00:30.4	299.8	r	SLOAN	1	1 x 1
160192	M67 B	8:50:24.00	+11:49:00.0	J2000.00	1.167	179.7	22:08:31.9	299.8	B	Kitt Peak	1	1 x 1
160196	wfsngc008 B	10:14:00.00	+00:00:00.0	J2000.00	1.157	179.7	22:19:10.7	399.5	B	Kitt Peak	1	1 x 1
160200	wfsngc009 B	10:15:59.99	-00:00:00.0	J2000.00	1.166	179.7	22:30:02.9	399.6	B	Kitt Peak	1	1 x 1
160204	wfsngc010 B	10:18:00.00	-00:00:00.0	J2000.00	1.177	179.7	22:41:15.3	399.7	B	Kitt Peak	1	1 x 1
160208	wfsngc008 B 2nd	10:14:00.33	+00:00:04.9	J2000.00	1.202	179.7	22:53:36.5	399.7	B	Kitt Peak	1	1 x 1
160212	wfsngc009 B 2nd	10:16:00.33	+00:00:05.0	J2000.00	1.219	179.7	23:04:25.2	399.7	B	Kitt Peak	1	1 x 1
160216	wfsngc010 B 2nd	10:18:00.33	+00:00:05.0	J2000.00	1.238	179.7	23:15:12.0	399.7	B	Kitt Peak	1	1 x 1
160220	wfsngc085 r'	12:48:00.33	+00:00:05.0	J2000.00	1.165	179.7	23:27:32.2	299.8	r	SLOAN	1	1 x 1
160224	wfsngc087 r'	12:52:00.00	+00:00:00.0	J2000.00	1.159	179.7	23:37:39.2	299.8	r	SLOAN	1	1 x 1
160228	wfsngc086 r'	12:50:00.00	-00:00:00.0	J2000.00	1.150	179.7	23:47:05.5	299.7	r	SLOAN	1	1 x 1
160232	wfsngc087 r' 2nd	12:52:00.33	+00:00:05.0	J2000.00	1.146	179.7	23:56:08.3	299.8	r	SLOAN	1	1 x 1
160236	wfsngc102 r'	13:21:59.99	-00:00:00.0	J2000.00	1.158	179.7	00:08:31.3	299.8	r	SLOAN	1	1 x 1
160240	wfsngc103 r'	13:24:00.00	-00:00:00.1	J2000.00	1.151	179.7	00:18:25.2	299.9	r	SLOAN	1	1 x 1
160248	wfsngc087 r' 2nd	12:52:00.33	+00:00:05.0	J2000.00	1.142	179.7	00:31:58.1	299.8	r	SLOAN	1	1 x 1
160252	wfsngc103 r'	13:24:00.00	-00:00:00.0	J2000.00	1.141	179.7	00:46:08.1	299.7	r	SLOAN	1	1 x 1
160256	wfsngc104 r'	13:26:00.00	-00:00:00.0	J2000.00	1.141	179.7	00:56:08.5	299.8	r	SLOAN	1	1 x 1
160260	wfsngc103 r'	13:24:00.00	-00:00:00.0	J2000.00	1.143	179.7	01:05:18.0	299.8	r	SLOAN	1	1 x 1
160264	wfsngc102 r' 2nd	13:22:00.00	+00:00:00.0	J2000.00	1.148	179.7	01:14:48.2	299.4	r	SLOAN	1	1 x 1
160268	wfsngc103 r' 2nd	13:24:00.33	+00:00:05.0	J2000.00	1.153	179.7	01:24:19.7	299.7	r	SLOAN	1	1 x 1
160272	wfsngc104 r' 2nd	13:26:00.33	+00:00:04.9	J2000.00	1.159	179.7	01:33:26.7	299.2	r	SLOAN	1	1 x 1
160276	wfsngc105 r'	13:28:00.00	-00:00:00.0	J2000.00	1.169	179.7	01:44:58.6	299.3	r	SLOAN	1	1 x 1
160280	wfsngc106 r'	13:30:00.00	-00:00:00.0	J2000.00	1.178	179.7	01:54:17.6	299.2	r	SLOAN	1	1 x 1
160284	wfsngc107 r'	13:32:00.00	-00:00:00.0	J2000.00	1.191	179.7	02:04:58.3	299.8	r	SLOAN	1	1 x 1
160288	wfsngc105 r' 2nd	13:28:00.33	+00:00:04.9	J2000.00	1.217	179.7	02:15:40.3	299.7	r	SLOAN	1	1 x 1
160292	wfsngc106 r' 2nd	13:30:00.33	+00:00:05.0	J2000.00	1.232	179.7	02:25:05.9	299.8	r	SLOAN	1	1 x 1
160296	wfsngc107 r' 2nd	13:32:00.33	+00:00:05.0	J2000.00	1.249	179.7	02:34:21.6	299.3	r	SLOAN	1	1 x 1
160300	wfsngc108 r'	13:33:59.99	+00:00:00.0	J2000.00	1.272	179.7	02:45:07.7	299.7	r	SLOAN	1	1 x 1
160304	wfsngc109 r'	13:36:00.00	+00:00:00.0	J2000.00	1.302	179.7	02:57:19.5	299.9	r	SLOAN	1	1 x 1
160308	wfsngc110 r'	13:37:59.99	+00:00:00.0	J2000.00	1.326	179.7	03:06:33.7	299.3	r	SLOAN	1	1 x 1
160312	wfsngc108 r' 2nd	13:34:00.66	+00:00:09.9	J2000.00	1.383	179.7	03:17:45.9	299.8	r	SLOAN	1	1 x 1
160316	wfsngc109 r' 2nd	13:36:00.66	+00:00:09.9	J2000.00	1.415	179.7	03:27:04.7	299.9	r	SLOAN	1	1 x 1
160320	wfsngc110 r' 2nd	13:38:00.66	+00:00:10.0	J2000.00	1.449	179.7	03:36:16.3	299.8	r	SLOAN	1	1 x 1
160324	wfsngc124 r'	14:06:00.00	+00:00:00.0	J2000.00	1.372	179.7	03:46:53.3	299.8	r	SLOAN	1	1 x 1
160328	wfsngc125 r'	14:08:00.00	-00:00:00.0	J2000.00	1.402	179.7	03:56:09.2	299.8	r	SLOAN	1	1 x 1
160332	wfsngc124 r' 2nd	14:06:00.66	+00:00:09.9	J2000.00	1.455	179.7	04:05:30.2	299.7	r	SLOAN	1	1 x 1
160336	wfsngc125 r' 2nd	14:08:00.66	+00:00:10.0	J2000.00	1.492	179.7	04:14:30.4	299.8	r	SLOAN	1	1 x 1
160340	wfsngc125 r' 2nd	14:08:00.66	+00:00:10.0	J2000.00	1.561	179.7	04:26:03.8	299.7	r	SLOAN	1	1 x 1
160344	wfsngc120 r'	13:58:00.00	-00:00:00.0	J2000.00	1.713	179.7	04:36:51.5	299.4	r	SLOAN	1	1 x 1
160348	wfsngc119 r'	13:56:00.00	+00:00:00.0	J2000.00	1.813	179.7	04:46:00.6	299.4	r	SLOAN	1	1 x 1
160352	wfsngc120 r' 2nd	13:58:00.33	+00:00:04.9	J2000.00	1.889	179.7	04:55:21.9	299.9	r	SLOAN	1	1 x 1
160356	M13 U	16:41:29.99	+36:28:00.1	J1995.50	1.041	179.7	05:07:05.3	1198.8	U	RGO	1	1 x 1
160360	sa110-361 r	18:42:45.00	+00:08:03.9	J2000.00	1.155	179.7	05:31:58.9	10.1	r	SLOAN	1	1 x 1
160364	sa110-361 B	18:42:45.00	+00:08:04.0	J2000.00	1.153	179.7	05:35:09.7	9.6	B	Kitt Peak	1	1 x 1

160368	wfsj1610+5430_022	16:08:10.69	+54:10:00.0	J2000.00	1.212	179.7	05:39:46.6	599.4	r	SLOAN	1 1 x 1
160372	Bias frame	16:08:10.70	+54:10:00.0	J2000.00	1.227	179.7	05:52:40.9	0.0	r	SLOAN	1 1 x 1
160376	Bias frame	16:08:10.70	+54:10:00.0	J2000.00	1.232	179.7	05:55:32.8	0.0	r	SLOAN	1 1 x 1
160380	Flat field	19:19:09.00	+12:22:05.0	B1950.00	1.059	179.7	06:04:10.1	140.0	r	SLOAN	1 1 x 1
160384	Flat field	19:19:09.68	+12:22:14.9	B1950.00	1.056	179.7	06:09:42.2	40.1	r	SLOAN	1 1 x 1
160388	Flat field	19:19:08.31	+12:21:55.0	B1950.00	1.053	179.7	06:13:37.9	15.1	r	SLOAN	1 1 x 1
160392	Flat field	19:19:08.31	+12:22:15.0	B1950.00	1.051	179.7	06:17:13.6	5.1	r	SLOAN	1 1 x 1