INT OBSERVING LOG (ISAAC NEWTON GROUP, LA PALMA)

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TELESCOPE:              INT
DATE:                   20000910
TAPE NR:                INTD4494
OBSERVER:               David James, David Mitchell, Kevin Pearson
PROGRAMME:              Planet Transit in NGC7789
PATT/CAT REF.:          P30+M31
TELESCOPE OPERATOR:     Jose Norberto
SUPPORT ASTRONOMER:     Romano

TELESCOPE FOCUS:        46.18 mm
CALIBRATE RESULTS:      HI 37.5 +/- 3.94, DI -58,48 +/- 1.32, HC  62.01 +/- 2.84, Sky sigma 3.50

INSTRUMENT:             WFC

WFC FILTER WHEEL:       g,V,r,i,z,Ha

WEATHER:                (1st half) Goodr
                        (2nd half) Good
CLOUD COVER (%):        (1st half) 0%
                        (2nd half) 0%
DUST (0-2):             (1st half) 0
                        (2nd half) 0
SEEING (arcsec):        (1st half) 1.3
                        (2nd half) 1.3

DOME OPENED (UT):       19:00
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METEOROLOGICAL PARAMETERS

LT	AirT	Hum%	Wspd	Gust	Wdir	Press	LocT	IntT	Mirr	LocRH	IntRH
20:00	15.3	43	13.7	16.1	145	773.5	15.5	19.7	18.9	42	34
21:00	14.7	43	14.7	17.5	165	774.0	15.2	16.9	18.8	40	37
22:00	14.7	42	12.9	18.1	193	774.4	15.2	16.3	18.5	40	38
23:00	15.5	28	12.3	15.5	185	774.8	16.1	16.7	18.3	23	22
00:00	15.3	23	19.8	23.4	197	774.5	15.9	16.6	18.2	21	23
01:00	15.6	18	18.5	24.8	178	774.2	16.1	16.6	18.0	16	17
02:00	15.6	20	20.7	27.4	224	773.9	16.1	16.7	18.0	18	19
03:00	15.3	25	14.5	17.1	163	773.4	15.8	16.4	17.9	26	24
04:00	15.3	32	24.3	30.0	255	773.1	15.6	16.1	18.0	30	30
05:00	15.4	27	23.3	30.9	165	772.7	15.9	16.2	17.9	25	26
06:00	14.9	20	23.7	29.3	168	772.6	15.3	16.3	17.8	19	20

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SUNSET(UT)              19:30
EVENING TWILIGHT(UT)    20:43
MORNING TWILIGHT(UT)    05:35
SUNRISE(UT)             06:47
MOON'S QUARTER (1-4)    2
DISK % OF ILLUM.        93
DARK TIME               08:52
TWILIGHT TIME           02:25
MOONRISE(UT)            No moonrise within sunset-sunrise
MOONSET(UT)             04:46

TIME LOST(WEATHER):     00:00
TIME LOST(TECHNICAL):   00:00
TIME LOST(OTHER):       00:00
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Run no.	Object name	RA	Dec.	Equinox	AM	PA	UT	Exp. T.	Filter	Psys	Channel	Binning	Comments
229134	Bias frame	0:00:00.00	+00:00:00.0	A	1.000	180.0	16:02:04.9	0.0	g	Sloan		1 x 1	

229134	Bias frame	0:00:00.00	+00:00:00.0	A	1.000	180.0	16:02:04.9	0.0	g	Sloan	1 x 1
229134	Bias frame	0:00:00.00	+00:00:00.0	A	1.000	180.0	16:02:04.9	0.0	g	Sloan	1 x 1
229135	Bias frame	0:00:00.00	+00:00:00.0	A	1.000	180.0	16:04:17.2	0.0	V	Harris	1 x 1
229135	Bias frame	0:00:00.00	+00:00:00.0	A	1.000	180.0	16:04:17.2	0.0	V	Harris	1 x 1
229136	Flat field	19:19:08.99	+12:22:04.9	B1950.00	1.111	180.0	19:46:14.9	4.2	r	Sloan	1 x 1
229136	Flat field	19:19:08.99	+12:22:04.9	B1950.00	1.111	180.0	19:46:14.9	4.2	r	Sloan	1 x 1
229137	Flat field	19:19:09.68	+12:22:15.0	B1950.00	1.107	180.0	19:48:37.6	8.1	r	Sloan	1 x 1
229137	Flat field	19:19:09.68	+12:22:15.0	B1950.00	1.107	180.0	19:48:37.6	8.1	r	Sloan	1 x 1
229138	rflat	19:19:10.36	+12:22:25.0	B1950.00	1.102	180.0	19:51:35.3	8.1	r	Sloan	1 x 1
229138	rflat	19:19:10.36	+12:22:25.0	B1950.00	1.102	180.0	19:51:35.3	8.1	r	Sloan	1 x 1
229139	rflat	19:19:11.04	+12:22:35.0	B1950.00	1.099	180.0	19:53:33.6	13.7	r	Sloan	1 x 1
229139	rflat	19:19:11.04	+12:22:35.0	B1950.00	1.099	180.0	19:53:33.6	13.7	r	Sloan	1 x 1
229140	rflat	19:19:11.73	+12:22:45.0	B1950.00	1.096	180.0	19:55:35.8	25.1	r	Sloan	1 x 1
229140	rflat	19:19:11.73	+12:22:45.0	B1950.00	1.096	180.0	19:55:35.8	25.1	r	Sloan	1 x 1
229141	rflat	9:39:36.20	+06:11:27.4	B1950.00	1.092	180.0	19:57:54.7	40.1	r	Sloan	1 x 1
229141	rflat	9:39:36.20	+06:11:27.4	B1950.00	1.092	180.0	19:57:54.7	40.1	r	Sloan	1 x 1
229142	Focus run	17:09:15.90	+60:12:40.1	J2000.00	1.216	180.0	20:28:11.1	10.1	r	Sloan	1 x 1
229142	Focus run	17:09:15.90	+60:12:40.1	J2000.00	1.216	180.0	20:28:11.1	10.1	r	Sloan	1 x 1
229143	TEST	17:09:15.89	+60:15:10.0	J2000.00	1.230	180.0	20:38:58.3	10.1	r	Sloan	1 x 1
229144	TEST	17:09:15.90	+60:15:10.0	J2000.00	1.233	180.0	20:41:34.9	10.1	r	Sloan	1 x 1
229145	test	17:09:15.90	+60:15:10.0	J2000.00	1.249	180.0	20:53:32.3	10.2	r	Sloan	1 x 1
229146	BIAS	17:09:15.90	+60:15:09.9	J2000.00	1.259	180.0	21:00:35.3	0.0	r	Sloan	1 x 1
229147	BIAS	17:09:15.90	+60:15:10.0	J2000.00	1.260	180.0	21:01:33.8	0.0	r	Sloan	1 x 1
229148	BIAS	17:09:15.90	+60:15:10.0	J2000.00	1.262	180.0	21:02:31.7	0.0	r	Sloan	1 x 1
229149	BIAS	17:09:15.90	+60:15:10.0	J2000.00	1.263	180.0	21:03:28.9	0.0	r	Sloan	1 x 1
229150	BIAS	17:09:15.90	+60:15:10.0	J2000.00	1.265	180.0	21:04:26.1	0.0	r	Sloan	1 x 1
229151	BIAS	17:09:15.90	+60:15:10.0	J2000.00	1.266	180.0	21:05:23.3	0.0	r	Sloan	1 x 1
229152	BIAS	17:09:15.90	+60:15:10.0	J2000.00	1.268	180.0	21:06:20.5	0.0	r	Sloan	1 x 1
229153	BIAS	17:09:15.90	+60:15:10.0	J2000.00	1.269	180.0	21:07:17.7	0.0	r	Sloan	1 x 1
229154	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.697	180.0	21:16:41.9	299.8	r	Sloan	1 x 1
229155	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.664	180.0	21:22:41.7	299.8	r	Sloan	1 x 1
229156	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.633	180.0	21:28:41.3	299.8	r	Sloan	1 x 1
229157	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.604	180.0	21:34:40.8	299.9	r	Sloan	1 x 1
229158	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.576	180.0	21:40:40.4	299.9	r	Sloan	1 x 1
229159	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.549	180.0	21:46:40.2	299.8	r	Sloan	1 x 1
229160	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.524	180.0	21:52:40.1	299.7	r	Sloan	1 x 1
229161	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.500	180.0	21:58:39.4	299.8	r	Sloan	1 x 1
229162	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.476	180.0	22:04:38.9	299.9	r	Sloan	1 x 1
229163	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.455	180.0	22:10:38.3	299.8	r	Sloan	1 x 1
229164	BIAS	23:57:30.81	+56:43:41.8	J2000.00	1.441	180.0	22:17:06.9	0.0	r	Sloan	1 x 1
229165	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.426	180.0	22:18:54.0	299.8	r	Sloan	1 x 1
229166	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.406	180.0	22:24:53.9	299.8	r	Sloan	1 x 1
229167	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.388	180.0	22:30:53.3	299.8	r	Sloan	1 x 1
229168	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.370	180.0	22:36:52.8	299.7	r	Sloan	1 x 1
229169	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.353	180.0	22:42:52.2	299.8	r	Sloan	1 x 1
229170	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.337	180.0	22:48:51.8	299.7	r	Sloan	1 x 1
229171	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.322	180.0	22:54:51.3	299.8	r	Sloan	1 x 1
229172	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.307	180.0	23:00:50.7	299.8	r	Sloan	1 x 1
229173	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.293	180.0	23:06:50.2	299.8	r	Sloan	1 x 1
229174	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.280	180.0	23:12:50.4	299.8	r	Sloan	1 x 1
229175	BIAS	23:57:30.81	+56:43:41.8	J2000.00	1.272	180.0	23:19:23.9	0.0	r	Sloan	1 x 1
229176	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.263	180.0	23:21:27.2	299.8	r	Sloan	1 x 1
229177	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.251	180.0	23:27:26.7	299.8	r	Sloan	1 x 1
229178	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.240	180.0	23:33:25.6	299.2	r	Sloan	1 x 1
229179	NGC 7789	23:57:30.80	+56:43:41.7	J2000.00	1.230	180.0	23:39:25.3	299.8	r	Sloan	1 x 1
229180	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.221	180.0	23:45:24.7	299.7	r	Sloan	1 x 1
229181	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.212	180.0	23:51:24.3	299.8	r	Sloan	1 x 1
229182	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.203	180.0	23:57:24.3	299.9	r	Sloan	1 x 1
229183	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.195	180.0	00:03:24.0	299.8	r	Sloan	1 x 1
229184	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.188	180.0	00:09:24.0	299.9	r	Sloan	1 x 1
229185	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.181	180.0	00:15:24.0	299.8	r	Sloan	1 x 1
229186	BIAS	23:57:30.81	+56:43:41.9	J2000.00	1.176	180.0	00:21:48.7	0.0	r	Sloan	1 x 1

229187	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.172	180.0	00:23:56.2	299.8	r	Sloan	1 x 1
229188	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.166	180.0	00:29:55.5	299.7	r	Sloan	1 x 1
229189	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.161	180.0	00:35:55.0	299.8	r	Sloan	1 x 1
229190	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.156	180.0	00:41:54.5	299.8	r	Sloan	1 x 1
229191	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.151	180.0	00:47:53.8	299.8	r	Sloan	1 x 1
229192	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.147	180.0	00:53:53.2	299.7	r	Sloan	1 x 1
229193	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.144	180.0	00:59:52.6	299.7	r	Sloan	1 x 1
229194	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.141	180.0	01:05:52.1	299.8	r	Sloan	1 x 1
229195	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.138	180.0	01:11:51.8	299.9	r	Sloan	1 x 1
229196	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.136	180.0	01:17:51.3	299.7	r	Sloan	1 x 1
229197	BIAS	23:57:30.81	+56:43:41.8	J2000.00	1.135	180.0	01:24:20.2	0.0	r	Sloan	1 x 1
229198	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.134	180.0	01:26:21.3	299.8	r	Sloan	1 x 1
229200	TEST	23:57:30.81	+56:43:41.8	J2000.00	1.132	180.0	01:39:49.0	0.0	r	Sloan	1 x 1
229201	TEST	23:57:30.81	+56:43:41.8	J2000.00	1.132	180.0	01:43:08.2	0.0	r	Sloan	1 x 1
229202	TEST	23:57:30.81	+56:43:41.8	J2000.00	1.132	180.0	01:46:24.3	0.0	r	Sloan	1 x 1
229203	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.132	180.0	01:48:48.3	299.9	r	Sloan	1 x 1
229204	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.132	180.0	01:54:29.7	299.8	r	Sloan	1 x 1
229205	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.133	180.0	02:00:11.0	299.8	r	Sloan	1 x 1
229206	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.134	180.0	02:05:52.4	299.7	r	Sloan	1 x 1
229207	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.136	180.0	02:11:33.9	299.8	r	Sloan	1 x 1
229208	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.138	180.0	02:17:15.8	299.8	r	Sloan	1 x 1
229209	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.140	180.0	02:22:58.0	299.8	r	Sloan	1 x 1
229210	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.143	180.0	02:28:39.6	299.8	r	Sloan	1 x 1
229211	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.146	180.0	02:34:20.8	299.9	r	Sloan	1 x 1
229212	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.150	180.0	02:40:02.5	299.7	r	Sloan	1 x 1
229213	BIAS	23:57:30.80	+56:43:41.8	J2000.00	1.154	180.0	02:47:44.8	0.0	r	Sloan	1 x 1
229214	BIAS	23:57:30.80	+56:43:41.8	J2000.00	1.154	180.0	02:48:24.0	0.0	r	Sloan	1 x 1
229215	BIAS	23:57:30.81	+56:43:41.8	J2000.00	1.154	180.0	02:49:03.3	0.0	r	Sloan	1 x 1
229216	BIAS	23:57:30.81	+56:43:41.8	J2000.00	1.155	180.0	02:49:42.6	0.0	r	Sloan	1 x 1
229217	BIAS	23:57:30.81	+56:43:41.8	J2000.00	1.155	180.0	02:50:21.7	0.0	r	Sloan	1 x 1
229218	BIAS	23:57:30.80	+56:43:41.8	J2000.00	1.157	180.0	02:52:31.9	0.0	r	Sloan	1 x 1
229219	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.161	180.0	02:54:22.7	299.8	r	Sloan	1 x 1
229220	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.166	180.0	03:00:22.8	299.9	r	Sloan	1 x 1
229221	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.172	180.0	03:06:23.8	299.7	r	Sloan	1 x 1
229222	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.178	180.0	03:12:26.6	300.0	r	Sloan	1 x 1
229223	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.185	180.0	03:18:27.3	299.9	r	Sloan	1 x 1
229224	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.192	180.0	03:24:26.7	299.8	r	Sloan	1 x 1
229225	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.200	180.0	03:30:26.3	299.7	r	Sloan	1 x 1
229226	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.208	180.0	03:36:26.0	299.7	r	Sloan	1 x 1
229227	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.217	180.0	03:42:26.0	299.7	r	Sloan	1 x 1
229228	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.227	180.0	03:48:25.6	299.9	r	Sloan	1 x 1
229229	BIAS	23:57:30.80	+56:43:41.8	J2000.00	1.234	180.0	03:55:08.4	0.0	r	Sloan	1 x 1
229230	TEST- JUNK	23:57:30.81	+56:43:41.8	J2000.00	1.238	180.0	03:57:12.8	50.1	r	Sloan	1 x 1
229231	M31-microfld1	0:44:00.00	+41:34:00.0	J2000.00	1.085	180.0	04:04:07.3	319.7	r	Sloan	1 x 1
229232	M31-microfld1	0:43:59.99	+41:34:00.0	J2000.00	1.094	180.0	04:10:43.2	319.7	r	Sloan	1 x 1
229233	M31-microfld1	0:44:00.00	+41:33:59.9	J2000.00	1.104	180.0	04:17:38.7	319.3	i	Sloan	1 x 1
229234	M31-microfld1	0:44:00.00	+41:34:00.1	J2000.00	1.115	180.0	04:24:14.6	319.2	i	Sloan	1 x 1
229235	M31-microfld2	0:43:09.99	+40:58:14.9	J2000.00	1.131	180.0	04:33:27.2	319.7	r	Sloan	1 x 1
229236	M31-microfld2	0:43:10.00	+40:58:14.9	J2000.00	1.144	180.0	04:40:04.0	319.8	r	Sloan	1 x 1
229237	M31-microfld2	0:43:10.00	+40:58:15.0	J2000.00	1.159	180.0	04:47:00.2	319.7	i	Sloan	1 x 1
229238	M31-microfld2	0:43:09.99	+40:58:15.0	J2000.00	1.174	180.0	04:53:38.9	319.7	i	Sloan	1 x 1
229239	BIAS	23:57:30.81	+56:43:41.8	J2000.00	1.408	180.0	05:08:04.4	0.0	r	Sloan	1 x 1
229240	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.426	180.0	05:11:13.9	299.8	r	Sloan	1 x 1
229241	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.448	180.0	05:17:34.8	299.8	r	Sloan	1 x 1
229242	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.470	180.0	05:23:34.9	299.8	r	Sloan	1 x 1
229243	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.492	180.0	05:29:34.6	299.8	r	Sloan	1 x 1
229244	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.516	180.0	05:35:34.2	299.7	r	Sloan	1 x 1
229245	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.541	180.0	05:41:34.1	299.8	r	Sloan	1 x 1
229246	NGC 7789	23:57:30.81	+56:43:41.8	J2000.00	1.568	180.0	05:47:34.3	299.8	r	Sloan	1 x 1
229247	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.595	180.0	05:53:33.9	299.7	r	Sloan	1 x 1
229248	NGC 7789	23:57:30.80	+56:43:41.8	J2000.00	1.624	180.0	05:59:33.8	299.8	r	Sloan	1 x 1
229249	NGC 7789	23:57:30.81	+56:43:41.9	J2000.00	1.655	180.0	06:05:33.5	299.8	r	Sloan	1 x 1

229250	BIAS	23:57:30.81	+56:43:41.7	J2000.00	1.704	180.0	06:17:05.4	0.0	r	Sloan	1 x 1
229251	BIAS	23:57:30.81	+56:43:41.8	J2000.00	1.709	180.0	06:18:05.2	0.0	r	Sloan	1 x 1
229252	BIAS	23:57:30.80	+56:43:41.8	J2000.00	1.715	180.0	06:19:03.0	0.0	r	Sloan	1 x 1
229253	BIAS	23:57:30.81	+56:43:41.8	J2000.00	1.720	180.0	06:20:00.5	0.0	r	Sloan	1 x 1
229254	BIAS	23:57:30.81	+56:43:41.8	J2000.00	1.726	180.0	06:20:57.8	0.0	r	Sloan	1 x 1
229255	FLAT - R	4:25:46.00	+54:09:03.0	B1950.00	1.108	180.0	06:25:20.1	16.1	r	Sloan	1 x 1
229256	FLAT - R	4:25:47.13	+54:09:12.9	B1950.00	1.108	180.0	06:27:48.6	13.6	r	Sloan	1 x 1
229257	FLAT - R	4:25:48.27	+54:09:22.9	B1950.00	1.108	180.0	06:30:07.7	10.1	r	Sloan	1 x 1
229258	FLAT - R	4:25:49.41	+54:09:32.9	B1950.00	1.109	180.0	06:32:15.3	4.1	r	Sloan	1 x 1