

Telescope: 61"

Frame prefix: SP88A

Date: Th Jun 29/30

Focus: 3500  
Iris: 300  
Tailpiece: N-5  
Balance: 300

Humidity: 66%

Observers: Fik, Fany

Temp: 30/34

Guidepoint: 3430, 3940

Sheet #: 1

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA $\alpha$	Dec $\delta$	Sec Z	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
001	Trapez - Fulle	300	0.70	2300/1500/1460	3:15	01:23:17.6	+73:27:17.2	1-27	244 +302 PK - faint medicine
002	"	1200	4	4700/1820/1460	3:20	17.1	-46:23	1-30	+3:11 72.9 - 9m to clean
003	"	150	11	4100/1710/1460	3:44	16.3	49:17	1-41	Darbicide in @ 6425, out at 3935 +3:18 76.5 PK
004	"	1200	11	4700/1710/1460	4:05	15.2	42:24	1-52	+3:18 74.9
005	"	1200	11	4700/1710/1460	4:26	14.2	43:50	1-67	+4:18 72.9 PK - faint medicine!
006	BS 720	10	10	12000	5:36	02:28:42.9	29 55 08.6	1-75	69.5
007	"	20	11	30000	5:37			1-76	
008	"	4	11	27K				1-77	
009	"	"	11	24K				1-78	04:24 69.2
010	"	"	11	24K	5:40			1-79	00:18 401.5
011	BC 2141	20	11	83K	5:46	6:06:20.21	35 23 37	1-02	
012	"	"	11	25K					
013	"	"	11	22K			"		
014	"	"	11	25K	5:49		"		
015	"	"	11	28K			"		
016	"	"	11	23K	5:57		"	1-03	
017	BS 2007	200	11	26K	5:57	5:47:24	-04:05:141	1-33	
018	"	"	11	24K				1-34	
019	"	"	4	25K				1-54	
020	"	"	11	30K					
021	"	"	11	26K	6:02			1-35	
022	"	"	11	27K	6:09	2:28:43	24 55 29	2-12	
023	BS 720	1	11	22K				2-13	
024	"	1	11	20K				2-15	
025	"	1	11	23K				2-16	
026	"	1	11	21K				2-18	
027	"	1	11	25K				2-19	
028	"	1	11	23K	6:13			2-21	
029	"	1	11	22K				2-22	
030	"	1	11	23K					



Sheet #: 3

Humidity: 70% Seeing ~ 4" (Poor) Guidepoint: 383.0, 394.0  
Temp: 22/26

Focus: 3450  
Iris: 300  
Tailpiece: N-5  
Balance: 300

Telescope: 61"

Date: Jan 30/31  
Friday night

Frame prefix: SP98A

Observers: Ferig, Collins

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA $\alpha$	Dec $\delta$	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
041	Hartley 2	1200	0.5	Net ~ 2700 4383/1670/1350	2:25	02:04:31.5	-01:14:43	1.32	LHA PA
042	"	"	"	Net ~ 2800 4410/1655/1320	2:45	02:04:35.6	-01:14:27	1.39	+1.59 +37.5
043	"	"	"	Net ~ 3000 4660/1653/1300	3:06	02:04:39.7	-01:14:13	1.47 → 1.57	+2.120 +41.5
044	Tempel-Tuttle	300	0.5	Net ~ 700 1950/1240/1210	3:37	01:22:06.3	+31:43:00	1.41	+3.33 +74.5 Approaching an extremely bright star
X	We are waiting for Tempel-Tuttle to pass a very bright star (see images of TT).								
X	Image SP98A044			Tempel-Tuttle may not be usable.					
045	Tempel-Tuttle	300	0.5	Net ~ 550 1900/1330/1250	4:19	01:22:04.8	+31:39:36	1.68	Star still causing internal reflections 74.15 +71.2
046	"	600	"	Net ~ 1300 2715/1423/1290	4:26	01:22:04.5	+31:39:04	1.73	+4.22 +70.6
047	"	1200	"	Net ~ 2200 3913/1678/1350	4:37	01:22:04.2	+31:38:11	1.84	+4.33 +69.7
048	"	"	"	Net 3920/1675/1400	4:58	01:22:03.4	+31:36:32	2.07 → ~ 2.4	+4.54 +67.8
049	(Comp) BS2007	2	1.0		6:35	5:48:30	-4:05:44	1.46	
050	"	"	"	19K	6:36			1.47	
051	"	2.5	"	28K	6:37			1.47	
052	"	"	"	24K	6:37			1.48	
053	"	"	"	25K	6:38			1.48	
054	"	"	"	26K	6:39			1.48	
055	"	"	"	26K	6:40			1.49	
056	(Comp) BS1262	2.5	1.0	19K	6:53	4:05:13.3	+22:00:14	1.74	
057	"	"	"	24K	6:54			1.75	
058	"	"	"	24K	6:54			1.76	
059	"	"	"	24K	6:55			1.77	
060	"	"	"	21K	6:56			1.78	
061	"	"	"	22K	6:57			1.78	
062	"	"	"	22K	6:58			1.79	

Sheet #: 4

Telescope: 61"

Frame prefix: SP98A

Focus: 3450  
Iris: 300  
Tailpiece: NJ-S  
Balance: 300

Humidity:

Date: Jan 30/31

Friday night

Observers: Fevig, Collins

Guidepoint:

Temp:

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA $\alpha$	Dec $\delta$	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
063	(Comp) BS 3625	2.5	1.0	33K	7:04	9:08:44.0	+33:53:23	1.01	
064	"	2.0	"	23K	7:06			1.01	
065	"	"	"	22K	7:06			1.01	
066	"	"	"	26K	7:07			1.01	
067	"	"	"	25K	7:14			1.01	
068	"	"	"	19K	7:14			1.01	
069	"	"	"	24K	7:15			1.01	
070	(Comp) BS 1262	3.0	1.0	22K	7:21	4:05:14.3	+22:00:15	2.06	
071	"	"	"	26K	7:21			2.07	
072	"	"	"	30K	7:22			2.08	
073	"	"	"	30K	7:24			2.10	
074	"	"	"	32K	7:25			2.11	
075	"	"	"	33K	7:27			2.14	
076	"	"	"	35K	7:28			2.16	
077	"	2.5	"	25K	7:30			2.20	
078	"	"	"	28K	7:32			2.22	
079	"	"	"	27K	7:35			2.28	
080	"	"	"	26K	7:37			2.30	
081	(Standard) BS 3314	0.3	1.0	22K	7:44	8:25:35.3	-3:54:09	1.26	
082	"	"	"	18K	7:45			1.26	
083	"	"	"	20K	7:45			1.26	
084	"	"	"	20K	7:46			1.26	
085	"	"	"	19K	7:47			1.26	
086	1998 BZ-7	1200	0.5	Net ~ 1080 2470/1390/1300	8:15	10:58:03.4	+18:57:17	1.09	
087	"	"	"	Net ~ 1060 2512/1450/1300	8:36			1.06	LHA PA
088	"	"	"	Net ~ 680 2130/1450/1320	8:57	10:58:07.0	+18:57:01	1.04	Jump in the East! -00:40 -32:13 lost maybe 2 min.
089	"	"	"	Net ~ 970 2900/1430/1290	9:18	10:58:05.7	+18:58:24	1.03	shortened exposure due to a close approaching star.
090	"	600	"	Net ~ 540 1870/1350/1270	9:38	:07.7	:45	1.03	

name in header may be wrong ↓

Jump in the East!

Tape #2 ↓

Telescope: 61"

Frame prefix: SP98A

Focus: 3450  
Iris: 300  
Tailpiece: N-S  
Balance: 300

Date: Jan 30/31  
Friday Night

Humidity: 55%

Observers: Fevig, Collins

Temp: 28/28

Guidepoint:

Sheet #: 5

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA $\alpha$	Dec $\delta$	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
091	1998 BZ7	600	0.5	Net ~ 480 1820/1340/1280	9:49	10:58:08.8	+18:58:56	1.03	LHA PA +00:10 +9.9
092	"	1200	"	Net ~ 1560 3010/1450/1280	10:05	:10.4	+18:59:11	1.03	+00:26 +22.9
093	"	"	"	Net ~ 930 2370/1440/1280	10:26	:12.4	:31	1.05	+00:47 +36.4
094	"	"	"	Net ~ 1040 2490/1450/1280	10:47	:14.5	:51	1.07	+01:08 +46.0
095	"	"	"	Net ~ 840 2280/1450/1360	11:08	:16.5	+19:00:11	1.09	+01:29 +52.1
096	"	"	"	Net ~ 820 2260/1440/1280	11:29	:18.7	:32	1.13	+01:50 +56.4
097	"	"	"	Net ~ 2280/1530/1310	11:49	:20.8	:51	1.18 → 1.24	+02:10 +59.2
098	433 Eros	240	0.5	Net ~ 450 6050/1570/1480	12:26	14:12:09.5	-26:55:56	1.97	Guiding wasn't the greatest
099	"	300	"	Net ~ 14K 15340/1580/1440	12:41	:11.0	:56:16	1.95	Possible light cirrus in the direction of Eros
100	"	"	"	Net ~ 16K 17479/1570/1460	12:46	:11.5	:24	1.95	
101	"	"	"	Net ~ 18K 19440/1570/1560	12:52			1.95	
102	"	"	"	Net ~ 15K 16700/1620/1580	12:58	:12.5	:38	1.95	+00:05 +1.4
103	"	"	"	Net ~ 15K 17150/1680/1580	13:04	:13.2	:45	1.96	+00:11 +2.8
104	"	"	"	Net ~ 17K 19000/1680/1540	13:09	:13.8	:51	1.96	+00:16 +4.2
105	"	"	"	Net ~ 19K 20670/1790/1570	13:15	:14.3	:58	1.97	+00:20 +5.6
106	"	"	"	Net ~ 16K 18320/2080/1570	13:21	:15.0	57:05	1.98	+00:29
107	"	"	"	Net ~ 16K 19340/2050/1590	13:27			1.99	+00:34
108	"	"	"	Net ~ 19K 24570/2660/1570	13:32	:16.2	57:20	2.00	+00:40 +9.8
109	"	"	"	Net ~ 19K 24570/2660/1570	13:38	:16.8	57:28	2.01	+00:46 +11.2

sky noise really increasing

Tape #3

We saw light cirrus in the direction of 433 Eros after civil twilight (20:30 am MST).



seeing ~ 4 arc

Sheet #: 2

Telescope: 61"

Focus: 3450  
Iris: 300  
Tailpiece: UJ  
Balance: 300

Frame prefix: T198A

Date: Jan 30/31

Humidity: 70

Observers: Feng, Collins

Guidepoint: 34304, 39402

Temp: 22/26

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA $\alpha$	Dec $\delta$	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
023	P/Kartley 2	45	610i	417K 2670/1410	2:27	02:04:32.0	-01:14:39	1.33	Name in header wrong
024	"	"	"	394K 2708/1455	3:12	02:04:41	-01:14:07	1.50	
025	"	"	"	369K 2582/1468	3:26	02:04:43	-01:10:59	1.57	
026	Tempel-Tuttle	45	"	27K 2509/1521	3:38	01:22:06	+31:42:48	1.42	Bright star coming into field
027	"	"	"		3:41	"	"	~1.43	" ~ very close to comet
028 → 27	"	"	"						Star subpixels correct (80+30210)
28	"	"	"	222K 2662/1643	4:10	01:22:04.8	+31:40:20	1.61	also probably a galaxy in the image as well
39-39	"	"	"						Comet comes from behind star
40	"	"	"	238K 2556/1387	4:57	01:22:03.4	+31:36:39.7	2.05	
41	"	60	VTR	200K 20530/7134	5:23	01:22:02.7	+31:34:33	2.47	Centered on Comet
42	"	120	"	375K 42385/13741	5:26	02.0	1:17	2.53	
43	"	300	"		5:32	01:22:05.9	+31:39:19	2.63	Moving back to position of 4:30 UT Bright star in image
44	"	300	"		5:40	01:22:09.6	+31:46:49.6	2.82	Moving back to 3:00 UT position
45	"	300	"		5:46	01:22:09.3	+31:46:20.5	3.07	
X	Note Header name may be wrong for Tempel Tuttle								
46	M67	7	VTR		5:58	8:51:41.8	+11:46:42	1.15	→ NOT SAVED
46	"	5	"		6:02	8:51:17.7	+11:46:07	1.15	
47	"	5	"		6:05	8:51:19.4	+11:45:51	1.14	

1212

Sheet #: 3

Frame prefix: T198A

Telescope: 6" Date: Jan 30/31

Focus: Humidity: Iris: Tailpiece: Balance:

Guidepoint: 34304 39402

Observers: Feing, Collins

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Phot	UT time Start	RA $\alpha$	Dec $\delta$	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
48	M67	5	VRL		6:07	8:51:19	+11:45:51	1.14	
49	"	"	"		6:08	"	"	1.14	
50	"	"	"		6:09	"	"	1.13	
51	"	"	"		6:09	"	"	1.13	
52	BS2007	0.05	B/Di	254K 730/37933	6:36	05:48:30	-04:05:47.0	1.47	Name in image header wrong
53	"	"	"	258K 72726,023	6:37	"	"	1.48	
54	"	"	"	284K 733/30695	6:39	"	"	"	
55	BS1262	"	"	265K 725/25794	6:47	04:05:14.12	+22:00:08.8	1.70	
56	"	"	"	269K 722/14259	6:48	"	"	1.72	
57	"	"	"	250K 752/25169	6:52	"	"	1.73	
58	" Image	58	is a duplicate		of image 57				
59	BS 3625	0.05	B/Di	283K 702/40328	7:06	09:08:49	+33:53:24	1.01	
60	"	"	"	230K 698/34956	7:09	"	"	1.01	
61	"	"	"		7:16	"	"	1.01	
62	BS 1262	"	"	240K 715/21265	7:23	04:05:14.41	+22:00:15.6	2.10	Name in header is wrong
63	"	"	"	251K 724/25510	7:27	"	"	2.16	"
64	"	"	"	236K 722/13,688	7:30	"	"	2.19	"
65	BS 3314	0.01	"	605K 759/46K	7:46	08:25:55.2	-03:54:05.7	1.26	



