

Telescope: 61"

Focus: 1740  
Iris: 300  
Tailpiece: N-5  
Balance: 300

Date: Jun 16/87  
Tuesday

Frame prefix: SP98D

Observers: Fevig, Collins

Humidity: 47%  
Temp: 44/46

Guidepoint: 342.9, 397.5

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.
X									Due to high winds and software problems we had trouble setting the
X									guidepoint. Seeing double images in guiding exposures... Maybe frost.
X									turning heater on. Turned off heater after 30 min., seeing no improvement.
001	1994 AH2	600	0.5	Net ~ 1600 4770/1570/1400	5:25	13:48:52.2	+58:20:28	1.19	LHA RA Date + time +1:55 +130.6 Time & date +2:12 +124.6 are correct
002	"	1200	"	Net ~ 2900 4770/1570/1400	5:43	149:09.7	19:00	1.21	+2:39 +116.7
003	"	"	"	Net ~ 3200 4720/1550/1406	6:09	149:35.4	16:51	1.26	+3:01 +110.4
004	"	"	"	Net ~ 2500 4050/1510/1380	6:33	149:50.2	15:05	1.30	+3:22 +105.4
005	"	"	"		6:55	150:16.6	13:22	1.36	+3:42 +100.1
006	"	"	"	Net ~ 3100 4570/1490/1360	7:14	150:35.5	10:37	1.42	
X									Still having problems with double images in guiding frame. Found comet
X	LINEAR.								It is in a very busy starfield but is fairly bright. Will take
X									short exposures and dodge the stars. Comet moving fast through field.
007	C/LINEAR	300	0.5	Net ~ 5300 6610/1320/1240	7:57	19:00:47.5	+40:16:56	1.06	stars in field -1:31 -106.6
008	"	"	"	Net ~ 5500 6630/1320/1240	8:05	19:00:50.6	17:29	1.06	Good image -1:23 -109.1
009	"	"	"	Net ~ 5400 6630/1310/1240	8:12	19:00:54.6	18:13	1.05	stars in field -1:16 -111.8
010	"	"	"	Net ~ 5550 6670/1330/1240	8:28	19:00:52.6	19:35	1.03	stars in field -1:00 -119.1
011	"	"	"	Net ~ 5300 6650/1340/1240	8:39	19:00:50.7	20:39	1.03	Good image -0:49 -125.8
012	"	"	"	Net ~ 5100 6630/1300/1240	8:45	19:00:51.4	21:06	1.02	star in field -0:43 -129.4

Sheet #: 2

Frame prefix: SP98D

Telescope: 61"

Focus: 4740

Iris: 300

Tailpiece: N-S

Balance: 360

Humidity:

Temp:

Guidepoint: 3429, 397.5

Observers: Fevig, 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.
013	C/LINEAR	300	0.5	7000/1250/1240	8:52	19:48:14.7	+40:21:41	1.02	LHA PA -0137 -134.5 Run through a star? Probably junk!
014	"	"	"		9:16	19:48:27.4	23:49	1.01	-0:12 -161.4
015	Comp BS 8041	2.0	1.0		9:31	21:00:29.6	-04:43:59	1.32	-1:09 -22.7
016	"	"	"	17K	9:32			1.31	Slit width = 1.0 (wrong in header)
017	"	"	"	21K	9:33			1.31	
018	"	"	"	23K	9:35			1.31	
019	"	"	"	21K	9:36			1.31	
020	"	"	"	23K	9:36			1.31	
021	"	"	"	20K	9:37			1.30	
022	std BS 7906	0.35	"	19K	9:47	20:39:33.9	+15:54:32	1.05	Name in header wrong
023	"	"	"	23K	9:49			1.05	Name correct
024	"	"	"	19K	9:50			1.05	
025	"	"	"	22K	9:51			1.05	
026	"	"	"	17K	9:51			1.06	
027	Comp BS 7914	3.5	"	24K	9:59	20:40:40.9	+19:55:56	1.03	-00:22 -21.3
028	"	"	"	23K	10:00			1.03	
029	"	"	"	22K	10:01			1.03	
030	"	"	"	22K	10:02			1.03	
031	"	"	"	23K	10:02			1.03	
032	"	"	"	29K	10:04			1.03	
033	"	"	"	19K	10:05			1.03	Slit width = 0.5 (wrong in header)
034	1036 Compmed	120	0.5	Net ~11500 12790/1260/1240/10:19		21:52:45.0	+36:03:40	1.04	
035	"	180	"	Net ~14000 20580/1270/1240/10:22		21:52:45.4	+36:03:46	1.04	
036	"	"	"	Net ~18500 19800/1250/1240/10:27				1.03	-1:06 -100.8
037	"	"	"	Net ~19600 20870/1270/1240/10:30		:46.2	104:00	1.03	-1:02 -101.9
038	"	"	"	Net ~17700 18760/1280/1240/10:34		:46.5	:05	1.03	Faint Star

Leads to pass by stars



Sheet #: 4

Focus: 4700  
Iris: 300  
Tailpiece: N-S  
Balance: 350

Humidity: 54%

Guidepoint: 348.1, 396.5

Temp: 47/43

Telescope: 61"

Date: Jun 17/18  
Wednesday

Frame prefix: SP98D

Observers: Fevig, 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.
043	1806 Sisyphus	1200	0.5	Net ~ 500 3320/1400/1200	3:43	14:15:49.4	-13:58:14	1.45	LHA *** PA -0:09 -2.8
044	"	"	"	Net ~ 750 8250/1300/1263	4:04	147.0	138	1.45	+0:10 +3.2
045	"	600	"	Net ~ 3200 4570/1320/1260	4:25	145.0	155	1.46	+0:31 +9.3
046	Stonehouse	1200	0.5	Junk!	4:49	12:16:43.4	+50:39:54	1.25	+2:54 +103.1 N-S direction, Junk several jumps in
047	"	"	"	Net ~ 300	5:12	142.7	138:23	1.31	+3:17 +97.8
048	8201 1994AH <sub>2</sub>	1200	"	Net ~ 3700 5990/1400/1310	5:43	14:11:04.4	+56:20:25	1.17	+1:54 +128.5
049	"	1015	"	Net ~ 3000 4400/1390/1230	6:04	123.1	18:30	1.20	+2:15 +121.4 Darkside in @ 400 out @ 215
X	Waiting for star			to pass					
050	8201 1994AH <sub>2</sub>	1200	0.5	Net ~ 4000 5980/1400/1290	6:37	14:11:50.2	+56:15:39	1.26	+2:47 +111.9
051	"	"	"	Junk!	6:57	12:07.4	13:50	1.31	+3:07 +106.5 N-S direction, several jumps in
X	Guiding in			N-S direction		at above	dec. + R. A. is		terrible!
052	<del>738 1994AH<sub>2</sub></del>	<del>1200</del>	<del>0.5</del>	Net ~ 2750 4160/1370/1320	7:12	17:39:28.8	-23:23:28	1.79	Alot of dim stars in field +0:25 +6.6
053	"	"	"	Net ~ 2650 4240/1390/1310	7:54	128.1	124	1.80	+0:37 +9.6
054	"	"	"	Net ~ 2650 4220/1430/1320		127.3	119	1.83	+0:49 +12.6
055	"	300	"	Net ~ 1350 2940/1370/1300	8:16	126.7	116	1.86	+0:59 +15.0
056	"	"	"	Net ~ 1400 2800/1370/1310	8:22	126.4	115	1.88	+1:05 +16.4
057	"	"	"	Net ~ 1400 2940/1400/1320	8:28	126.0	113	1.90	+1:11 +17.9
058	"	"	"	2870/1420/1240	8:33	125.6	111	1.92	+1:17 +19.1

Type #1  
↓

Sheet #: 5

Telescope: 61"  
Focus: 4700  
Iris: 300  
Tailpiece: J-S  
Balance: 350

Humidity:

Temp:

Guidepoint: 3 28.1, 396.5

Frame prefix: SP98P

Date: Jun 17/18

Observers: Fevig, Collins

Wednesday

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.
059	7358 1925A3	300	0.5	Net ~1400 2940/1430/1320	8:39	17:39:25	-23:23:09	1.94	LHA PA +1:23 +20.5
060	"	"	"	Net ~1450 2970/1440/1340	8:45	124.8	107	1.97	+1:29 +21.8
061	"	"	"	Net ~1450 2960/1390/1320	8:51	124.5	106	2.00	222.03
062	Comp BS 5868	0.4	1.0	25K	9:06	15:46:21.4	+07:21:51	1.85	+3:43 +56.2
063	"	"	"	27K	9:07			1.86	
064	"	"	"	21K	9:08			1.87	
065	"	"	"	22K	9:09			1.88	
066	"	"	"	28K	9:10			1.89	
067	"	"	"	20K	9:11			1.91	
068	"	"	"	27K	9:13			1.93	
<del>069</del>	Comp BS 5968	1.0	"	20K	9:20	16:00:59	+53:18:58	1.44	Did not save
069	"	"	"	26K	9:21			1.45	
070	"	"	"	22K	9:22			1.45	
071	"	"	"	23K	9:23			1.46	
072	"	"	"	28K	9:23			1.46	
073	"	"	"	26K	9:24			1.47	
074	"	"	"	27K	9:25			1.47	
075	Std BS 7906	0.25	"	22K	9:32	20:39:34.3	+15:54:21	1.06	
076	"	"	"	21K	9:33			1.06	
077	"	"	"	18K	9:34			1.06	
078	"	"	"	18K	9:34			1.06	
079	"	"	"	18K	9:35			1.06	
080	Comp BS 7914	2.5	"	28K	9:43	20:40:41.2	+19:55:49	1.03	
081	"	"	"	25K	9:44			1.03	
082	"	"	"	30K	9:45			1.03	
083	"	"	"	30K	9:46			1.03	
084	"	"	"	25K	9:47			1.03	
085	"	"	"	28K	9:47			1.03	
086	"	"	"	28K	9:48			1.03	

Sheet #: 6

Telescope: 61"

Frame prefix: SP98D

Focus: 4700  
Iris: 300  
Tailpiece: N-S  
Balance: 350

Humidity:

Temp:

Observers: Fevig, Collins

Guidepoint: 348.1, 386.5

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.
<del>087</del>	<del>FOUR COMETS</del>			<b>LINEAR</b>		<b>LOT of stars in FOV.</b>			<b>Cutting exposure time</b>
087	LINEAR	300	0.5	Net ~ 7500 8500/1210/1270	10:07	20:02:22.1	+42:28:47	1.02	LHA PA +0:28 +148.7
088	"	120	"	Net ~ 2800 4120/1260/1240	10:13	20:02:25.3	29:17	1.02	+0:34 +143.6 Stars
089	"	"	"		10:16	20:02:26.9	30	1.02	Stars
090	"	"	"		10:19			1.03	Close star!
091	"	"	"	Net ~ 2800 4100/1270/1250	10:25	20:02:31.7	30:13	1.03	+0:45 +134.9 Good?
092	"	"	"	Net ~ 2900 4210/1260/1250	10:27	20:02:33.0	30:26	1.03	+0:48 +133.2 Good?
093	"	"	"	Net ~ 2300 3600/1260/1240	10:30	20:02:34.7	41	1.03	+0:50 +131.4 Good?
094	"	"	"	Net ~ 2600 3870/1270/1240	10:33	20:02:36.4	55	1.03	Good?
095	1036 Garrynd	180	0.5	Net ~ 24K	11:08	21:55:34.4	+36:41:23	1.01	-0:23 -131.1
096	"	"	"	Net ~ 29K	11:12	21:55:34.8	29	1.01	-0:20 -135.9
097	"	"	"	Net ~ 25K 29K/1500/1270	11:16	21:55:35.3	35	1.00	-00:16 -142.5
098	"	"	"	Net ~ 29K 30K/1710/1260	11:20	21:55:35.6	41	1.00	-00:12 -149.7
099	"	"	"	Net ~ 23K 25K/2010/1280	11:23	21:55:36.0	46	1.00	
100	"	"	"	Net ~ 25K 28K/2680/1310	11:27	21:55:36.4	52	1.00	
X	I don't hear the shutter close on the spec camera 8 seconds early								
X	on long exposures.								

Watch for stars in images!

Busy FOV

5K4  
Brightening

Tape #2  
↓

Sheet #: 7

Telescope: 61"

Frame prefix: SP98D

Focus: 4770  
Iris: 300  
Tailpiece: N-S  
Balance: 350

Humidity: 51%

Observers: Fevig, Collins

Temp: 63/64

Guidepoint: 347.0, 396.5

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.
101 → 105	Dome Flats	5	2.0	Peak ~ 25K	-	-	-	-	
<del>X</del>	<del>P/Howell</del>	<del>is</del>	<del>is</del>	<del>very dim. All good. No focus diff. in some frames</del>					<del>guiding</del>
<del>X</del>	<del>spitzer</del>	<del>2</del>	<del>min</del>	<del>is exposed to some extent</del>					<del>guiding</del>
106	P/Howell	1200	0.15	Net ~ 500 2300/180/1400/1250	3:50	12:59:52.2	-05:19:59	1.34	LHA +1:16 +24.7
107	18666 Sisyphus	"	"	Net ~ 5500 7000/1540/1280	4:24	14:13:24.1	-14:19:24	1.48	+0:37 +10.8
108	"	600	"	Net ~ 2300 3740/1400/1320	4:55	14:13:21.1	-14:19:49	1.54	+1:08 +19.2
109	"	"	"	Net ~ 3800 5210/1480/1370	5:06	12:0:0	120:05	1.57	+1:19 +22.0
110	"	"	"	Net ~ 4100 5680/1530/1400	5:17	11:8,8	15	1.60	+1:30 +24.6
111	"	"	"	Net ~ 3700 5190/1470/1340	5:28	17.7	123	1.64	+1:41 +27.1
<del>X</del>	Checked	focus	+	re-initialized		dome - New focus = 4730			guiding OK
112	8201 1994 AH <sub>2</sub>	600	0.15	Net ~ 2900 4240/1320/1250	5:57	14:30:49.5	+54:07:54	1.15	+1:52 +126.0
113	"	"	"	Net ~ 2800 4100/1310/1240	6:08	158.1	106:46	1.17	+2:04 +122.0
114	"	"	"	Net ~ 2500 3280/1320/1270	6:19	31:06.5	105:43	1.18	+2:14 +118.7
115	"	"	"	Net ~ 2000 3350/1320/1270	6:30	114.6	104:41	1.20	+2:25 +115.4
116	"	"	"	Net ~ 2400 3720/1320/1260	6:42	23.5	103:35	1.23	+2:37 +112.0
117	7358 1995 VA <sub>3</sub>	"	"	Net ~ 2000 3440/1480/1250	7:03	17:38:03.4	-23:17:18	1.77	-0:08 -2.1
118	"	"	"	Net ~ 2700 4140/1450/1260				1.77	+0:03 +0.9
119	"	"	"	Net ~ 2700 4160/1470/1270	7:25	20.0	206	1.77	+0:14 +3.7

Watch for stars!

Sheet #: 8

Telescope: 61"

Focus: 4730  
Iris: 300  
Tailpiece: N-S  
Balance: 350

Frame prefix: SP98D

Humidity:

Date: Jun 18/19

Temp:

Observers: Fevig, Collins

Guidepoint: 348.1, 396.5

Exp. #	Object	Exp. time	Filter (slit)	Counts: Peak/Photo	UT time Start	RA $\alpha$	Dec $\delta$	SecZ	Comments: seeing, moon, LHA, VME crashes, clouds, etc.
120	7358 1945YA	600	0.5	Net ~ 2800 4240/1420/1250	7:36	17:38:01.3	-23:17:00	1.78	LHA PA Very close approach +00:25 +6.8 to two dim stars
121	"	300	"	Net ~ 1500 2810/1350/1240	7:53	17:38:01.3	16:54	1.81	+00:42 +10.7
122	"	"	"	Net ~ 1300 2670/1340/1270	7:59	17:37:59.9	152	1.82	+00:47 +12.2 Very close approach to star
123	"	600	"	4380/1440/1230	8:10	17:37:59.1	149	1.85	+00:59 +15.0
124	"	"	"	4320/1400/1250	8:21	17:38:01.3	145	1.89	+01:10 +17.5
125	LINEAR	300	"	Net ~ 8K 9100/1340/1300	8:42	20:15:52.4	+44:15:36	1.05	-01:06 -127.4
126	"	"	"	8174/1320/1300	8:48	20:15:55.8	+44:16:03	1.05	-01:01 -130.2
127	"	"	"	8477/1331/1286	8:56	20:16:00.3	+44:16:39.4	1.04	-00:53 -134.6
128	"	120	"	4140/1270/1250	9:01	20:16:05.6	+44:17:07	1.04	-00:47 -138.3
129	Std BS7235	0.2	1.0	18K	9:14	19:05:20.3	+13:51:58	1.06	+00:36 +22.8
130	"	"	"	20K	9:15			1.07	
131	"	"	"	22K	9:16			1.07	
132	"	"	"	21K	9:17			1.07	
133	"	"	"	20K	9:18			1.07	
134	Comp BS 9107	2.0	"	23K	9:26	00:04:55.9	+34:38:57	1.61	-04:10 -73.8
135	"	2.0	"	32K				1.60	
136	"	1.7	"	25K	9:28			1.59	
137	"	"	"	22K	9:29				
138	"	"	"	26K					
139	"	"	"	20K	9:31			1.58	
140	"	"	"	21K	9:31			1.58	
141	"	"	"		9:32			1.57	
142	"	"	"	21K	9:33			1.57	



Sheet #: 9

Focus: 4730  
Iris: 300  
Tailpiece: N-5  
Balance: 350

Humidity:

Temp:

Guidepoint: 348.1, 396.5

Telescope: 61"

Date: Jun 18/19

Thursday

Frame prefix: SP98D

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.
143	Comp BS7914	2.0	1.0	20K	9:38	20:40:41.3	+19:55:59	1.03	LHA PA guiding may be bad
144	"	"	"	25K	9:40			1.03	
145	"	"	"	26K	9:41			1.03	
146	"	"	"	28K	9:42			1.03	-00:30 -27.7
147	"	"	"	27K	9:43			1.03	
148	"	"	"	22K	9:44			1.03	
149	"	"	"	21K	9:45			1.03	
150	Comp BS6538	2.0	"	19K	9:56	17:31:57.1	+34:16:42	1.23	+2:51 +80.9
151	"	"	"	17K	9:57			1.23	
152	"	"	"	20K	9:58			1.24	
153	"	"	"	23K	9:59			1.24	
154	"	"	"	23K	9:59			1.24	
155	"	"	"	22K	10:00			1.24	
156	"	"	"	20K	10:01			1.25	
157	Comp BS483	0.5	"	20K	10:11	01:41:48.7	+42:36:15	1.95	-05:03 -72.9
158	"	"	"	22K	10:12			1.94	
159	"	"	"	24K	10:15			1.91	
160	"	"	"	16K	10:16			1.90	
161	"	"	"	20K	10:17			1.89	
162	"	"	"	16K	10:19			1.87	
163	"	"	"	22K	10:21			1.85	
164	"	"	"	22K	10:24			1.83	
165	"	"	"	20K	10:26			1.81	Disk is full
X	See guiding images of P/Klemola. . it is very dim... we had trouble finding it.								
X	We found P/Klemola but its peak/counts were even less than P/Howell								
X	earlier this evening. It is not well placed (near the last quarter moon)								
X	and we are fast approaching twilight, so instead of deleting images								
X	from disk and risking losing earlier images (since none have been								
X	transferred downtown) we will not take spectra of P/Klemola).								

Tape #3

Tape #4

Windspeed 10-20

Telescope: 61"

Sheet #: 1

Frame prefix: TI980

Focus: 4740

Date: June 6/17  
Tuesday Night

Humidity: 49

Iris: 300

Temp: 44/46

Tailpiece: M/S

Guidepoint: 3429, 3975

Observers: Perry, Collins

Balance: 360

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.
0001	Garbage								We were unable to save images due to iraf problems.
0007									We solved this by logging out and logging back on to the workstation.
0008	8201 194 AN2	30	B10	3800/10950 53K	5:25	13:48:52.2	+58:20:28	1.19	Appears to be frost on CCD camera window - seeing double images
0010	"	"	"						We seem to be guiding ok despite the frost.
0011	"	"	"	5300/1200 45K	7:30	13:50:55	+58:08:50	1.49	Still double images
0013	Linear	"	"						Bad image - iraf problem
0014	"	"	"		8:45	19:48:11	40:21:07	1.02	(sawd why my name in obs pers)
0015	"	"	"		9:22	19:47:20	40:14:46	1.01	
0016	B5 8041	0.05	"	34500/875 368K	9:34	21:00:29	-04:45:59	1.31	
0018									
0019	B5 7906	0.005		5800/894 81K	9:50	20:39:53	+15:34:23	1.05	
0020									
0021	B5 7914	0.01		3539/854 76K	10:05			1.03	
0022	1036 Ganymede	.5	"	22000/967 388K	10:18			1.03	
0025					10:45			1.02	

Sheet #: 2

Focus: 4700  
Iris: 300  
Tailpiece: N-S  
Balance: 350

Humidity:

Guidepoint: 348.1  
396.5

Temp:

Telescope: 61"

Frame prefix: 980

Date: June 17/18, 1998  
Wednesday night

Observers:

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.
0026	<del>80436 2493</del>	0.2			~3:25	13:28:14	+31:09:45	1.00	Guide point star with strange trail in image
0027	1868 Sisyphus	30			3:45	14:15:49	-13:58:15		
0053									
0054	S Stonehouse	60	B/Di	Peak ~190 1160/44K	4:46	12:16:43.2	+50:39:57	1.24	
0056	"	120	"						
0066	"								
0067	8201 1994 AN2	30	"	1200 1042/35K	5:44	14:11:08	+56:49:59	1.18	
0122	Guiding	in	N-S	direction					
0123	7358 1995 YA3	30	B/Di		7:41	17:39:29.3	-23:23:32	1.79	A lot of dim stars in FOV Name in header wrong
0128	"	"	"	1370 1150/38K	7:52				Name in header correct
0168	B5 5868	0.005		3585 900/146K	9:06	15:46:21	+07:21:52	1.80	
0171									
0172	B5 5468	0.004		11600 900/392K	9:20	16:00:58	+33:18:37	1.45	
0177									
0178	B5 7906	0.005		13000 800/477K	09:30	20:39:34	+15:54:20	1.06	
0182									
0183	B5 7914	0.01		11000 878/389K	09:40	20:40:41	+19:55:49	1.03	
0188									
0189	Linear								
0207									
0208	209 ← Name wrong			Peak ~18K					
0210	1036 Garymal 15		B/Di	1000/620K	10:46	21:55:33	+36:40:45	1.02	
2239									
240	Dome Flats	20	B/Di	29K	-	-	-	-	
251									

Name correct  
in header



