

Telescope: SPEC

Frame prefix #: FR86D

Day of Week: Fri/SAT

RA offset:

eye piece 3600

Focus: 3720 Humdty: 4390 Sheet #: 92
Tailpiece: 92
Balance: 350 Temp O/I: 40/44
350

10

Observers: DISANTI
SCHULTZ

Date MST/UT: APR 11/12

Dec offset: 40[↑]N

Balance: 350 Temp O/I: 40/44
350

[illegible]

Telescope: Spec

Frame prefix #: FR86D

Day of Week: SUN/Mon

RA offset:

Focus:

Humidity: 33% Sheet #: (2)

Observers: Distanti
Schn H2

Date MST/UT: April 13/14

Dec offset:

Tailpiece:

Balance:

Temp O/I: 36/42

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST/UT	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓006	BS 4194	1.0	0.25	5500	448:04	10:34:35.3	-43:33:06	0:18W	
✓007		"	"	6000	50:20			0:20W	
✓008		1.5	"	8000	51:52			1:22W	
✓009		"	"	12000	54:55			1:25	
✓010		1.25	"	7300	56:34			1:26.5	
✓011				10700	5:01:04			31"W	
✓012				10700	03:07			33"W	
✓013				6700	05:02			37"W	
✓014				4700	09:28			39.5W	
✓015		1.5		11000	12:26			42.5W	
✓016		"		7400	5:18:16			48W	
✓017		"		7500	19:31			49.5W	
✓018				4100	5:25:06			55W	
✓019		2.0		10700	26:24			56.5W	
✓020				10400	28:57			59W	

Telescope:

Frame prefix #: FK86D

Day of Week: Sun/Mon

RA offset:

Focus:

Humdty:

Sheet #: 3

Observers: Schutte, Di Santo

Date MST/UT:

Dec offset:

Tailpiece:

Balance:

Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓021	BS 4154	2.0	0.25	7100	5:33:33	10:34:36.5	-43:32:53	1 ^h 03.5 ^m W	
✓022		11	11	9400	34:34			1 ^h 05 ^m W	Topped off dew 10:45 AM.
✓023	Halley	300		2900	6:20:55			1 ^h 12 ^m E	
✓024		60		5000	25:15			1 ^h 08 ^m E	
✓025		120		11670	28:25	13:37:50.3	-43:25:30	1 ^h 04.5	
✓026		90		8100	6:34:27			58.5 ^m E	
✓027		11		9700	37:25	13:37:42.5	-43:24:59	55.5 ^m E	
✓028		300		8000	40:57			52 ^m E	3 arc second north
✓029		300		14600	47:46	13:37:35.0	-43:24:20	45 ^m E	
✓030		300		4300	6:54:11	13:37:28.5	-43:23:54	38 ^m E	4 arc second north
✓031		600		9200	7:01:28	13:37:22.3	-43:23:27	31 ^m E	
✓032		11		8800	7:13:51	13:37:13.1	-43:22:39	18.5 ^m E	5 arc second north
✓033		11		6200	26:12	13:37:10.4	-43:21:45	06 ^m E	5 second north
✓034		11		5700	7:40:21	13:36:49.5	-43:20:45	08.5 ^m W	move S of north
✓035		11		3700	7:52:27	13:36:39.5	-43:19:51	21 ^m W	move S of north

↑ lost 23 sec because dark sky

Telescope: Spec

Frame prefix #: FR86D

Day of Week: Sun/Mon

RA offset:

Focus:

Humdty:

Sheet #:

Observers: DiSanti
Schutz

Date MST/UT: April 13/14

Dec offset:

Tailpiece:

Balance:

Temp O/I:

(4)

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓ 36	Halley	60		1500	8:06:43	13:36:25.0	-43:19:15	35.5 ^m W	moved 25" sec south
✓ 37		120		8900	8:10:02	13:36:23.3	-43:19:03	39 ^m W	
✓ 38		11		5500	8:13:11	13:36:20.1	-43:18:49	42 ^m W	
✓ 39		11		8000	17:59	13:36:16.1	-43:18:28	47 ^m W	
✓ 40		11		6400	21:37	13:36:12.5	-43:18:13	50.5 ^m W	
✓ 41		150		12500	25:51	13:36:109.3	-43:17:56	55 ^m W	
✓ 42		150		13000	8:29:39	13:36:05.8	-43:17:39	58.5 ^m W	
④ 43		120			8:33:27	13:36:102.6	-43:17:22	1 ^h 03 ^m W	-computer died
✓ 43		110		8000	SAVED		by putting	in dark slide	
✓ 44		120		9500	8:40:00	13:35:56.9	-43:16:56	1 ^h 09 ^m W	
✓ 45	sky	300					-43:24:17	49 ^m E	
✓ 46	sky	11					-43:24:32	40.5 ^m E	
✓ 47	sky	11						28.5 ^m E	
✓ 48	Danz	1							
✓ 49	Danz	1							

Telescope: *Spec*Frame prefix #: *FR86D* Day of Week: *Sun/Mon*

RA offset:

Focus: *3570* Humdty: *27%* Sheet #: *(5)*Observers: *D. Santi
Schutte*

Date MST/UT:

Dec offset:

Tailpiece: *104°*Balance: *Temp O/I: 38/42*

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓ 50	SKY	300						12 ^m E	
✓ 51	SKY	11					-43:24	52 ^m E	
<i>New tape</i> ✓ 52	<i>SAD 29632</i>	5		4200	10:35:54	15:43:16.3	+59:09:43	58 ^m W	
✓ 53		12		9900	37:41			1 ⁰⁰ ^m W	
✓ 54		11		9200	39:01			1 ⁰¹ ^m W	
✓ 55		11		11000	45:06			1 ⁰⁵ ^m W	
✓ 56	<i>MKN 448</i>	300	0.25	9500 <i>H_α</i>	57:36	15:36:19.3	54:36:31	1 ^h 27 ^m W	
✓ 57	"	11		6900	11:04:13			1 ^h 34 ^m W	
✓ 58		11		9200	11:12			1 ^h 41 ^m W	
✓ 59		11		8900	22:45			1 ^h 52 ^m W	
✓ 60		11		5800	29:11			1 ^h 59 ^m W	
✓ 61		11		6000	35:52			2 ^h 05 ^m W	
✓ 62		11		6000	42:52	15:36:20.9	54:36:30	2 ^h 12 ^m W	
✓ 63		11		6100	49:25			2 ^h 19 ^m W	
✓ 64	<i>SAD 29632</i>			11600	59:21			2 ^h 22 ^m W	

Telescope:

Frame prefix #:

Day of Week: Sun/Mon

RA offset:

Focus: 3570 Humdty:
Tailpiece: 104
Balance: Temp O/I:

Sheet :

1

Observers:

Date MST/UT: 3/14

Dec offset:

Balance:

Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
65	SAD 29632	10	0.25	100 00	12:01:10	15:43:18.0	59:09:39	2 ^h 24 ^m W	
66		11		6600	02:20			2 ^h 25 ^m W	
67		11		8700	04:07			2 ^h 27 ^m W	
68	BB 6629	0.2	0.1	SAT	12:11:53	17:47:13.0	02:43:05	30.5 ^m W	
69		0.05	0.1	S200	13:28			32 ^m W	
70		0.08	0.1	6000	12:14:58	17:47:13.0	02:43:05	33.5 ^m W	
71		0.1	0.1	7400	16:20			35 ^m W	
72		0.1	0.1	10200	17:47			36.5 ^m W	
73	Flatfield	10	0.25	500.01					
74		12		8100					
75		11		8600					
76		11		8500					
77		12		8100					

Telescope:

Frame prefix #: FE86D

Day of Week: Mon/Tues

RA offset:

Focus: 3972

Humidity: 43% Sheet #: 7

Observers: Fink
Schultz

Date MST/UT: Apr 14/15

Dec offset:

Tailpiece:

Balance: 240 Temp O/I: 42/47

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓ 078	054154	125	0.25	9500	5:58:15	10:34:38.5	-43:32:54	1 ^h 32 ^m	Filled dewar 7:45 P.M.
✓ 079		11	"	9300	6:01:29			1 ^h 36 ^m	Topped off dewar 10:20
✓ 80		11	11	7400	11:44			1 ^h 46 ^m	
✓ 81		11	11	9400	13:10			1 ^h 47 ^m	
✓ 82		11	11	8700	17:10			1 ^h 51 ^m	
✓ 83		11	11	7800	18:29			1 ^h 53 ^m	
✓ 84	Halley	90	11	11700	38:27	13:17:03.6	-41:44:49	0 ^h 30 ^m	telescope close to dome edge
✓ 85		60		9800	42:25			0 ^h 26 ^m	
✓ 86		11		7800	47:18			0 ^h 21 ^m	
✓ 87		11		10500	49:46	13:16:55	-41:44:03	0 ^h 18 ^m	
✓ 88		300		7500	53:09	13:16:51.8	-41:43:45	0 ^h 15 ^m	moved telescope 5° north
✓ 89				8400	59:56	13:16:47.0	-41:43:15	0 ^h 08 ^m	
✓ 90		60		6500	7:07:50	13:16:40.6	-41:42:44	0 ^h 00 ^m	Centered cone A
✓ 91		11		8000	10:13	13:16:38.5	-41:42:36	0 ^h 03 ^m	
✓ 92		900		4900	13:09	13:16:37.2	-41:41:54	0 ^h 06 ^m	30° north

Telescope: Spec

Frame prefix #: FR86D

Day of Week: Mon/Tue

RA offset:

Focus:

Humdy:

Sheet #: 8

Observers: Fink
Schulz

Date MST/UT: Apr 14/15

Dec offset:

Tailpiece:

Balance:

Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
93	Halley	60			01:32:07	13:16:21.1	-41:40:57	0 ^h 25 ^m	centered (stopped 34'.10)
✓93		1.0	dark	5300					computer died ↑
✓94		60		8200	39:37	13:16:11.6	-41:40:27	0 ^h 33 ^m	
✓95		900		6000	42:37	13:16:12.8	-41:39:15	0 ^h 36 ^m	move 1 min north
✓96		60		6100	8:01:39	13:15:58.4	-41:38:43	0 ^h 53 ^m	centered
✓97		11		8300	04:01	13:15:56.7	-41:38:32	0 ^h 57 ^m	
✓98		900		4800	06:20	13:15:53.8	-41:37:51	1 ^h 00 ^m	30" north
✓99		60		6300	8:25:44	13:15:39.5	-41:36:48	1 ^h 19 ^m	centered
✓100		11		6400	28:04	13:15:38.5	-41:36:26	1 ^h 22 ^m	
✓101		300		SAT	30:29	13:15:35.7	-41:36:29	1 ^h 24 ^m	moved 5" north
✓102		11		4700	38:56	13:15:29.0	-41:35:35	1 ^h 33 ^m	
✓103	5607	0.5		5100	9:01:42	13:10:42.50	-40:59:00	0 ^h 15 ^m	refraction early 6/8
✓104		0.8		10700	11:19			0 ^h 16 ^m	refraction early 6/8
✓105		0.4		7900	15:32		-40:59:00	0 ^h 20 ^m	bad luck!
✓106		0.3		7300	41:28			0 ^h 46 ^m	Topped off dewar 2:30 A.M.

NW
TOP

re-refraction

Telescope: 61" spec

Frame prefix #: FR86D

Day of Week: Mon/Tue

RA offset:

Focus:

Humidity: 55% Sheet #: 9

Observers: F.H.C. schultz

Date MST/UT: Apr 14/15

Dec offset:

Tailpiece:

Balance:

Temp O/I: 38/43

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓107	5607	0.3	0.25	10000	9:42:35	15:04:27.5	-40:59:02	0 ^h 48 ^m	
✓108		"		6700	43:40			0 ^h 49 ^m	
✓109		"		10000	45:00			0 ^h 50 ^m	
✓110		"		7300	57:05			1 ^h 02 ^m	
✓111		"		5300	58:09			1 ^h 03 ^m	
✓112		0.3		6800	10:04:35			1 ^h 09 ^m	
✓113		0.3		7600	05:45			1 ^h 10 ^m	
✓114	SICY	900			10:24:28		-40:58:53	1 ^h 23 ^m W	tel. tracking off 145 ^m from m.
✓115	"				43:10		-40:58:45	0 ^h 15 ^m E	
✓116	BS 6629	0.1	1.0	9700	11:00:20	17:47:13.2	02:42:46	0 ^h 20 ^m E	
✓117		"	"	9600	02:03			0 ^h 25 ^m	
✓118		"	"	8900	03:44			0 ^h 24 ^m	
✓119	Flat Field	12	0.25	9000					
✓120				"					
✓121				"					

✓122 Flat Field

90
100
100

Telescope: 61"

IRIS 320

Frame prefix #: FR86D

Day of Week: Wed / TAU RA offset:

Focus: 3622 Humdty:

Sheet #: 10

Observers: DiSanti
Schulz

Date MST/UT: Apr 16/17 Dec offset:

Tailpiece: 17

1137 N

Balance: Temp 0/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓123	Flat Field	0.15	R	9100	LOOKS funny				Filled dewar 6:45 A.M.
✓124	Halley	S	R	sat	5:29:33			856.5"E	Typed off dewar 8:15 A.M.
✓125		0.5	"		33:03	12:42		53"E	no rates
✓126		1.0		6300	35:09	12:42:38	-38:06:31	51"E	
✓127		3		sat	36:48			49"E	
✓128		15			5:38:02			48"E	
✓129		15	V		39:42			46"E	
✓130		3		sat	41:32			44.5"E	
✓131		1.0		5600	42:43			43"E	
✓132		30	6185	8300	44:33	12:42:32	-38:05:47	41.5"E	
new ✓133		90			46:35			39.5"E	
✓134		225	6250		50:42			35"E	
✓135		75			55:43			30"E	Something wrong
✓136		11			58:20			27.5"E	
✓137		30	6185	8100	6:00:48			25"E	

new
tape

Telescope: 61¹¹

Frame prefix #: FR86D

Day of Week:

RA offset:

Focus:

Humdty:

Sheet #: 11

Observers: DISANTI

Date MST/UT:

Dec offset:

Tailpiece:

Balance:

Temp O/I: 34/38

Schultz WW

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓138	Halle	2	R	11500		6:03:34.1		22 ^m	
✓139		120	6300	4000	07:08	12:42:18.8	-38:04:05	18.5 ^m	
✓140		300		8300	10:39			15 ^m	
✓141		11	TLT	6500	17:07	12:42:12.0	-38:03:17	8.5 ^m E	
✓142		750	11		23:42			02 ^m E	
✓143		11	6300		37:43			13 ^m W	
✓144		180	4565	SAT	7:00:59	12:41:44.0	-37:59:51	36 ^m W	
✓145		120		9200	05:31			40.5 ^m W	
✓146		360		SAT	08:55			44 ^m W	
✓147		20	5139	7100	16:10			51 ^m W	
✓148		100			18:09			53 ^m W	
✓149		6	B	8600	27:45	12:41:28.0	-37:57:38	1 ^h 03 ^m W	
✓150		30		SAT	29:13			1 ^h 05 ^m W	Focus 3694
✓151		2	I	11100	32:28			1 ^h 08 ^m W	Focus 3658
✓152					34:03			1 ^h 09 ^m W	

Telescope:

61"

Frame prefix #: F86D

Day of Week:

Wed/Thur

RA offset:

Focus:

Humdty:

Sheet #:

12

Observers: DISANT

Date MST/UT: Apr 16/17

Dec offset:

Tailpiece:

Balance:

Temp O/I:

SCHULTZ WW

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓153	LAW 84-334	6.0	I	9300	8:01:37	16:16:15.6	14:46:00	1h 58m	Topped off dew 12:45
✓154				8100	08:12			1h 56m	
✓155		10	B	6100	05:31			1h 54m	Focus 3694
✓156		11	11	5400	07:08			1h 52m	
✓157		3	R	9300	23:33			1h 36m	Focus 3650
✓158		11		6400	26:23			1h 33m	
✓159			V	10100	28:47			1h 30.5	
✓160				9200	30:27			1h 28.5	
✓161	Dew 2	1	4/A	733					
✓162	Dew 2	1	4/A	747					
✓163	Kopff 27	20	685	6300	9:06:17	17:43:15	5:27:07	2h 20m	
✓164		11	11	7200	07:52			2h 18m	
✓165		50	6250	7300	10:10			2h 16m	
✓166		11	11	7700	12:14			2h 14m	
✓167			6300		17:06			2h 09m	

Telescope: 61"

Frame prefix #: FR86D

Day of Week: Wed/Thur

RA offset:

Focus:

Humdty:

Sheet #: 13

Observers: DISANTI

Date MST/UT: Apr 16/17

Dec offset:

Tailpiece:

Balance:

Temp O/I:

Schultz WW

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓168	Kop 27	180	6300	5300	9/21:00			2 ^h 05 ^m	
✓169		11	TLT	5400					
✓170		11	11	4800	30:15			1 ^h 55 ^m	
✓171		20	4565	5600	42:52			1 ^h 43 ^m	
✓172		30		7100	44:39			1 ^h 41 ^m	
✓173		10	5139	7400	48:00			1 ^h 38 ^m	
✓174	Flat Field	0.3	R	10000					
✓175				10100					
✓176		0.4	V	9100					
✓177				9200					
✓178		6	6185	9800					
✓179				10000					
✓180		13	6250	9300					
✓181				9300					
✓182		60	6300	9500					

Telescope: 6"

Frame prefix #: FR86D

Day of Week: wed/Thru

RA offset:

Focus:

Humdty: 68 Sheet #: 7

Observers: DISANT1

Date MST/UT: Apr 16/17

Dec offset:

Tailpiece:

Balance:

Temp 0/I: 26/34

14

[illegible]

Telescope: 61"

Frame prefix #: FR86D Day of Week: Thur/Fri

RA offset:

Focus:

Humdty: 45 Sheet #: 15

Observers: DISANTI FINIK Date MST/UT: Apr 17/18
SCHULTZ

Dec offset:

Tailpiece:

Balance:

Temp O/I: 30/38

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓ 196	Flatfield	7	5980	9460					Topped down 6:15
✓ 197				9460					topped off down 8:00
✓ 198		180	4050	4200					
✓ 199				4400					
✓ 200		3	9180	8900					
✓ 201				9000					
✓ 202		2.5	8800	9000					
✓ 203				9000					
New tape ✓ 204	BD+82015	30	8600	5400	3:47:15	8:14:58.5	+7:39:43	1:53 W	
✓ 205		11	11	4500	49:07			1:54	
✓ 206		11	9180	3200	51:17			1:56	
✓ 207		11	11		52:28			1:57	
✓ 208		60	4060	2200	56:32			2:02	
✓ 209				2800	58:39			2:04	
✓ 210			5980		4:01:15			2:0605	

Telescope:

Frame prefix #:

Day of Week:

RA offset:

Focus:

Humdty:

Sheet #: (16)

Observers:

Date MST/UT:

Dec offset:

Tailpiece:

Balance:

Temp O/I:

Exp #	Object	Exp time	Filter alt	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓ 210	BD+8225	10	580	5100	4:02:31	8:14:8.9	+7:39:43	2:08M	
✓ 212		5	5139		05:00			2:10	
✓ 213		45	6290	6100	09:20			2:15	
✓ 214		11	11	6900	15:00			2:20.5	Had to redo --
✓ 215		20	6185	10400	17:26			2:23W	tel jumped ~1" E!
✓ 216		15	"	9000	19:35			2:25	
✓ 217		0.2	R	2100	21:23			~2:45.5	
✓ 218	Halley	2	R	5800				1:00M	
✓ 219		10		SAT	5:12:09			55M	computer died
✓ 220		10	V	SAT	13:25			54M E	
✓ 221		3		8900	14:40			53M E	
✓ 222		30	6185	41500	5:17:09			50M E	
✓ 223		180		SAT	19:15			48M E	
✓ 224		11	6250	9100	23:48			44M E	
✓ 225		300	6300	5000	29:27			38M E	TEMP: 29/34

53.690 tape used.

2094524 megabytes
log 86d16.tif

Telescope: **FR86D**
 Frame prefix #: **FR86D**
 Day of Week: **THURSDAY**
 Observers: **FINK, SCHULTZ, DISNEY**
 Date MST/UT: **17/18 APR**

RA offset:
 Focus:
 Tailpiece:
 Balance:
 Humdty:
 Temp O/I:
 Sheet #: **(12)**

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓ 226	Halley	300	TLT	4200	35:49			0h 31m E	Focus 3660
✓ 227		120	9180	12900	42:30			0h 20m	Focus 3610
✓ 228		120	8600	SAT	51:08			0h 16m	
✓ 229		30	"	5200	54:42			0h 12m	
✓ 230		60	9180	6500	56:29			0h 10m	
✓ 231		30	5980	5600	6:00:55	12:27:35.8	-36:11:26	0h 06m	Focus 3656
✓ 232		120		SAT	03:02	12:27:35.5	-36:11:19	0h 01m	
✓ 233		30	5139	8200	06:22	133.0	-36:11:02	0h 00m	
✓ 234		60			08:14	132.2	-36:10:55	0h 01m	
✓ 235		180	4660	2600	10:17	131.2	-36:10:46	0h 03m	
✓ 236	DWZ	1	N/A						
✓ 237	DWZ	1	N/A						
194 238	HALLEY	30	R	6000	36:55			0:29	4" lens.
15 239	"	60	"	12000	41:41	12:28:51	-36:42:46	0:33.5	T ₀ =27, T ₁ =32
✓ 240	"	"	"	11800	50:15	12:29:16.5	-36:26:40	0:34.0	

6" tel

Telescope: 4" lens

Frame prefix #:

Day of Week:

RA offset: $1\frac{3}{4}^m$ E

Focus:

Humdty:

Sheet #: (18)

Observers:

Date MST/UT:

Dec offset: 41^m S

Tailpiece:

Balance:

Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓ 241	HALEY	60	R	11200	55:49	12:29:158	-36:36:36	0:47W	
✓ 242		180	"		7:00:38	:29:12	36:13	0:52W	
✓ 243		350	6185		06:33			0:58	
75.80 ✓ 244		600		5300	13:21			1:05W	
93.65 ✓ 245		120	R		25:43	12:28:58	-36:34:12	1 ^h 17 ^m	
110.1 ✓ 246		30	V	5300	29:35	12:28:57	-36:33:55	1 ^h 21 ^m	
140.0 ✓ 247		120	"		31:35	12:28:55	-36:33:46	1 ^h 23 ^m	
✓ 248		180	"		35:31	12:28:53	-36:33:27	1 ^h 27 ^m	very good image
✓ 249		300	9180		7:42:59	12:28:49	-36:32:50	1 ^h 35 ^m	
✓ 250		11	8600		49:32	12:28:45	-36:32:14	1 ^h 42 ^m	
✓ 251	DARK	1.0							tapped off dewar 2:20 AM
✓ 252	"	11							
✓ 253	NGC 5033	720	R	9500 1400	10:06:32	13:14:17	+36:04:37	3 ^h 13 ^m	
✓ 254	BS 6629	5	6185	10460	10:34:26	17:48:09.0	2:01:26	52.5 ^m	
✓ 255		11	"	9600	35:50			51 ^m	

Telescope:

4" lens

Frame prefix #:

Day of Week: Thu/Fri

RA offset:

Focus:

Humdty:

Sheet #: (19)

Observers: DISANTI FINIK
Schultz

Date MST/UT: Apr 17/18

Dec offset:

Tailpiece:

Balance:

Temp O/I:

Exp #	Object	Exp time	Filter slit	Counts Object/Sky	Exp start MST	RA set	Dec set	Hour-angle exp-start	Comments (P.A., seeing, Moon, clouds, etc.)
✓256	BS 6629	0.1	V	5000	16:38:37			0 ^h 48 ^m	
✓257		0.2		8600	40:14	17:48:08	+2:09:26	46.5 ^m	
✓258		"	R	7700	41:41			45 ^m	
✓259				8500	42:53			44 ^m	
✓260		60	9180	3900	54:14			0 ^h 32 ^m	
✓261		"	"	3900	56:38			0 ^h 30 ^m	
✓262		"	8600	8400	58:56			0 ^h 28 ^m	
✓263		"	"	8400	11:01:07			0 ^h 25.5 ^m	
✓264	UV 371	1200	R		11:15:28	14:29:23	20:43:57	3 ^h 07.5 ^m	Telescope jumped
✓264	LANG 434	60	R		41:02	16:17:14	+14:10:48	1 ^h 45 ^m	2600 - 334 5000 - 332
✓265		120			46:36	50		1 ^h 51 ^m	4300 - 334 6900 - 332
✓266		"	V		50:30			1 ^h 55 ^m	3300 - 334
✓267		"	"	1200	54:08			1 ^h 58.5 ^m	3100 - 331
✓268		"	R	1500	57:43			2 ^h 02 ^m	3800 - 334 10700 - 332
✓269		60	"		12:01:55			2 ^h 06 ^m	3100 - 334 5500 - 332

Telescope: 4"

Frame prefix #:FR86D

Day of Week: *Thurs/Fri*

RA offset:

Focus:

Humidity:

Sheet #:

20

Observers: DISANTI FINK
SCHULTE

Date MST/UT: Apr 17/18

Dec offset:

Tailpiece:

Balance:

Temp O/I:

[illegible]