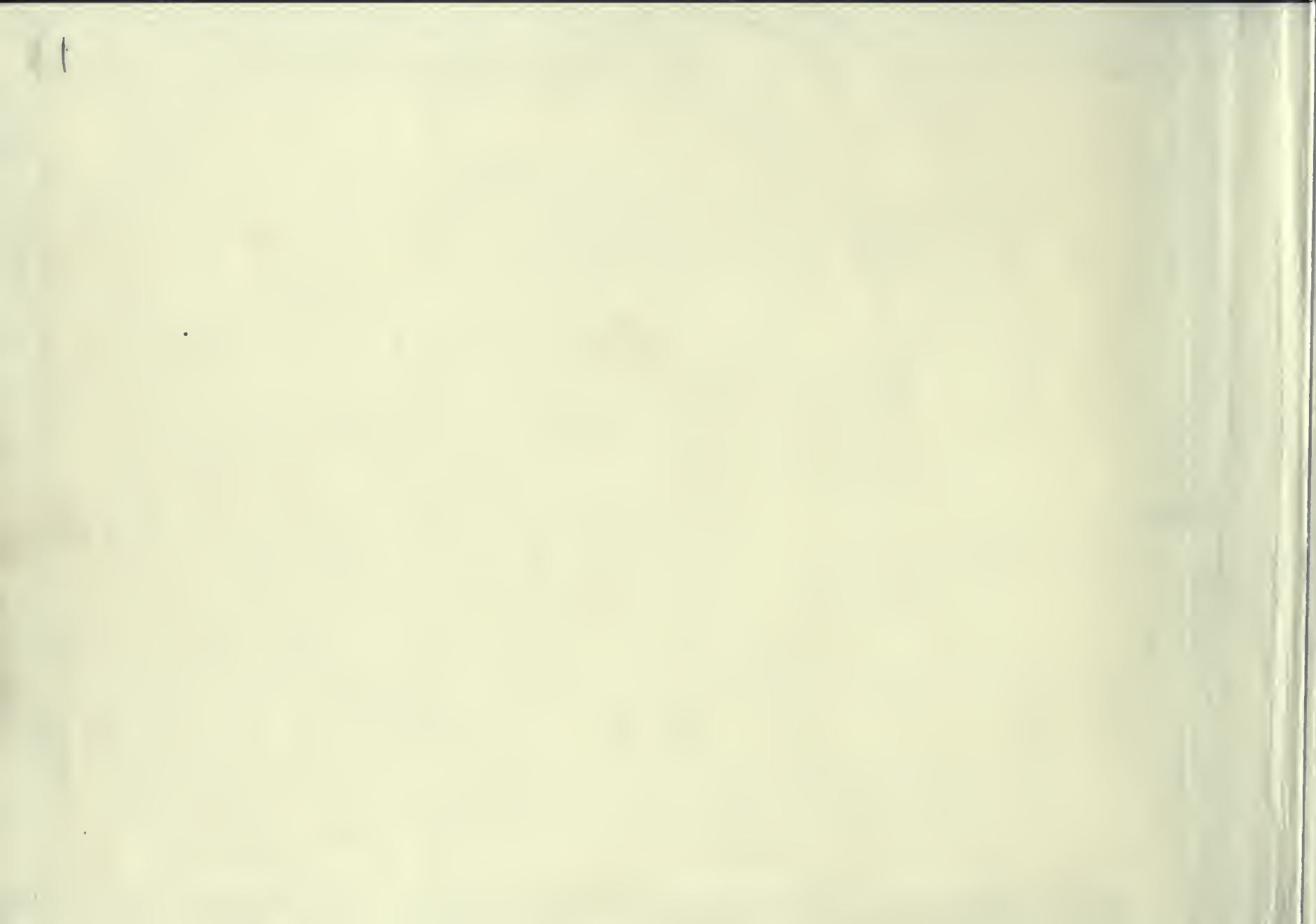


75



CASS Examples

Astronomer	λ	Grating	Date	
KK	5140 Å	1800	Nov 24/25	
Stt	3950 Å	1800-1200	Nov 25	+ Nov Cas 93 6563 Å 831 Å/min Feb 17/18/94
Hlw	4100	1800	Nov 28	
KK	4200	600	Dec 1	
B/h	4476	1800	Dec 11	
Hlw	4940-7000	1800	Dec 19	General mapping
B/h	3730	1800	Dec 11/12/93	
Hlw	4936-6630	1800	Dec 23/24	Several in between regions - observing stars
Tn/Taylor	4865 H β	1800	Dec 26/27	
Hlw	5303	1800	Dec 27/28	
KK	4340	600	Feb 10/11/94	Fiber Feed P+S
KK	3990	x1200 Å/min	Feb 10-12/94	Echelle

3

Spectr. Temp.

Focus

Spectr. Temp.

Mr.	Sec
-----	-----

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions 4

Focus

Spectr. Temp.

Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
David Dunlap Observatory 74" logbook Vol 75 Plate 16943 - 20408 Nov 1993 - March 1994											

Thurs / Fri

Emulsion Batches:

Date 1993 Nov 11/12 Observers MTi / Tr / H/w

CSS Time synchronized to WWV Time.....

[illegible]

90CGAIN CDT $\rightarrow -100^\circ$
5500 7 1024 8 1 CDFMT

[illegible]

7/9/41 Fri / Sat

Date 1993 Nov 12/13..... Observers MKI / Tm.....

Emulsion Batches:

CSS only 5.2 secs ahead of U.W. V. Time.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC 16974 75	Comp / Stellar	Focus		17 33 22 06		0 13E	+41	FeAr clear	40/50
CC 16976	BIHS(4)								
77	Comp							FeAr clear	40s
78	HD 177724	19 0049	+13 4300	17 4644		01-55 W			90s
79	Comp								
80	FLAT					01 58W +14°		TUNG A 1/4	85s
81	Comp							FeAr clear	40
82	HD 222368	23 3448	+05 05	17 5928		02 26E			146
83	Comp							FeAr clear	40
CG 30149	HD 207754	21 4612	+43 25	Seeing Tests	18 19			FeAr clear	67ms
CG 30153	HD 207754 BIHS(4)			"		18 2414			133ms
84	Comp after 20u slit Reinserted							FeAr clear	40s
85	HD 222368	23 3448	+05 05		18 4742	01 37E			15.2
86	Comp							FeAr clear	40
87	BIHS(4)								
88	FLAT								

Spectr. Temp.

Focus....6..

Spectr. Temp

Exp. Mtr.

25K P

4000

I

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Spectr. Temp. Dome Temp./Hum. $+3.8^{\circ}$... $53.7^{\circ}H$ Transparency Conditions ... *Fine - inc. cloud* ...

Focus ... 6.85 ...

FANS on by 17 EST

Spectr. Temp. Dome Temp./Hum. $+1.5^{\circ}$... $58.3^{\circ}H$

CCDT $\rightarrow -100^{\circ}$ 90CGAIN

Comparison ter Exp	Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/50					CASS CCD	1800 l/n/mm	250u	6563A	3/4	E 670 Row	NO AM 120TH	
						6035	decker			skiller 202 Red	Te Encoder on HR8028	
										550 0 7 1024 8	1 CCD Fmt tonig	4+
40s									5c			
90s	25K	poor	2.99	A0V _{unn}					6c	Telluric Std	MAX 2 11 KADU	
									7		1.27 Air mass at start	
85s									8			
40									9			
146s	4000	poor	4.13	F7V					10	Std Vel	MAX 2 7 KADU	
40									11c			
Ent 67ms	J	poor									note. decker removed for seeing tests	
133ms											NE FAN ON only Dome West, no wind	
40s											* Slit Removed & then Reinserted	
152											Was going to use pointer with 300u	
40											Slit, but it is too loose in slot	
									13			
									14	Std Vel	Repeat	
									15			
									1			

9 #2

Date 1993 Nov 12/13. Observers Mki / Th

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC16988	Comp							FeAr clear	40
89	HD177724	19 0049	+13 43 00	19 1248		03 21 W		FeAr clear	76
990	Comp							FeAr clear	40s
991	FLAT							TUNG Ap 1/4	8s
992	BIAS(4)					03 25 W +13°			
993	FLAT					05 05 E		TUNG Ap 1/4	8
994	BIAS(4)								
995	Comp							FeAr clear	40s
996								Dec circle	
-CC17015	V471 THU	03 44 43	+16 57 06	19		04 32 E	+17 20		55s
17016	"	"	"	20 07 19					55s
17055									
17056	BIAS(4)								
57	Comp							FeAr clear	40s
58	FLAT							TUNG Ap 1/4	8s
CC 17059 - 17118	V471 THU			20:53:08		02 43 E			
119	BIAS(4)								

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mir. Se

Spectr. Temp. Dome Temp./Hum. 41.2° 59.5% Transparency Conditions ... *Hazy* ... *part cloudy* ¹⁰
 Focus *6.85*
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Pg Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						<i>250u</i>	<i>6563A</i>	-			
	<i>6"</i>	<i>2.99</i>	<i>HOV ann</i>					<i>6ci</i>	<i>Telluric std</i>	<i>Repeat 1.63 AIR MASS</i> <i>6300 ADUMAX</i>	
								<i>16ci</i>			
								<i>2ci</i>			
								<i>1ci</i>			
								<i>17ci</i>			
	<i>each 4"</i>	<i>9.4</i>	<i>HOV</i>					<i>12ci</i>	<i>Mk. pyg</i>	<i>20 frames using</i> <i>STAR 555. BAT</i>	
	<i>7-10 sec</i>	<i>4"</i>	<i>-9.7</i>	<i>twd</i>				<i>18ci</i>	<i>" "</i>	<i>40 frames, (Hazy)</i>	
	<i>TOTAL for 40 frames</i>							<i>1ci</i>	<i>STAR 555</i>	<i>Cycle Length 6.3 sec</i>	
								<i>19ci</i>			
								<i>20</i>			
								<i>2ci</i>		<i>Mark at 21:03</i>	
										<i>1.38 AIR MASS</i> <i>at end</i>	

11 1943

Date 1993 Nov 12/13... Observers m.ki./Jn.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC17120	FLAT							TUNG Hp 1/4	8
21	Comp							FeAr Clear	40s
CC17122- 181	V471 TAU	03 44 43	+16 57 06	22: 00: 53		01 35 E		FeAr	55sec
182	BIAS(4)								
183	Comp							FeAr Clear	40s
184	FLAT							TUNG Ap 1/4	8s
→ 185 244	V471 TAU	03 44 43	+16 57 06	23 06 45		00 29 E		each	55sec
CC17245	BIAS(4)								
246	Comp							FeAr Clear	40s
247	FLAT							TUNG Ap 1/4	8s
→ 248 249	V471 TAU	03 44 43	+16 57 06	00 14 41					55sec
→ 307	n					00 39.5 W			
308	BIAS(4)								
309	FLAT							TUNG Ap 1/4	8s
310	Comp							FeAr Clear	40

Spectr. Temp.

Focus... 6.1

Spectr. Temp.

Exp. Mtr.

S

Dep. 3

Dep. 3
Failure
with
Control

Dome Temp./Hum.

[illegible]

13 pg #4

Date 1993 Nov 2/13..... Observers mtj/Tn.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC17311 → 340	V471 THU	03 44 43	+16 57 08	01 22 45		01 16 W			55s
→ 341 → 349	"	"	"	01 55 15		01 50 W			55s
350	B145(A)							FeAr	
352	Comp							CLEAR	40s
351	FLAT.							TUNG Ap 1/4	8s
	Comp								
	HD 87901	10 03 03	+12 27 00						

$$C_{CDT} = -102.0^{\circ}\text{C}$$
[illegible]

Pg ①
15

Mon/Tues

Date 1993 Nov. 15/16.. Observers [Rm.] Tu. I. H/w.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC17353	BIHS(4)								
54	Focus								
55	comp/5 tellur/Hartman Posits			22 30					30/38
56	Comp							FeAr Clear	60sec
57	HD 214975	22 36 55	+56 18 24	22 47		04 00W			1803
58	Comp							FeAr Clear	60sec
59	HD 214975	22 36 55	+56 18 24	23 24 49		04 38W			1804
60	Comp							FeAr Clear	60sec
61-63	FLATS x 3					04 40W	+56 45	TUNG AP1/2	5sec
64	Bias (4)								
65	Comp							FeAr Clear	60 s
66	HD 237190	03 46 10	+58 21 18	00:14:50		00:14 W	+58 38		1805s
67	Comp					00:14 W		FeAr Clear	60sec
68	HD 237190	03 46 10	+58 21 18	00:47:51		00 48W			1800s
69	Comp							FeAr Clear	60sec
CG 30155-59	HD 29587	04 34 30	+41 57 00						67ms
59-60	HD 29587	"	"						133ms

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

S

1200

1018

1066

1150

Spectr. Temp. Dome Temp./Hum. $+4.4^{\circ}\text{C}$... 70% Transparency Conditions *clearing* 16...

Focus **6682**

Spectr. Temp. Dome Temp./Hum. $+2.5^{\circ}\text{C}$... 70.8% *CCDT $\rightarrow -100^{\circ}\text{C}$ 90 CGAIN*

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 μm G=5910	300 μ	6400A	1c:			
30/38								3/4	Focus Test	right in focus at centre plate	
60s								5		(catwalk) Humidex: 87% @ 1730	
1803	1200	4"	8.40	GOIb				6	Rm pgm	(Ceptoid) 92% @ 1845	
60s								7		(200/1 S/N) 93% @ 2300	
1804	1018		8.40	GOIb				6c:	Rm pgm.	95% @ 0200	
60s								7c:			
5s								8c:		12k max	
60s								9c:			
1805	1066	Real/ BAD	8.64	GOIb				10c:	Rm pgm		
60s		>8"						9c:			
1800s	1150	REAL Bad (I mean BAD)	8.64	GOIb				11c:	Rm pgm		
60s								12c:			
67ms			7.29	dG2					Seeing Test	Intensifier 304	
133ms			7.29	dG2					Seeing Test	" 282	

pg ②

17 Nov 15/16 1993 Observers [Rm]/Hlw/Tn

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc17370	Bias (4)								
71	Comp							FeAr clear	60s
72	HD29587	04 34 30	41 57 00	01:37:04					1200s
73	Comp							FeAr Clear	60s
74	Comp							"	"
75	* SZ TAY	04 31 26	18 20 24	02 12 54		01 10 W			60s
76	Comp							FeAr Clear	60s
77-79	3x Flats							Tung 1/2 Ap	5 sec
80	Bias (4)								
81	Comp							FeAr Clear	60s
82	HD 30282	04 41 05	+36 32 06	02 42 57		01 40 W			1200s
83	Comp							FeAr Clear	60s
84	Comp							"	"
85	HD 44 990	06 19 48	+7 08	03 11 53		10:19			469
86	Comp								
87	Bias (4)								

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

S

3070

3200

3020

4

3500

Spectr. Temp. Dome Temp./Hum. $+2.3/71.8\%$ Transparency Conditions Clear 18
 Focus 6.82
 Spectr. Temp. Dome Temp./Hum. $+2.0/71.0\%$

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 5910	300 μ	6400A				
60s											
1200s	3070	7.29	dG2					14c	Std Vel.	~250 SNR	
60s								15c			
60s								15c			
60s	3200	5" 6.33 -6.75	F5TB -F9.5TB					16c	Rm pgm		
60s								17c			
5s											
60s											
1200s	3020	4" 7.9 -8.8	F6 -G1					18			
60s								19	Rm pgm	~270 SNR	
60s								20			
60s								21			
469	3500	5.6 -6.6	F7 -K1					22	Rm pgm	phase = .23 should be V = 6.0	
								23			

Spectr. Temp.

Dome Temp./Hum.

Exp.	Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
							300 μ	6400A				
3/8									3/4	#1 Focus Test	Done while topping up. 1.8 °C, seems OK TOO	
											All to PERSONS & WORM	

pg ① 23

Thurs / Fri

Date Nov. 18/19 1993

Observers MKC / Hlw / Tn

Emulsion Batches:

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CSS 386 Clock Reset before exp 17526

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc17501	Bias (4)								
502/503	Comp/Stellar							FeAr Clear	30/40
504	Flat					-0:15 E	+44:17	Tung x4 Ap FeAr Clear	8s 40s
505	Comp								
506	HD177724	19 00 49	+13 42 53	17:37:30					49s
507	Comp							FeAr Clear	40s
508	Comp							"	40s
509	HD222368	23 34 48	+5:05:00	17:51:01			Re-circle 05 41		192s
510	Comp							"	40s
CG30165 ⁶⁴	HD207754	21 46 12	+43 25 00					4x	.067s
CG30165 ⁶⁶	"	"	"	18 11		0 0		2x	.133s
cc17511	Bias (4)								
512	Flat					+0:12	+43:51	Tung x4 Ap FeAr Clear	8se 40s
513	Comp								
514	FLAT @	V471 Tau	posn						

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

S

5360

5100

Spectr. Temp. Dome Temp./Hum. $+4.8^{\circ}\text{C}/56.2\%$ Transparency Conditions *clear* ... some scattered ²⁴ clouds
 Focus 6.86
 Spectr. Temp. Dome Temp./Hum. $+3.4^{\circ}\text{C}/63.7\%$ Both Filters on ^{before} 17 EST
 550 0 7 1024 8 1 ccdfmt

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Pg ✓ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						Cass CCD	800 l/mm G=6035	250μ with dekker	Clambda = 6563Å	1ci		cgain = 90 ccd temp = -100°C	
	30/40									3/4	Focus Test		
	8s									7ci			
	40s									5ci			
	49s	5300		2.99	A0V					8ci	Telluric		
	40s									9ci		← Up to and including this comp 386 time was ahead 8 seconds. Now it is set to exact WWF time.	
	40s									10ci			
	172s	5100		4.13	F7V					11ci	Std. Vel.		
	40s									12ci			
	063s		OK	7.32	K0 III	SEFAR off by 17:37					Seeing Tests	Pump T = $+4.0^{\circ}\text{C}$ Pump west, No Wind	
	173s										n n		
										1ci			
	85s									7ci			
	40s									7ci			

25

Date Nov. 18/19 1993 Observers M.K.I. / Tn / H.W.

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc17 515-574	60x V 471 Tauri	03 44 43	+16 57 06	18 18:50:00		04 26 E		each	52s
575	BIHS(4)								
576	Comp							FeAr clear	40s
77	FLAT							Ap=1/4	8s
cc17578 637	60x V 471 Tau	03 44 43	+16 57 06	19 55 28		03:18 E		each	52s
638	Bias(4)								
639	Flat							Ap=1/4 Tung	8s
640	Comp							FeAr clear	40
cc641- 700	60x V 471 Tauri	03 44 43	+16 57 06	21:01:01	end exp start time 21 59 40	02 13 E		each	52s
701	BIAS(4)								
702	Comp							FeAr clear	40s
703	FLAT							TUNG Ap 1/4	8s
cc17704 cc17763	60x V 471 Tau	03 44 43	+16 57 06	22 07 39		01 07 E			52s
cc17764	BIHS(4)								
765	FLAT							TUNG Ap 1/4	8s

Spectr. Temp.
Focus.....6
Spectr. Temp.

Exp. Mir. Se

FOHA

465 3

~700 2

1100

786

Spectr. Temp. Dome Temp./Hum. $+3.3^{\circ}\text{C} / 63.7\%$ Transparency Conditions ... *partly cloudy* 26

Focus 6.86

Spectr. Temp. Dome Temp./Hum. $+2.5^{\circ}\text{C} / 72.6\%$ @ ~~2130~~ 2130

Comparison
Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
TOTAL 465	3"	9.4 -9.7	KO II +w.d.	CASS CCD	1800 d/mm G=6035	250 μ with dekker	clambda = 6563A	6ci	Mki	60 frames Started @ HA -5:25 through Air mass = 3.2	
								1ci			
								9ci		Catwalk Humidity:	
								10ci		81% @ 1900	
										90% @ 2100	
~700	2-3"	"	"					11ci	Mki pgn	thin cloud (mostly)	
								1ci		$\delta \downarrow \delta$	
								12ci		91% @ 2130	
								13ci		94% @ 2300	
1100	2"	"	"					14ci	Mki	Faint star seen 15" west still thin cloud at times	
								1ci		Dome T = $+2.3^{\circ}\text{C}$	
								15ci			
								16ci		11 K ADU max	
786								17ci	Mki pgn		
								1ci			
								18ci			

Spectr. Temp.

Transparency Conditions *incr. cloud*..... 28

Focus . . . 6.86

Spectr. Temp.

Dome Temp./Hum. $+2.0^{\circ}\text{C}$ 80%

[illegible]

pg 129

Date 1993. Nov. 20/21. Observers [Bln.] In. I.H.W.

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc17804	Bias (4)								
805/806	Comp/ Stellar	Hartman						FeAr clear	30/40
807	Comp							FeAr clear	60s
808	HD177724	19 00 49	+13 42 53	17 52 09					147
809	Comp							"	60s
810	Comp							"	60s
811 811	^{DR Vul} BD+26 3835	20 09 36	+26 27 00	18 03 52		02 18W			2700s
812	Comp							FeAr clear	60s
813	^{DR Vul} BD+26 3835	20 09 36	+26 27 00	18 51 35		03:05:30W			2700
814	Comp							FeAr clear	60s
815	Comp							"	"
816	HD1061	00 09 50	+8 :16:00	19:43:44		00 22E			1559
817	Comp							FeAr clear	60s
818	Bias (4)								
819	HD1061	00 09 50	+8 16 00	20 14 53		00 15 W			1911
820	Comp							FeAr clear	60s

Spectr. Temp.

Focus. 690

Spectr. Temp.

Exp. Mtr.

S

T=-1

20000

1975

1650

10000

8790

Spectr. Temp. Dome Temp./Hum. -1.1°C 59.8% Transparency Conditions ... Part Clear ... 50

Focus . 6.90

Spectr. Temp. Dome Temp./Hum.

CCDT $\rightarrow -100^{\circ}\text{C}$ 90CGAIN
480 0 50 1024 4 1 ccdfmt

Comparison Iter. Exp.	Exp. Mir.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality S/M
					Cass CCD	1800 $\text{\AA}/\text{mm}$ G = 6055	300 μ	6638 6600 $\text{\AA}$	1ci		Both FANS on by 17:00 SE Turned off 17:50	
30/40		$T = -1.3^{\circ}\text{C}$							3/4ci	Focus Test		
60s									4ci			
147	20,000		$V = 2.99$	ADV					5ci	Telluric		
60s									6ci			
60s									7ci	Sp-Bin		
2700s	1975	4.5"	8.6 -9.3	B8					8ci	Bin	20 K photons 2 Aug. color photo emission in H α & H β lines + narrow ABS @ 6620 $\text{\AA}$	190/1
60s									9ci	sp-Bin		
2700	1650	5"							10ci	Bin. Repeat sum cloud		
60s									11			
1									12			
1559	10000	5"	6.15	A9s					13	Bin pgrm	$\rightarrow 300$ It's pretty cloudy now.	$\rightarrow 300/1$
60s									14ci			
									1ci			
1911	8790		6.15	A9s					15ci	Bin pgrm repeat	Cloud	
60s									16			

#271

Date Nov 20/21 1993 Observers [BIN]/Tn/Hlw

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC17821	Comp							FeAr clear	60s
822	HD 5737	00 53 47	-29 53 52	21 30 41		00 26 W			609s
823	Comp								60s
824	Bias(4)								
825	Comp							FeAr clear	60s
26	HD 19832	03 06 17	+26 52 48	21:50:21					900s
27	Comp							"	60
28	Comp								
29	HD 21699	03 25 06	+47 41 00	22:21:19					539
30	Comp								
31	Bias(4)								
32-37	6x Flat							Tung 1/2 Ap	4s
38	Comp							FeAr clear	60s
39	HD 25642	03 59 08	+50 04 48	22 48 20		01 27 E			447s
40	Comp							FeAr clear	60s

Spectr. Temp.

Focus... 690

Spectr. Temp.

Exp. Mtr. Se

10000 8

10000

10 K

21 K

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions . *PART. → mostly cloudy*Focus ... *690*

Spectr. Temp.

Dome Temp./Hum. ... *-4.0°C / 68.4%* ...Comparison
Mtr. Exp.

64

60s

64

60s

90s

60

539

4s

60s

448

64

Exp. Mtr.

Seeing

Ptg.
Mag.

Sp.

Inst.

Grating/
Tilt

Slit

Emulsion

P.H.

Program

Remarks

Quality

*180014/m 300m
G=6055**6600A**17c**10000**8"**18**Blh pgm**19c**20**20**10000**V= 5.79 B8(SL)**22**Blu**22**23**10 K**B= 5.36 B8III_p**24**Blh pgm.**25**26**26i**27**21 K**V= 4.29 A0IV**28**telluric std.**En. in H₂ Line
1.04 AIRPASS**29*

Pg 3 77

Date Nov 20/21. 1993 Observers [Bin]/Tn/Hlw

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc17841	Comp							FeAr Clear	60s
42	HD21686	03 24 56	+10 59 37	23 08 15					600s
43	Comp							"	60s
44	Bias (4)								
45-47	3x Flats								
48/49	Comp/Stellar Hartman					Zenith		FeAr Clear	30/40
Nov 22/73 Focus Set vs shift exps (Time 22-22:50)									
cc17850/51	Comp/Stellar Hartman					00 00	+41°		
852	FLAT m							FeAr Clear	40/65
53/54	Comp/Stellar							Clear/Tung	70s
55	FLAT							FeAr Clear	40/75
56	Bias (4)							clear TUNG	70
57/58	Comp/Stellar							clear	FeAr 60/60
59/60	Comp/Stellar							FeAr	60/60
61	FLAT							Hp 1/4	55

Spectr. Temp.

Focus... 6.9

Spectr. Temp.

Exp. Mtr.

Sec

2500

Dzre T = +60°C

Set 7

Set 6

Set 6

6

Set 7

Set 6

2 6

Spectr. Temp. Dome Temp./Hum. $-3.9^{\circ}\text{C}/68.4\%$ Transparency Conditions ... Clear, Clouds here²⁴ and there

Focus ... 6.90

Spectr. Temp. Dome Temp./Hum.

still $\approx 6500\text{\AA}$ (no change from previous) ²⁴

Comparison Iter. Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60s					CASS CCD	1800 μm G=6055	300 μm	6563	36i		90% Humidity ⁰¹ Catwalk	
600s	12500	POCR	V= 5.4	A0IV					30u	Telluric	1.20 Airmass	
60s									29u 6ci			
30/4u											Focus Test, stellar Right on ocaltg still sl Blue @ Blue end	
Dome T = +6.0°C All to WORM & Persious Temp												
40/6s	Set 7.30				G=4220	1800 μm G=5440	300u Full	3960A				
70s	Set 6.70 Set 7.30				"	"	"	"				
40/7s	Set 6.70				"	"	21	"				
70	6.70											
60/60	Set 7.30	T = +5.8°C			G=5910	1800 μm		6460A				
60/60	Set 6.70			"				"				
65	2 6.70							"				

25
pg 1 Wed - Thurs

Date 1993 Nov 24/25.... Observers [KK] Tn.....

Emulsion Batches:

CSS Time Fast 8 sec. a.f. U.V.V. Time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc17862	BIAS(4)			17 23			using OLD Doc circle		
⁶³ / ₆₄	Comp / Stellar HARTMAN					00 30	+44°		30/35
65	Comp for BARNARD'S star			17 51 38				FeNo clear	60 sec
66	BARNARD'S star	17 57 49	+04 40 48	17 53 59		TEL East side 04 24 40 W	+04 41		1800
67	BD+04 3561 Comp →							FeNo clear	60s
68	BD+04 3561	17 57 49	+04 40 48	18 26 45		04 56 W			1727
69	Comp							FeNo clear	60s
⁷⁰ / ₇₂	FLATS x 3					05 00 W	+04 41	TYNG AP 1/2	10 sec
73	BIAS(4)								
74	Comp								
cc17875	AC+65 6955	20 29 00	+65 06 00	19 28 45		03 36 W	+65 22		2336
CG 30167 - 169	"								
17876	Comp							FeNo clear	60s
77	Comp							n	n
78	AC+65 6955?	20 29 00	+65 06 00	20 25 16		04 25 30 W	+65 27		1830
79	Comp								

Spectr. Temp. .

Focus....7.0

Spectr. Temp.

Exp. Mtr. See

733 3

600 4

270 3

550 3

Spectr. Temp. Dome Temp./Hum. 00°C 531% H Transparency Conditions ... Clearing nicol/g 36

Focus 7.00

Spectr. Temp. Dome Temp./Hum. 90CGH in CCT $\rightarrow -100^{\circ}\text{C}$

Comparison
Filter Exp.

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD				1			
31/35					1800 lines G=5000	300u FULL	5140A	3/4		PIXEL STEREO 482-491 2.3 pnd Rad	
60sec								5		ARR -0000 237 FOR KINDWAGESAD +0000 57 HR 6714	
733	3"	10	M5V	(≈ 2800 photons $\therefore 18/1$ S/N I guess.)				6ci	K/K pgm	ARR -0000 22 FOR BURNARDS ARR +0000 45 Field Drawn	
60s								7ci			
1727	4"	10	M5V					8ci	K/K pgm	in Trans I think	
60s								9ci			
10sec								10ci		MAX = 7.01 KADU	
								1ci		Dome T = -1.5°C	
								11			
2336	3"	104	M3.5	(Yes, Spectrum certainly M type)				12	K/K pgm	FRAMES TAKEN in Im Agn view for Field purposes.	
60s								13		TURNED DOWN Not for seeing tests Int for 18 stones (change not in header though)	
1								14		FOR AC+65 6955 ARR -0000 33 FROM CARD 1900 record ARR +0002 30	
1830	3"	10	($\approx$ K ^{DR} or type G)					15	Whon Gone	Fields drawn	
								16			

Spectr. Temp. Dome Temp./Hum. -3.3°C 47.6% Transparency Conditions $\text{FINE} - \text{sl. hazy}$
 Focus 7.00
 Spectr. Temp. Dome Temp./Hum.
 Both FANSON at start of night.
 SE off by OBS start.

Comparison
Filter Exp.

Exp. Mtr.	Seeing	P.C. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CMS CCD	1800 lines G=5000	300um Full	5140R	1c			
250	3"	10.4	M3					17 18		* 1150 in hazy 3 K photons E Aug abae	
160	3.5"	10.8	M2.5	East one of Pair		Sep = 2'		19c	Midwark	Repeat of CCI 78.75 Sep Th 15th shot	
								20c	Midwark	15 KH -00 00 37 20c +00 00 54	
								21c			
4900	4.5"	5.63	KOV					22c	KK pgm	seeing going fast	
								23c			
								24c			
2720	5"	7.29	dG2					25c	std vel	Tel still East side	
								26c			
x 67ms @ G=10, Int @ 280										Tel REVERSED Seeing Test, Domo East Light NE wind	
2 x 133m sec								5140R	2c		

2A pg #3

Date ... 1993 Nov 24/25 ...

Observers [S.T.] / T.Y.

Emulsion Batches:

This page 9/11 3950 Å, 1800 Å, 1200 Å gratings

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc17900	Comp/stellar	HARTMAN		00 00		03 40E	+28 16	FeNe Clear	30/
cc17900	HD 62509	07 39 12	+28 16 00	00 06	00 09 56	03 36E	Accidental	40	30 sec
	Took a Break, Rather than Try to Reset Heuricon etc							FOR HARD COPY!	
cc17900	Comp/stellar	Focus Test				02 32E	+28 16	FeNe Clear	30/45
01	Comp							No Filters in Beam	60s
02	HD 62509	07 39 12	+28 16 00	01 16 09		02 23E	" " "	" " "	398
03	Comp							FeNe Clear	60s
04	BIHS(4)								
05	FLATS x 3						Clear	TUNG	100s
06									
→ 08	Comp/stellar	HARTMAN (written during exp)				NO FILTER USED	"	FeNe Clear	30/45
10	Comp					FILTER BG 39 in FOR comp too	"	"	60s
11	HD 62509	07 39 12	+28 16 00	01 46 33		FILTER BG 39 TRANSFERRED TO STELLAR			479
12	Comp					WITH BG 39		FeNe Clear	60s
13	FLATS x 5					"	Clear	TUNG	120s
→ 14									
15	BIHS(4)								
16									
17									
18									
19									

Spectr. Temp.

Focus 7.00

Spectr. Temp.

Exp. Mtr. Se

ABAT

05K

Not

20K

Set 7.00

10K

1/3

Spectr. Temp. Dome Temp./Hum. -6.6°C 49% Transparency Conditions ... Fine 40
 Focus 7.00
 Spectr. Temp. Dome Temp./Hum. -8.2°C 56%
 1800 FMT 480 0 50 1024 41
 1200 FMT 430 0 50 1024 41
 90 CGAIN

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
ABORTED				CASS CCD			3950A			Accidentally started a 4030 sec comp Then let star do its thing	
105K				1800 l/m		250u		30ci	Srt. (Will be a Composite + comp)		
Not kept				But used for ID anyway		with pointers	3950A			Dome T = -7.3°C OLEST	
				1800 l/m				27/28		Pixel d 494-503 Steller 2 pixel Red 2: OK for range	
				* G=4220				29ci			
200K	5"	1.14	K014b	Header SAYS 4210 But that's OK ITS 4220			3950A	30ci	Srt pgm	MAX = 11 K ADU also Std Vel	
								31ci			
								1ci			
								27/28			
Set 7.00				CASS CCD	1200 l/m	250u	3950	30ci		210K max 621-630 3950A SKILLAR	
					G=5090	(checked)		27/28ci	Foc	500s for 1200 l/m 2px Blue	
110K	(poor) 8"			1.14 K014b				32			
								33	Srt Pgm	8.1 A / min	
								5ci			
For 1st 3,				180 FOR last 2.				30ci		120 sec exp MAX = 6800 ADU But only 2500 in Blue	
								1ci			

page 1 41 Thu / Fri

Date . Nov. 25/26 1993

Observers [Rm]/Tn/Hlw

Emulsion Batches:

CSS still 8 secs ahead of war.V. Time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination Dec circle	Comparison Type/Filter	Exp.
cc17920	Bias (4)						To compare w. encoders		
21/22	Comp/ Stellar	Hartman						Fe Ar clear	30/42
23	Comp.						+58 43	Fe Ar clear	60s
24	HD237190	03 46 10	+58 21 18	23 23 25					1800s
25	Comp							"	60s
26	HD237190	03 46 10	+58 21 18	23 57 33		+0:05 W			2056s
27	Comp							Fe Ar clear	60s
28	Comp							"	60s
29	RX HD25361 Cam	03 56 42	+58 22 59	00 42 35		01 11 W			1788s
30	Comp							Fe Ar clear	60s
cg30176-9	4x HD29587					0:46 W	encoder +42:07	4x	67ms
30180-81	2x HD29587					"	"	2x	133ms
31	Comp							Fe Ar clear	60s
32	HD29587	04 34 30	+41 57 00	01 29 12		01 14 W	Dec circle +42 12		1367
33	Comp							Fe Ar clear	60s
34	B145(4)								

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mir.

Se

124

854

3008

2400

Spectr. Temp. Dome Temp./Hum. -4.8°C $+69.2\%$ Transparency Conditions *partial clearing* 42
 Focus 6.93
 Spectr. Temp. Dome Temp./Hum. -4.5°C $+80\%$ H *increasing thickness of cloud.*

Comparison
 Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 ℓ /mm	300 μ	6400A				
					G=5910						
								3/4	Focus Test	T = -5.0°C	
								5c.			
1124		8.64	GOIb					6c.	Rm	RW Cam.	
								7			
854		8.64	GOIb					8	Rm	RW Cam again!	
								9			
								10			
3008								11	kin caphead	<i>thickening cloud</i> Airmass 1.046	
								12			
	poor	7.29	dG2							Seeing test	
										"	
								12			
2400	4"	7.29	dG2					13	Std Vel		
								14c.			
								10i			

Spectr. Temp.

Dome Temp./Hum. -4.4°C .. 81.1%

Focus . . . 7:00

Spectr. Temp.

Dome Temp./Hum. *-3.3C 84%*

Transparency Conditions

c Ring about moon

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2	60s					Cass	1800 G=5910	300 μ	6400A	15		✓ Edit H order ✓ * Exp recovered after CS38 CRASH.	
	716	4000		6.33 -6.75	F51b -F9.51b					16	Am cepheid spec	No problem though.	
	60s									17ci			
	4									18ci			
	97s	34000		1.35	B7V					19ci	Telluric		
	60s									20ci			
	1									21ci			
	716	24500	4"	4.79	F6IV					22ci	std vel	cloudy now.	
	60s									23ci			
	16									1ci			
	5									24ci		12k max AD4	
											All To Perseus & WORM		

145

Date Nov 28/93 Observers Ust (RG)/Hlw

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc17950	Bias (4)		386	Clock	<u>FAST</u> 11	seconds			
51/52	Comp/Stellar	Hartman							25/40
17953	HD 182835 comp	19 21 24	+00 08 21	18 ^h 37 ^m 43 ^s		3 ^h 26 ^m	+17 42 ^N		
17954	HD 182835.								796 ^s
17955	comp							FeNe clear	60 ^s
17956	HD comp.							FeNe clear	60 ^s
17957	HD 188512.	19 50 24	+06 09 00	19 ^h 01 ^m 13 ^s		3 ^h 28 ^m 42 ^s	+6 23 9 ^N		496 ^s
17958	HD 188512			19 09 59		3 37 42	+6 23 12.		509 ^s
17959	HD 188512 Comp							FeNe clear	60 ^s
17960	HD 188512	19 50 24	06 09 00	19 25 57		3:57 W			800 ^s
17961	HD 188512	19 50 24	06 09 00	19 39 33		4			647 ^s
17962	Comp							FeNe clear	60 ^s
17963	comp							FeNe clear	60 ^s
17964	HD 204867.	21 31 48	-06 01 00	19:59:52		2 ^h 50 ^m 25 ^s	-5 37 36		390 ^s 384
17965	HD 204867.	21 26 18	-06 01 00	20:06:59					401 ^s
17966	HD 204867	21 26 18	-06 01 00	20:15:00		2 ^h 58 ^m 31 ^s	-5 18 3		263

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

S

15K

20K

23K

25K

17K

25K

32K

20K

Spectr. Temp. Dome Temp./Hum. ... ~~-0.2~~ °C / +64.5% Transparency Conditions .clouding/ Full moon 46
 Focus 698
 Spectr. Temp. Dome Temp./Hum. ... ~~+64.5~~ % -0.8 / +66% Both Fans ON until 1st exposure, then ~~off~~ turned off.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion lambda	P.H.	Program	Remarks	Quality
				Cass CD	1800/mm G=4310	300μ slit	4100Å	1ci			
25/40								3/4ci	Focus test.		
76s		4.64	F2Ib					6ci	Vst (r6) ↓	~120 s/N	Done with 300μ slit. oops.
60s								6ci			
60s								7ci			
49s								8ci			
50s		3.71	G8IV					9ci	Vst	120 s/N	
60s		3.71	G8IV					9ci	Vst		
800s						250μ		10ci			
647s		3.71	G8IV					11ci	Vst	130 s/N	
60s		3.71	G8IV					11ci			
60s		2.89	G0Ib					12ci			
28/5		2.89	G0Ib					13ci			
25K		2.89	G0Ib					14ci		135 s/N	
32K		2.89	G0Ib					14ci		130 s/N	
20K								14ci			

#47

Date Nov 28/93 Observers Vst (rb) / Hlw

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
17967	Comp							FeNe clear	60s
17968	Bias(4)								
17969	Flats x5.					+3:09(w)	-5:37	Tungsten clear	20s
17974 17975	comp HD 209 750	22 00 39	-00 48 00	20 34 01		2:48(w)	-0 22	FeNe	60s 322s
17976	HD 209 750	22 00 39	-00 48 00	20:40:41		2:54(w)	-022		385s
17977	HD 209 750	22 00 39	-00 48 00	20:45:40					307s
17978	comp							FeNe clear	60s
17979	comp							FeNe clear	60s
17980	HD 206 859	21 39 47	+16 53 00	21:08:14		3 53(w)	17 19(N)		900s
17981	HD 206 859	21 39 47	+16 53 00	21:23:41		4 09(w)	17 19(N)		900s
17982	HD 206 859	21 39 47	+16 53 00	21:38:59		4 24(w)	17 19(N)		900s
17983	comp.							FeNe clear	60s
17984	comp							FeNe clear	60s
17985	HD 17918	02 47 37	16 05 00	22:05:46		-6 43	16 26		1350s
17986	HD 17918	02 47 37	16 05 00	22:31:19		14 47	16 26		1385s
17987	comp							FeNe clear	60s

2
Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mir. Se

25K

25K

25K

25K

25K

25K

7500

7500

2 Spectr. Temp. Dome Temp./Hum. ... -0.9 / +66% Transparency Conditions ... Hazy, ... partial ... clouds.
 Focus 6.98 Full Moon. 48
 Spectr. Temp. Dome Temp./Hum. ... -1.6 / +71.6

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion C. Lambda	P.H.	Program	Remarks	Quality
60s					Cass CCD.	1800 P/mm G=4310	250 um	4100A	15ci	Vst(rG)		
									1ci			
20s									16ci			
30s	25K.		2.93	G2Ib					17ci			
30s	25K		2.93	G2Ib					18ci			
307s	27K		2.93	G2Ib					18ci		S/N 120	
60s	-								19ci		S/N 120	
60s									20ci			
900s	26700		4.35	G5Ib					21ci		S/N 120.	
900s	23K.		4.35	G5Ib					21ci			
900s	23K.		4.35	G5Ib					21ci			
60s									22ci			
60s									23ci			
1350s	7500		6.29	F5II					24ci		S/N 130	
135s	7500		6.29	F5III					25ci			
									26ci			

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Date ... Nov. 28/93 ... Observers Vst(r.g)/H/W ...

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	Se
17988	Bias (x4)							-			
17989 ^{ab}	Flats (x5)							Tungsten clear.	40s.		
1799 ^{ab}	Comp							FeNe clear	60s		
17995	HD 17584	02 44 16	37 54 00	23:13:24					450s	30K	
17996	HD 17584	02 44 16	37 54 00	23:21:08					450s	31K	
17997	HD 17584	02 44 16	37 54 00	23:29:14					450s.	31K	
17998	Comp							FeNe clear	60s		
17999	Comp							FeNe clear	60s		
18000	HD 20902	03 17 11	+49 30 00	23:50:26					70s	30K	
18001	HD 20902	03 17 11	+49 30 00	23:53:12					78s	30K	
18002	HD 20902.	03 17 11	+49 30 00	23:54:43		0 46 ^{H7} 46 ⁵ (w)	50		68s.	30K	
18003	Comp			23:58:00				FeNe clear	60s		
18004	Comp							"	60s		
18005	Bias (4)										
18006	HD 3421	00 32 00	+34 51 00	00:22:29		4 19	35 20.		1200s	5K	
18007	HD 3421	00 32 00	+34 51 00	00:42:55		4 43			1300s	4K	
18008	HD 3421	00 32 00	+34 51 00	01:05:07					1300s	4K	

3 Spectr. Temp.

Focus.....

Spectr. Temp.

³
 Spectr. Temp. Dome Temp./Hum. ... 1.6 / +71.6 Transparency Conditions ... clear 50
 Focus 6.98
 Spectr. Temp. Dome Temp./Hum. ... 2.5 / +79.5
 Full moon in
 eclipse @ 1⁰⁰ am

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion <i>Lambda</i>	P.H.	Program	Remarks	Quality
				<i>cass ccd</i>	<i>1800l/mm G=4310</i>	<i>250um</i>	<i>4100A</i>	<i>1ci</i>	<i>Vst(r6)</i>		
				↓	↓			<i>27ci</i>			
								<i>28ci</i>	↓		
<i>450s</i>	<i>20K</i>	<i>4.22</i>	<i>F2III</i>					<i>29ci</i>			
<i>450s</i>	<i>21K</i>	<i>4.22</i>	<i>F2III</i>					<i>29ci</i>			
<i>450s</i>	<i>19K</i>	<i>4.22</i>	<i>F2III</i>					<i>29ci</i>			
<i>60s</i>								<i>32ci</i>			
<i>60s</i>								<i>5ci</i>			
<i>70s</i>	<i>30K</i>	<i>1.8</i>	<i>F5Ib</i>					<i>6ci</i>			
<i>78s</i>	<i>30K</i>	<i>1.8</i>	<i>F5Ib</i>					<i>6ci</i>			
<i>68s</i>	<i>30K</i>	<i>1.8</i>	<i>F5Ib</i>					<i>6ci</i>			
<i>60s</i>								<i>7ci/7ci</i>			
								<i>1ci</i>			
<i>1400s</i>	<i>15K</i>	<i>5.5</i>	<i>G2.5 IIa</i>					<i>8ci</i>			
<i>1300s</i>	<i>14K</i>	<i>5.5</i>	<i>G2.5 IIa</i>					<i>8ci</i>			
<i>1300s</i>	<i>14600</i>	<i>5.5</i>	<i>G2.5 IIa</i>					<i>8ci</i>		<i>Moon into umbra during exposure</i>	

Date Nov. 28/93.

Observers Vst(rG)/Hlw

Emulsion Batches:

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[illegible]

4.
 Spectr. Temp. Dome Temp./Hum. -2.5/+79.5 Transparency Conditions clear Full moon in 52
 Focus 6.98
 Spectr. Temp. Dome Temp./Hum. -2.3/+79.5
 eclipse.

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emission Lambda	P.H.	Program	Remarks	Quality
	CS					Cass ccd	1800 l/mm G=4310	250um	4100A	9ci	V38(r6)		
										1ci			
										16ci			
											Seeing Test	North Fans On	
											"	no wind	
												lunar eclipse	
										10ci			
		40K		mb = 2.0	F7Ib-					11ci			
				2.0	F7Ib-					11ci			
				2.0	F7Ib-					11ci			
				2.0	F7Ib-					11ci			
										12ci			
										1ci			
										3/4	Focus Test Done at zenith		
											during top-up.		
										Note			
										Next night	Tu came in and		
										noticed that Hartman mask left in	comp posn' ???		

All to W.O.R.M. & Perseus

Note Jan 94. Reducty of
 focus test reveals .009 pin shift
 Prob test improper

153

Date Nov. 29/30 1993 Observers Hlw & Vys3 / Th

Emulsion Batches:

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.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mir.	Se
#18024	Bias (4)										
25/26	Comp/Stellar	Hartman		21:06		zenith.		FeNe Clear	30/40		
27	Comp							"	60s		
28	BD+40 45	00 11 52	40 23 33	21:23:40					1800s	115	
29	Comp							FeNe Clear	60s		
30	BD+40 45	"	"	21 56 49					705s	# 7 2	
31	Comp							FeNe Clear	60s		
32	BD+40 45	"	"	22:12:15					60s	50	
33	Comp							FeNe Clear	60s		
34	Bias (4)										
35-39	5x flat							Tung 1/2 Ap	10s		
#40	Bias (4)										
41	Comp							FeNe Clear	60s		
42	HD1326	00 12 58	43 27 44	23 29 04		03 45W			929	053	
43	Comp							FeNe Clear	60s		

Spectr. Temp. Dome Temp./Hum. $-0.3^{\circ}\text{C}/70.77\%$ Transparency Conditions *Clear, some haze*
 Focus *6.98* *cloud increasing* **54**
 Spectr. Temp. Dome Temp./Hum.

Comparison Filter Exp.	Exp. Mtr.	Seeing	Mag. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					Cass CCD	1800 l/mm G=5000	300μ	SI40A	1			
30/40									3/4	Focus Test		
60s									5			
1800	1115		9.0	MO		~80	Signal	to Noise Ratio	6	Vys Std	386 clock started at	
60s									7		11 seconds fast, but it	
705	1115 7	2.3"	"	"		~47	SNR		8	Vys Std.	was set before writing cc18027.tts	
60s									10 9		Some cloud	
60s	50		"	"		~10	SNR		10	Vys Std		
60s									12 11			
									1		Clouded in for	
10s									13		an hour.	
									1			
60s									14			
9/29	1053		8.07	M1 Ve					15	Vys Std.	more cloud by 2344	
60s									16s			
					All to Perm and				Worseus			

155

Date Nov 30/Dec 1 1993 Observers Vst/HIW

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
18044	Bias (x4)								
18045/46	comp/Hartman								30/30s
18047	Comp.							Fe Ar clear	60s
18048	HD 182835	19 ^h 21 ^m 24 ^s	+00 08 21	18:44:23					
18049	comp							Fe Ar clear	60s
18050	comp							Fe Ar clear	60s
18051	HD 204867	21:26:18	-06:01:00	19:09:13 19:05:13					60s
18052	HD 204867	21:26:18	-06:01:00	19:10:33					61s
18053	HD 204867	21:26:18	-06:01:00	19:14:38					60s
18053	HD 204867	21:26:18	-06:01:00	19:17:23					60s
18054	HD 204867	21:26:18	-06:01:00	19:18:40				63 Fe Ar clear	60s
55	Comp							Fe Ar clear	60s
56	comp							Fe Ar clear	60s
18057	Bias (x4)								
18058/62	Plats (x5)							Jung clear	4s

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

Sc

15K.

9K

9K

9K

10K

Spectr. Temp.

Dome Temp./Hum.

-1.1 / 63.2%

Transparency Conditions ...

Clouds ... horizon

Focus 6.90

Both Fans on until 18:44

Spectr. Temp.

Dome Temp./Hum.

When South Fan off.

480 050 1024 41

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 l/mm G-6055	300um	6563A	1ci	(H&K)	90 c gain	
								3/4ci	Focus Test	90 "	
								5ci	Ust G-U)	90 "	
15K.	4.64	F2 Ib						6ci		- possible saturation? S/N ~ 400	
								5ci		Had to unclamp EA during comp.	
								5ci		90 c gain	
15K 9K	3.71	60 Ib						7ci		- saturated?	
9500	3.71	60 Ib						8ci		- saturated?	
9K	3.71	60 Ib						9ci		30 c gain 8.25 l/du. S/N ~ 400.	
9K	3.71	60 Ib						7ci		↓	
10K	3.71	60 Ib						7ci			
								5ci		c gain @ 90 for comp.	
								5ci		@ 30 for stellar -	
								1ci		30 c gain	
								8ci		30 c gain	

257

Date Nov 30 / Dec 1, 1993 Observers Jst (rw) / Hlw.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
18063	HD 209750	22:00:39	-00:48:00	19:37:59					60s
18064	HD 209750	22:00:39	-00:48:00	19:39:26					60s
18065	HD 209750	22:00:39	-00:48:00	19:41:00					60s
18066	comp							Fear clear	60s
18067	comp							Fear clear	60s
18068	HD 206859	21:39:47	+16:53:00	19:57:26					200s
18069	HD 206859	21:39:47	+16:53:00	20:00:55					199s
18070	HD 206859	21:39:47	+16:53:00	20:04:28					196s
18071	comp							Fear clear	60s
18072	Bias (H)								
18073/77	Flats (X5)							Tung Flap Fear clear	2 ap. 60s
18078	comp								
18079	HD 17918	2:47:37	+16:05:00	21:32:57					230s
18080	HD 17918	2:47:37	+16:05:00	21:39:33					287
18081	HD 17918	2:47:37	+16:05:00	21:44:59					272s
18082	comp							Fear clear	60s

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

Se

9K

9-1000

9800

9700

4500

9700

9K

2700

3500

Spectr. Temp. Dome Temp./Hum. $-1.7/+68.4$ Transparency Conditions .. clear 58
 Focus Humidity outside ~ 88%
 Spectr. Temp. Dome Temp./Hum. $-2.5/+69.2$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60S	9K.	2.93	G2Ib	Cass (C D)	1800 l/mm G=6055	300 μ m	6563A	9ci	VstGrC		
60S	9400	2.93	G2Ib	1	1	1		9ci		gain @ 30	
60S	9800	2.93	G2Ib					9ci			
60S								5ci		gain @ 90	
60S								5ci		"	
60S	9800	4.35	G5Ib					10ci		gain @ 30	
199S	9500	4.35	G5Ib					10ci			
196S	9700	4.35	G5Ib					10ci		gain @ 90	
60S								5ci			
60S								1ci		90 gain	
60S								8ci		90 gain (1/2 ap)	
60S								5ci			
60S	2K	6.29	F5II					11ci		90 gain (S/N 170)	
60S	2700	6.29	F5II					11ci		(S/N 180)	
60S	2500	6.29	F5II					11ci			
60S								5ci		90 gain	

Emulsion Batches:

3⁵⁰¹
 Date Nov 30/Dec 1/93 Observers Nat (G)/Hlw

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
18083	comp							FeAr clear	60 ^s
18084	HD 584/17584	02:44:16	+37:54:00	22:06:53					132 ^s
18085	HD 17587	02:44:16	+37:54:00	22:08:29					132 ^s
18086	HD 17587	02:44:16	+37:54:00	22:10:53					139 ^s
18087	comp	/	/	/				done in FeNe comp	60 ^s
18088	comp	/	/	/				"	60 ^s
18089	HD 20902	3:17:11	49:30:00	22:28:15					28 ^s
18090	HD 20902	3:17:11	49:30:00	22:29:19					23 ^s
18091	HD 20902	3:17:11	49:30:00	22:29:58					23 ^s
18092	comp							FeAr clear	60 ^s
18093	Bias (x4)								
18094	Bias (4)								
95-99	5 x Flats							Tung x2 Ap	4 s
18090	Bias (x4)								

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr. S

900.

1500

1500

5K.

5K

5K

Spectr. Temp.

Dome Temp./Hum. ... -2.7/+69.4

Transparency Conditions ... clear / cloud ② 0h

Focus

Dome Temp./Hum. ... -3.4/+71.6

Humid. catwalk - 90% (22h) ②
- 93% (00h16m)

Spectr. Temp.

Dome Temp./Hum.

Comparison
Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion <i>c lambda</i>	P.H.	Program	Remarks	Quality
60s				Cass CCD	1800 1/mm G=6055	300µm	6563Å	5ci	Vst (r6)		
132s	9500	4.22	F2II	↓	↓	↓	↓	12ci	↓	30 c gain	
132s	9500	4.22	F2II					12ci	↓	↓	
132s	9500	4.22	F2II					12ci	↓	↓	
132s	9500	4.22	F2II					5ci		30 c gain	
132s								5ci		30 c gain	
28s	15K	1.8	F5IIb					13ci		30 c gain	
23s	15K	1.8	F5IIb					13ci		30 c gain	
23s	15K	1.8	F5IIb					13ci		30 c gain	
60s								5ci		90 c gain	
								1ci		30 c gain	
								1ci		30 c gain	
4s								8ci		90 c gain	
										90 c gain	

pg #1 (4)

Date Dec 1/2 1993 Observers [KK]/Tn/H/W

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cd 8100/01	comp/stellar Hartman							Felle clear	20/30
102	Bias (4)								
103	Comp			18 07 31				Felle clear	20s
104	HD 172167	18 33 33	+38 41 00	18:07:31		+3:56 W	+38:46		17 s
105	Comp							Felle clear	20s
106	Comp							n	20s
107	HD 209790	22 00 54	+64 08 00	18 16 52		00 43 W			167
108	Comp							Felle clear	20s
109	Comp							n	20s
110	HD 217782	22 58 00	+42 13	18 31 05		00 00 E			30s
111	Comp							Felle clear	20s
112	Bias (4)								
113	Comp for Polaris B							Felle clear	20s
114	HD 8890 B	01 22 36	+88 46	19 00 45		22 41 E			1800
115	Comp							Felle clear	20s

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mir.

at 7.15

~20000

8,200

7200

2173

Spectr. Temp. Dome Temp./Hum. 71.0°C $70\% \text{H}$ Transparency Conditions Clear 62

Focus 7.15

some thin cloud

Spectr. Temp. "B"

Dome Temp./Hum.

480 0 50 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20/30	set 7.15	T= +1.0 $^{\circ}\text{C}$		Cass CCD	600 l/mm G=2620	250 μm	4200A	3/4	Focus Test	@ Row 580 stellar 62 pixel Red	
								1		C GAIN 90 400 1000	
20s								5			
17s	~20,000	0.0	A0V ₉					6	FOR Std Vel Purposes.	star moved back & forth on slit while exposing to "spread out the light"	
20s								7			
20s								8			
167	8,200	3"	B 4.63	A3m				9c	HK pgm	anion 11 K ADU MAX comp to Left. RWG also on slit	
20s								10c			
20s								9c			
30s	7200	2"	5.17	A2				10c	HK pgm	MAX 13 K ADU	
20s								11c			
20s								12c			
1800	2173	2"	8.6	F			~140 SNR	13c	HK pgm	CG images 3" to tan to show por A effect while guiding. (see next page)	
20s								14c			
20s								15c			

Page 2 (63)

Date 1993 Dec 1/2 9.3. Observers [K.K.] / H.W. / Tq...

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CG 30188 - 190	HD 8890 B, A to Right or East side. During previous spectr exp								0.067 ms
CC 18116	HD 8890 B	01 22 36	+88 46	19 34 20					2016
117	Comp							Fene Clear	20s
118	Bias (4)								
119	Comp							"	20
120	HD 217675	22 57 18	42 14 00	20 ²² 03					40s
121	Comp							"	20
122	Comp							"	20
123	HD 6961	01 05 01	+54 37 00	20:35:24					120
124	Comp							Fene Clear	20s
125	HD 6961			20:41:31					65s
126	Comp							Fene Clear	20s
127-131	FLATS x 5					00 05 W	+55 08	TUNG Clear	TUNG
132	Bias (4)								
CG 30191 - 195	HD 10006	01 32.6	+45 50						4x 67 msec
196/197	n	"	"						2x 133 msec

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

Se

~5K

6800

4200

13 sec

Spectr. Temp. 7.15 Dome Temp./Hum. -0.5°C/77.1% Transparency Conditions ... Clear ... 64 ...
 Focus
 Spectr. Temp. B Dome Temp./Hum.
 increasingly cloud,

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	2"	8.6	F	CASS CCD	600l/mm	250µ	4200A			(varied Intensifier) Not for seeing test purposes.	
1900		8.6	F		G=2620	pointers		15		94% Humidity on	
								16		Catwalk @ 2000	
								17			
~5K		3.6	B6p					18	KK		
								19			
								20			
6800	2"	4.50	AZU					21	KK prog		
								22			
4200								21		96% on catwalk @ 2040	
								23			
13 sec										max 16 K 404	
	2"									seeing tests Dome west	
										no FARS tonight.	

365

Date Dec 1/2 1993 Observers [KK]/Tn/Hlw/[Bin]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18133	Comp							FeNe Clear	20s
134	HD 222 368	23 34 48	05 05 00	21 44 11					222s
135	Comp			21 53				FeNe Clear	
136	BIAS(4)								
137 139	FLATS x3					02 46W	+5 34	Tung Clear	13s
140 141	Comp/Stellar	Focus Hartman posns		01 11		00 37W	+29 33	FeNe Clear	20/35
142	Bias (4)								
143	Comp							FeNe Clear	30s
144	HD 37479	05 33 45	-2 38 48	01 24 07		00 29W			900s
145	Comp							"	30s
146	HD 37479	05 33 45	-2 38 48	01 41 40	02 00 00	00 49W			1097s
147	Comp							FeNe Clear	30s
148-150	3x Flat							Tung Clear	200s
151	Bias (4)								
CC18152 153	Comp/Stellar Hartman	FOR 6400A Region				00 26W	+38°	FeNe Clear	30/35

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr. Se

10000

Set 7

6300 2

6800 2

Set 6

Spectr. Temp. Dome Temp./Hum. $-0.5^{\circ}\text{C} / 80.3\%$ Transparency Conditions *Thick Haze* **GG**
 Focus **7.15**
 Spectr. Temp. Dome Temp./Hum.
96% Humidity outside
Reopened @ 01 due to Humidity
actually dropping & clearing

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20s					Cass CCD	600 $\text{\AA}/\text{mm}$ $G=2620$	250 μ	4200 $\text{\AA}$	25			
22s	10,000		$V=4.13$	F7V					26	Std Vel.		
									27			
									1c:			
13s									28:			
20/35	Set 7.05 $T=+0.6^{\circ}\text{C}$					1800 $\text{\AA}/\text{mm}$ $G=4065$		3730 $\text{\AA}$			λ & Grating change	
									1c:			
30s									5			
900s	6300	2"3'	β 6.32	B2V _{pe} (HeS)					6	He Str pgm (Blu) or Ori E	$\approx 4 \text{ K photons } \Sigma \text{ Aug}$	S/N $\approx 70/1$
30s									7			
1047s	6800	2"4"	"	"					8	He Str pgm		70/1
30s									9			
200									10		7300 ADU MAX	
	Set 6.90 $T=+1.0^{\circ}\text{C}$								1			
30/35						18000 $G=5910$	300 μ	6400 $\text{\AA}$	3/4			

467

Date Dec. 1/2, 1993 Observers [Rm]/Tn/Hlw..

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
154	Bias (4)								
155	Comp							FeAr Clear	60s
156	NGC 2539 #60	08 05 41	-12 26 45	03:17:39		00 05 W 00 05 00 W	-12:42		1802
157	Comp							FeAr Clear	60s
158	NGC 2539 #60	"	"	03 51 05		00 39 W			1837
159	Comp							FeAr Clear	60s
160	NGC 2539 #60	"	"	04 25 12	Too cloudy				
160	Comp							FeNe Clear	60
161	HD 87901	10 03 03	+12 27 22	04:39:30					52s
162	Comp.							"	60
163	Bias (4)								
164	Comp							"	60
165	HD 44990	06 19 48	+07 08 00	04 54 37		+3:16 W			1092
166	Comp							"	60
167	Comp								

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

See

338 2

mostly Sky
Cn

406

22000

2800

Spectr. Temp. Dome Temp./Hum. $+1.3^{\circ}\text{C}/77.2\%$ Transparency Conditions *Clear* *68*

Focus *6.90*

To incr hazy

Spectr. Temp. Dome Temp./Hum.

Companson Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					Cass CCD	1800 l/mm G=5910	300 <i>m</i>	6400A				
<i>60s</i>												<i>S/N</i>
<i>1002</i>	338	2"	$\sqrt{e}$ 10.96						6ci	<i>Rm / H/w p/p</i>	<i>2K photos 2 Aug above backgrd.</i>	<i>40/1</i>
<i>1002</i>	<i>mostly sky cn ts</i>								7ci		<i>3/4 moon ~ 30° NW of star.</i>	
<i>1837</i>	406								8ci		<i>1.82 Air mass incr haze</i>	
<i>60s</i>									9ci			
									10ci			
<i>60</i>									11			
<i>52s</i>	22000		1.35	BTV					12	Telluric.		
<i>60</i>									13			
									1			
<i>60</i>									13			
<i>1042</i>	2800		6.5 F7 Iab -8.0 -K1 Iab						14	T Mon, Rm		
<i>60</i>									15			
									16			

Focus 6.90

[illegible]

Date 1993 Dec 5/6 Observers KK/Tn

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[illegible]

Spectr. Temp.

Dome Temp./Hum.,

→ -100°C 90C Gain

[illegible]

173

Date Dec 8/9, 1993 Observers HIW/ΣVys3/[KK]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc18176	Bias (4)								
77/78	Comp/Stellar	Hartman				Zenith		FeAr Clear	30/40
79	Comp							"	60s
80	HD1326	00 12 58	+43 27 44	17 32 28		~ -1.5E			400s
81	Comp							"	60s
82	HD1326 *	00 12 58	+43 27 44	17 42 14					340
83	Comp							"	60s
84	HD1326	00 12 58	+43 27 44	17:55:25					100
85	Comp							"	60s
86	Bias (4)								
87-91	5 x Flat							Tung 1/2 Ap	5 sec
92	Bias (4)								
93	Comp							FeAr Clear	60s
94	HD1326	00 12 58	+43 27 44	22 59 03		~ +3.5W			603s
95	Comp								
96	Comp								

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr. Sec.

Spectr. Temp. Dome Temp./Hum. $+1.8^{\circ}\text{C}/74.7\%$ Transparency Conditions Clear, clouds on horizon. -74

Focus 6.90

Spectr. Temp. Dome Temp./Hum.

480 0 50 1024 4 1 ccd fnt

Exp. Mtr.	Seeing	Pts Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion Clamida	P.H.	Program	Remarks	Quality
				Cass CCD	1800 l/mm G=5910	300 μ	6400A	1		87% on catwalk @ 1730	
								3/4		T=1.9°C, f=6.90 set	
								5		for a bit colder ~ .2 pixel.	
930		8.07	M1V _e					6	Vys Std.	SNR ~ 114	
								7			
690		8.07	M1V					6	Vys Std	SNR ~ 100	
								8			
145		8.07	M1V					9	Vys Std	SNR ~ 35 Some clouds	
								10		→ sudden complete cloud	
								1		cover @ 1800.	
								11		max ADU ~ 14000	
								1		clouds parted at 2230	
								12			
1382		8.07	M1V					13	Vys Std	SNR ~ 140	
								14			
								15			

Date Dec 8/9 1993 Observers Hlw/ΣVys/[KK]

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[illegible]

Exp. Mtr.	Se
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Spectr. Temp.

Dom Temp./Hum. ^{??, → I think it is} closer to 0°C

Comparison	Filter	Exp.
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Pg #1 77

14413 Fri

Date 1993 Dec. 9/10.. Observers (Rm) Tn / H/w.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18199	BIAS (4)								
200									
201	Comp/stellar	HARTMAN	posng.					FeAr CLEAR	30/42
202	Comp							"	60sq
203	HD 198726	20 47 13	+27 52 30	17 47 29		01 59 W			380s
204	Comp							FeAr CLEAR	60sq
205	Comp							"	"
206	HD 203156	21 15 23	+37 49	18 00 36		01 29 W			301s
207	Comp							FeAr CLEAR	60sq
208	Comp							"	"
209	HD 214975	22 36 55	+56 18 24	18 15 10					1935
210	Comp							FeAr CLEAR	60s
211	HD 214975	22 36 55	+56 18 24	18 50 08		01 37 W			1861
212	Comp							FeAr CLEAR	60s
213	BIAS (4)								
214	FLATS x3	00 35 13	+39 40					TUNG AP 1/2	5sq
216	Seeing Test attempted								

Spectr. Temp.

Focus....6"

Spectr. Temp.

Exp. Mtr.

Se

4500

4800

1850

1127

Spectr. Temp.

Dome Temp./Hum. $+3.5^{\circ}\text{C}..68.5\%$ H

Transparency Conditions 78

90°C Gain, CCT $\rightarrow -100^\circ\text{C}$

[illegible]

pg#2 7A

Date 1993. Dec. 9/10.....

Observers

[Rus]... Hlar. / It... / [Bln]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc18217	Comp							FeAr Clear	60s
218	HD 3765	00 35 18	+39 40	19 39 04		0:23 W			1532
219	Comp							FeAr Clear	60s
220	Comp							"	60s
221	HD 219 688	23 12 42	-09 43 42	20 19 01		2:15 W			855
222	Comp							"	60s
223	Bias (4)								
24-26	3x Flats	"	"	"					
27/28	Comp/Stellar Hartman							FeNe Clear	20/35s
29	Bias (4)								
30	Comp							FeNe Clear	30
31	HD 37479	05 33 45	-02 38 48	21 12 27					1800s
32	Comp							FeNe Clear	30
33	HD 37479	05 33 45	-02 38 48	21 46 37					847s
34	Comp							FeNe Clear	30
35-37	3x flats							Tung Clear	200s

→ cc18238: Bias (4) in 1 ci

Spectr. Temp.

Focus.....6

Spectr. Temp.

Exp. Mtr. Se

3120 2

5000

2057

373

Spectr. Temp. Dome Temp./Hum. $+35^{\circ}\text{C}$ 68.5% H Transparency Conditions ... *part cloudy* 80
 Focus 6.90
 Spectr. Temp. Dome Temp./Hum. $+4.0^{\circ}\text{C}$ 67.0% H

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60s					C455 CCD	1800 G 5910	300 μ	6400A	12c			
1532	3120	2"							13c	stellar	SNR ~ 230	
60s			7.36	d/k5					14c		-This comp has a nasty cosmic ray @ (24, 897)	
60s									15c			
855	5000	4.39	B5V			200	SNR		16	Telluric		
60s									17			
									1			
									18			
20/25s					Cass CCD	1800l/mm G = 4065	250 μ	3730A	19/20	Focus Test	Focus = 7.02	
									#1			
30									21			
1600	2057		V = 6.53	B2Ipe					22	He Str, Bln	~30 Signal to Noise Ratio.	
30									23			
847	373								22	He Str, Bln	Clouded in.	
30									24			
200s									25	All TO WORK ONLY due to Perseus Problem.		

1 8/

11/12

Emulsion Batches:

Date 1993 Dec ~~11~~ Observers [BIN]/T_n/H/W

CSS 386 Time 14 sec ahead of W.W.V. Time.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc18239	BIAS(4)								20/
40/41	Comp / stellar	HUTCHMAN							20/
cg30200-3	HD218525	23 03 35	44 01 14	17:30					67ms
cg30204,5	"	"	"	17:34					133ms
cc18242	Comp							FeNe clear	30s
43	HD22368	23 34 48	+05 05	17 57 30		00 22 E			902
44	Comp							FeNe clear	30s
45	FLATS x 3			1816		00 10 E	+5 35	TUNG clear	200s
48	BIAS(4)								
49	Flats x 3					-5:30 E	-2°	Tung clear	200s
52	Comp							FeNe clear	30s
53	HD37479	05 33 45	-02 38 48	19 26 18		4:37 E			1800s
54	Comp							FeNe clear	30s
55	HD37479	05 33 45	-02 38 48	20 01 25		4:02 E			1745
56	Comp							FeNe clear	30s
57	Bias(4)								

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr. Sec

INTENS V

200

on

2500 8

1478 71

2666

Spectr. Temp. Dome Temp./Hum. $-7.6^{\circ}\text{C} / 50.6\%$ Transparency Conditions ... Clear ... Clouds on 82° West horizon.
 Focus 7.15

Spectr. Temp. Dome Temp./Hum. CCD T $\rightarrow -100^{\circ}\text{C}$ 90 CGAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 λ /mm G=4065	250 μ	Emulsion clambda	1ci			
								3ci/4ci	Focus Test	^{x plate} 562-571 ϕ ϕ = 7.15	
INTENSIFIED 260	poor	6.34	A0			ABOVE 250 μ slit no decker			Seeing test	Dome open early 16:30	
on	"	"	"						"		
						250 μ (pointer defocus)		5ci		Dome T = -8.4°C max	SIN > 100/1
25000	8"	4.13	F7V					6ci	std vel	15K photos 2 aug	
								7ci			
								8ci		[MAX = 8K ADU] Blue end 4700	
								1ci		Dome T =	
								9ci			
								10ci			
1438	>10"	6.53	B2V			Signal to Noise Ratio $\approx 10!!$		11ci	Bl n He Str	some cloud here too Star is just a huge blob:	
								12ci			
2666		6.53	B2V					13ci	Bl n He Str	Son of Blob: 	
								14ci			
								1			

283

11/12

Date 1993

Dec ~~11/12~~

Observers

[Bln]/Tn/Hlw

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.	See
CC 18258	HD 37479			20 35 47		3:30 E	-2		1489	3200	
59	Comp										
60/61	Comp/Stellar	Hartman						FeAr clear	30/45	se	71
62	Comp							"	60s		
63	HD 1061	00 09 50	+8 16	21 37 20		2:50 W			1200s	7150	
64	Comp							"	60		
65	Bias (4)										
66	Comp							FeAr clear	60s		
67	HD 21364	03 21 48	09 23 00	22:09:16		00 00 W			727	4000	
68	Comp			*22 58				"	60s		
69 → 71	FLATS X 3					00 50 W	+9 42	Tung clear FeAr clear	50/35		
72	Comp								60s		
73	ADS 4241 D	05 33 42	-02 39 12	23 28 50					1844s	860	
74	Comp			00 10 06				FeAr clear	60s		
75	HD 37468	05 33 42	-02 39 28	00 20 16					400s	9000	
76	B/H S (4)										

Spectr. Temp.

Focus 7.15

Spectr. Temp.

Spectr. Temp.

Dome Temp./Hum.

-9.8°C / 55.9%

Transparency Conditions ... Clear ...

84.

Focus ... 7.15 / 7.10

Spectr. Temp.

Dome Temp./Hum.

-11.0°C / 62.1%

Comparison
Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion clambda	P.H.	Program	Remarks	Quality
149	3200			Cass CCD	1800/mm G=4065	250μ	3730 Å	15	Bln He Str.		
								16			
30	set 7.10 focus			Cass CCD	1800/mm G=4565	250μ	4476 Å	17/18	Focus Test	T = -9.8, focus = 7.10	
63								19c			
1208	7150	B =6.15	A9s					20c	Bln-SB		
60								21c			
								1			
60s								22c			
727	49,000	R=3.66	B8p					23c	Bln		
60s								24c			
727								25c			
60s								26c			
1844	8660	V=6.5	B2V					27c	Bln pgm	Guided left of slit center to black out Brighter or Ori AB	
60s								28			
727	29000	V=3.81	O9.5V					29	Bln pgm	max 9.5 KADU	

* Late comp due to
need to hand TURN
OPTICAL Rack into place.
→ 12.6 KADU MAX

30 65

Date 1993 Dec 11/12. Observers [B/n] Hlw/Ty.....

Emulsion Batches:

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.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18277	Comp for HD37468								
278	FLATS x2					00 16W	-02 37	TUNG CLEAR	35
279									
280	Comp								
280	Comp / Stellar HURTMAN					00 25W		Felt CLEAR	20/33
281	Comp							n	30s
283	HD 37479	05 33 45	-02 38 48	01 18 43					1939
284	HD37479	05 33 45	-02 38 48	01 51 59				Felt CLEAR	1800
285	Comp							Felt clear	30s
286	HD37479	05 33 45	-02 38 48	02:28:22		2:27 W			1803
287	HD37479	05 33 45	-02 38 48	02:59:04					1895
288	Comp							Felt clear	30
289	Bias (4)								
290	HD37479	05 33 45	-02 38 48	03:39:27					
291	Comp							Felt clear	30s
292	FLAT x2							TUNG clear	200s
293									

Spectr. Temp.

Focus... 7.6

Spectr. Temp.

Exp. Mir.

Sec.

8050

8200 4

8095

6350

Spectr. Temp. /

Focus... 7.10 / 7.18.

Spectr. Temp.

Dome Temp./Hum. -11.0°C 62.5%RH

Transparency Conditions *Fine - somewhat*

Dome Temp./Hum. -11.3°C $68.9\% \text{H}$

Light snow at end

86

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
							1800 l/mm	250μ					
G	35						G-4565	darker	4476A	28ci		Rack hum cranked	
							"	"	"	2ci		of course 14 KADU MAX	
										30ci			
e	20/33						T = -110°C Set 7/18	G 4065	250μ data	3730Å	3/4c	Focussed	JF
	30s									30ci		Done Really manually	
	1939	8050		V=						30ci	He Str B _H	Now using Sp control	
	1800	8200	4"	6.53	B2I _{pe}			~ 85 S.N.R.		31ci		in complete MANUAL MODE,	
	30s									32ci		done manually.	
	1803	8095		6.53	B2I _{pe}					33ci		~	
	1895	6350		6.53	B2I _{pe}					33ci			
	30									32ci		done manually	
										1		CCD T = -102.5°C	
										33ci			
										34ci		(30 OBS)	
										35ci		used ND in exp meter To	
							All to Pharm & Worsens					see prot. tit from Flat,	

167

Date 1993 Dec 12/13 Observers Hlw / [Bln]

Emulsion Batches:

css 386 time 16 seconds ahead of W.W.F.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T. +16 sec	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
ccl8294	Bias (4)								
95/96	Comp/Stellar	Hartman				+0:25	+43:06	FeAr clear	60s
297	Comp							FeAr clear	60s
298	HD235679	21 55 00	+54 01	17:55:14					1800s
299	Comp							FeAr clear	60s
300-302	3x flat							Tung 1/2 Ap	4s
303	Bias (4)								
cg30206-9	^{4x} HD224720	23 55 01	+46 23						67ms
ccg30210	^{2x} HD224720	23 55 01	+46 23		10/10/16	-0:06 E	+47		133ms
304	Comp							FeAr clear	60s
305	HD 6456	01 00 91	+20 56	18:57:29		-0:53 E			324s
306	Comp							FeAr clear	60s
307-309	3x flat							Tung 1/2 Ap	4s
310	Bias (4)								
311	Bias (4)								
12/13	Comp/Stellar	Hartman						FeNe clear	20/33

Spectr. Temp.

Focus

Spectr. Temp.

Exp. Mtr. Se

2540 m

-000

Focus 6.97

Spectr. Temp.

Dome Temp./Hum.

Dome Temp./Hum.

$-2.4^{\circ}\text{C} / 71.5^{\circ}\text{C}$

Transparency Conditions

FANS ON. (South one turned off @ 1800)

480 0 50 1024 4 1 ccd fmt

Exposure	Exp.	Compensation Filter	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	C.I.P.H.	Program	Remarks	Quality
							Cass CCD	1800/mm G=6055	300μ	6563A	1c'		78% Humidity on Catwalk @ 1800	
	60s										3/4	Focus Test		
	60s										5			
	1800s		2540	~2"	B= 9.21	B2.5 Ib		Continuum ~ Strong H line ~	170 280	S.N.R. S.N.R.	6 7	Blu	Nice Seeing!	
	60s										8			
	4s										1		Max ADU ~ 13000	
	67ms				7.3	A2V							Seeing Test	little to no wind, some haze
	133ms				7.3	A2V							Seeing Test	dome west
	60s										9			
	324s		14000		V= 5.34	A1V		~300	S.N. R.		10c'	Telluric Std.		
	60s										11			
	4s										12			
											1			
	24/3						Cass CCD	1800/mm G=4065	250μ	3730A	1		T = -2.1°C focus = 7.12	
											3/4			

2.69

Date 1993 Dec 12/13 Observers Hlw / [Bin]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T. +16 sec	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc18314	Comp							FeNe Clear	30s
15	HD197345	20 38 01	+44 55	19:48:37					40s
16	Comp							FeNe Clear	30s
17	Comp							FeNe Clear	30s
18	HD37479	05 33 45	-02 38 48	20:09:08		-3:50 E	-2°:30'		1800s
19	Comp							FeNe Clear	30s
20	Flat							Tung Clear	200s
21	Bias (average of 4)								
22	HD37479	05 33 45	-02 38 48	20:49:14		-3:10 E	-2°:30'		1832s
23	Comp							FeNe Clear	30s
24	Flat							Tung Clear	200s
25	HD37479	05 33 45	-02 38 48	21:27:59		-2:30 E	-2° 30'		1800s
26	Comp							FeNe Clear	30s
27	Flat							Tung Clear	200s
28	Bias (4)								

Spectr. Temp.

Focus

Spectr. Temp.

Exp. Mtr. Ser.

50 k 2

9000

8130

9000

Spectr. Temp. Dome Temp./Hum. $-2.2^{\circ}\text{C}/71.5\%$ Transparency Conditions Clear, some haze.

Focus 7.12

Spectr. Temp. Dome Temp./Hum.

90

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	Ci P.H.	Program	Remarks	Quality
	30s					Cass CCD	1800 ℓ /mm G=4065	250 μ	3730	5		83% Humidity on Catwalk @ 2000	
	40s	50 K	2"	$\checkmark$ 1.26	A2I α					6	Bln Balmer Series	Done so H/w could recognize the Balmer Series.	
	30s									7			
	30s									8			
	1800s	7000		$\checkmark$ 6.53	B2I α		~50	S.N.R.		9	Bln He Str		
	30s									10			
	200s									11		84% catwalk humidity @ 2100	
										1			
	1600s	8130		$\checkmark$ 6.53	B2I α		~100	S.N.R.		12	Bln He Str	Now guiding above slit, to compensate for differential refraction	
	30s									13			
	200s									14			
	1800s	9000		$\checkmark$ 6.53	B2I α		~115	S.N.R.		15ci	Bln He Str		
	30s									16ci			
	200s									17ci			
										1			

3. a1

Date 1993 Dec 12/13 Observers H/W / [Bin]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T. + 16 sec	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc18329	HD37479	05 33 45	-02 38 48	22 06 19		-1:50E			1800
30	Comp							FeNe Clear	30s
31	Flat							Tung Clear	200s
32	HD37479	05 33 45	-02 38 48	22:51:43		-1:06			1800
33	Comp							FeNe Clear	30s
34	Flat							Tung Clear	200s
35	Bias (4)								
36	Comp							FeNe Clear	30s
37	HD37479	05 33 45	-02 38 48	00:04:46	00:00:00 + 0:08W				1866
38	Comp							FeNe Clear	30s
39	Flat							Tung Clear	200s
40	HD37479	05 33 45	-02 38 48	00:44:36		+0:46W			1810s
41	Comp							FeNe Clear	30
42	Flat							Tung Clear	200s
43	Bias (4)								

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

Sc

9000

2

16050

6000

4640

Spectr. Temp. Dome Temp./Hum. $-2.6^{\circ}\text{C}/72.5\%$ Transparency Conditions Clear

Focus 7.12

92

Spectr. Temp. Dome Temp./Hum.

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion Exposure	P.H. ci	Program	Remarks	Quality
1800	9000	2"	V= 6.53	B2I _{pe}	Cass CCD	1800 $\text{\AA}/\text{mm}$ G=4065	250 μm	3730 $\text{\AA}$	18	Bl _n He Str	Catwalk Humidity = 81%	
30s									19		→ 140 S.N.R. @ 2300	
200s									20			
1800	16050		V= 6.53	B2I _{pe}					21	Bl _n He St.	Problems with rack motion	
30s									22		and spectrograph controller; had	
200s									23		to reset and home rack manually.	
									1			
30s									24			
1866	16000		V= 6.53	B2I _{pe}					25	Bl _n He Str	start of shell phase!	
30s									26			
200s									27		77% on catwalk @ 0100	
1810	14640		V= 6.53	B2I _{pe}					28	Bl _n He St.	Some narrow balmer	
30s									26		lines beginning to show up.	
200s									27			
									1			

4 93

Date 1993 Dec 12/13 Observers Hlw/[BIN]/[Mki]=safety check

Emulsion Batches:

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[illegible]

Spectr. Temp

Focus

Spectr. Temp

Exp. Mtr.	S
1	1
2	2
3	3
4	4
5	5
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90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

15329

9200

Spectr. Temp. Dome Temp./Hum. $-2.8^{\circ}\text{C}/66.3\%$ Transparency Conditions Clear ~~Thick Haze~~...
 Focus 7.12 rolling in from West.
 Spectr. Temp. Dome Temp./Hum. 94

Exp. Mir.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
15329	3"	$V=6.53$	B2Ve	Cass CCD	1800 μm G=4065	250 μm	3730A	29	Bln He Str		
								26		$\rightarrow 120 \text{ S.N.R.}$	
										Seeing Test = light W wind, dome SW	
										Seeing Test - North fan <u>ON</u>	
								27		South fan <u>OFF</u>	
								26			
9200		$V=6.53$	B2Ve					30	Bln He Str	- We are looking through	
								26		some thick haze now.	
								27		- poor observing conditions	
								1		Catwalk Humidity = 81%	
										@ 0230	
		$V=6.53$	B2Ve					31	Bln He Str		
								26		Lost backup	
										All to WORM & Persens.	

pg#1 95

Emulsion Batches:

Date 1993 Dec 13/14 Observers Vst/Tn

CSS 386 Time matched... to... U.U.V... Time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18354	BIASC4)								
55 56	Comp / Stellar					20	243°	Felr Clear	
CG30218-21	HD 223094	23 4606	+28 40 02			20		4x	67ms
CG3022,23	"							2x	133ms
CC18357	Comp							Felr Clear	60s
58	HD 223094	23 4606	+28 40 02	18 33 07					
59	Comp							Felr Clear	60sec
60	Comp							"	"
61	HD 25642	03 5908	+50 04 48	19 02 42					246
62	Comp							Felr Clear	60s
63	Comp							"	"
64	Nova Cas 93	23 39 22	+57 14 23	19 19 07					77sec
65	Comp							Felr Clear	60sec
66	Nova Cas 93	23 36 59	+56 57 45	19 30 00					123
67	Comp							Felr Clear	60sec

Spectr. Temp.

Focus....6

Spectr. Temp.

Exp. Mtr. Se

4000

1000

2600

800

Spectr. Temp. Dome Temp./Hum. $+0.10^{\circ}\text{C}$ 7650^H Transparency Conditions ... Hazy - cloudy... 96

Focus 6-90

Spectr. Temp. Dome Temp./Hum.

No FANS Tonight, Dome open Early

Exp. Mtr.	Seeing	Pub. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 $\mu\text{m}/\text{mm}$ G=6055	300 μm Full length		1ci			
								3/4	Focus		
67ms	Five	745	K5III			Above 300 μm slit.			seeing test	Dome SSW, now wind Some Star for encoder norm also.	
133ms	"								" "		
63								5ci			
4000	2"							6ci	std vel		
Base								7ci			
1								8ci			
246	22,000 (1.2")	4.29	A0Ien					9ci	Telluric Std (one of Blh stds)		
63								10ci			
7								11			
71x	600	1"	26					12	New Nova	Almost as bright as F101P Star 15 mins IV	
60x								13	For Vst	(close to Sath @ Hx)	
123	800	2.6						14			
60x								15			

pg#2 97

Date 1993 Dec 13/14 Observers ... Vst / Tn

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18368	Nova Cas 93	23 39 22	1950 +57 14 23	19 45 54					94 sec
69(?)	Comp [failed]	23 36 59	1900 +56 57 45	19 52	(Nova Cas 93 in hand, forget it)			FeAr Clear	60 sec
70	B/H S(4)			19 52 46					
71	Comp			20 13 24				FeAr Clear	60s
72	HD 56148	07 10 46	1900 processed +61 46 40	20 18 06					1860 sec " 5 min
73	Comp							FeAr Clear	60s
74	HD 56148	07 10 46	+61 46 40	20 54 31		04 42 E			1809s
75	Comp							FeAr Clear	60s
76	HD 56148	07 10 46	+61 46 40						
→ 80	FLATS x 5					04 35 E	+61 35	Tung Ap 1/2	4 sec
81	B/H S(4)								

Spectr. Temp.

Focus... 69

Spectr. Temp.

Exp. Mtr.

Se

870

1650

1925

Spectr. Temp. Dome Temp./Hum. 40.1°C 865%

Comparison	Alter	Exp.
		9/58
		60/58
		60/5
		1860/58
		DM
		60/5
		1809/5
		60/5
		4/58

page 1 ⁹⁹ Tues / Wed
 Date 1993 Dec 14/15. Observers Vst / Tr

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18382 83	Comp / Stellar HARTMAN Posids				17 19	00 11W	+35°	FeAr Clear	60/60 40/40
84	BIAS(4)								
85	Comp			17 31				FeAr Clear	60s
86	HD177724	19 00 49	+13 42 53	17 34 09		03 48W			
87	Comp							FeAr Clear	60s
88	Comp							"	"
89	HD223094	23 41 23	+28 08 54			00 23E			457
90	Comp							FeAr Clear	60s
CG30224 27	HD223094	23 41 23	+28 08 54			00 05E		4 x	67ms
CG30228 - 29	"							2 x	137ms
CC18391	BIAS(4)								
392	Comp								
393	Nova Cas 93	23 36 59	+56 57 45	18 32 18					89s
394	Comp							Fe Ar Clear	60s
395- Flt 397	Flats x 3							Tung 1/2 Ap.	4s
398	Comp							FeAr Clear	60s

Spectr. Temp.

Focus... 6.2

Spectr. Temp.

Exp. Mir. See

25ft

4450 1/2

Fin

1000 3'

Spectr. Temp. Dome Temp./Hum. $+2.9^{\circ}\text{C}$... 50/90^H Transparency Conditions ... Part cloudy ... 100

Focus ... 6.86

Spectr. Temp. Dome Temp./Hum.

90 CGain
FADS on by 1645 CCDT $\rightarrow$ -1000

Comparison Filter Exp.	Exp. Mtr.	Seeing	Mag. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60/60 60s					CASS CCD	1800 μm G=6055	300 μm FULL	6563A	3ci/Ar		453-462 vlat (For encoders) Tel Noam Star HR 8632	
									1ci			
									5ci			
	25K		2.99	A0V _m					6ci	Telluric Std	AIRMASS=1.79	
									7ci			
									7ci			
457	4450	1.2"	7.45	K5 III					8ci	Star Vel		
									9ci			
		Fine					Above 300 μm slit			Seeing Test	V Light East Wind Dome SW Facing	
										" "		
									9ci			
89s	1000	3"	6						10ci		SAME as K5 tonight	
									11ci			
									2ci			
									16ci			

1942 Tues/Wed 101

Date Dec 14/15 Observers Vst/Tn

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC/18400 18399	HD 56148	07 10 46	61 46 40	18:52:52		-6 37 20 E			1900s
18401	comp							Fe Ar Clear	60s
402	HD 56148	07 10 46	61 46 40	19:26:53		-6? E			1800s
404403	Comp							Fe Ar Clear	60s
403404	BIAS(4)								
405	comp							Fe Ar Clear	60s
406	HD 58807	07 22 06	61 18 00	20:12:01		5 27 E			1920s
407	Comp							Fe Ar Clear	60s
408	HD 58807	07 22 06	61 18 00	20:53:48					
408 → 410	FLATSx 3				0	00 Hrs	-23°	tung Ap 1/2	4s.

Spectr. Temp.
Focus.....6
Spectr. Temp.

Exp. Mtr. See

1890 OK

1700 2-

1775 2-

Spectr. Temp. Dome Temp./Hum. *+3.0* ... Transparency Conditions *clear* *102*
 Focus *6.86*
 Spectr. Temp. Dome Temp./Hum. *+44.1% H*
- incr cloud fast from East

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>1680</i>	<i>OK</i>	<i>m_b=9.2</i>	<i>FOI</i>	<i>Cass CCD</i>	<i>1800 1/mm</i>	<i>300um fill</i>	<i>6563A</i>		<i>Vst (CC)</i>	<i>→ N 135/1</i>	
<i>1700</i>	<i>2"-3"</i>	<i>m_b=9.2</i>	<i>FOI</i>					<i>19c</i>	<i>Vst pgm</i>	<i>4N</i>	
	<i>2"-3"</i>							<i>20c</i>			
								<i>1c</i>			
								<i>20ci</i>	<i>written into 17ci</i>		
<i>1775</i>	<i>2"-3"</i>	<i>m_b=9.2</i>	<i>FBI</i>					<i>21c</i>	<i>Vst pgm</i>	<i>1.64 Air mass</i>	<i>edit (done)</i>
								<i>22ci</i>			
		<i>m_b=9.2</i>	<i>FBI</i>					<i>23c</i>	<i>Vst pgm</i>	<i>cloud now.</i>	
								<i>25c</i>			
									<i>All to work = PERSEUS,</i>		

py #1¹⁰³ Wed/Thurs

Date 1993 Dec. 15/16 Observers B/n./Tn.....

Emulsion Batches:

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.....
CSS only 2 sec's ahead at W.U.V. Time...

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18411 412	Comp/Stellar	Focus posn.			1715	00 00	+44°	FeAr Clear	40/40
413	BIAS(A)								
414	Comp							FeAr Clear	60s
415	HD177724	19 00 49	+13 43	17 22 28		03 42 Far W			222
416	Comp							FeAr Clear	60s
417	Comp							"	60s
418	BD+26 3835	20 09 36	+26 27	17 34 54		03 21 W			2324
419	Comp							FeAr Clear	60s
420	BIAS(A)								
421	Comp							FeAr Clear	60s
422	HD235679	21 55 00	+54 01	23 23 02		02 12 W			1557
423	Comp								
CG30230 33	HD223094	23 41 23	28 08 54		19	00 35 W		4 x	67ms
-39 35	"	"	"		19 00	00 36 W		2 x	133ms
CC18424	Comp FOR next star	HD223094						FeAr Clear	60s

Spectr. Temp

Focus... 6.2

Spectr. Temp

Exp. Mtr.

S

8

30,000 8

2500 4

1200 3

1200 3

Spectr. Temp. Dome Temp./Hum. $+5.0^{\circ}\text{C}$ 45.0% Transparency Conditions Fine 104..

Focus ... 6.86

Spectr. Temp. Dome Temp./Hum.

CCDT $\rightarrow$ $+100^{\circ}\text{C}$ 90CGAIN

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Pls. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						CASS CCD	1800nm G=6065	300nm Full	6604A	3d/4c	Focus	ideal/fors/cooler Temp	S/N
										1ci			
	63		8"	2.99	A0					5ci	Telluric STD	1.74 AIR MASS	
	222	30,000	8"	2.99	A0 In					6ci	↓	MAX 8 K AIR	
	62									7ci			
	63									8			
	2324	2500	4"	8.6 -9.3	B8					9ci	SB Bln pgm	Thin cloud from NE 1.35 AIR MASS (20K photons) E Aug above Backgnd	140/1
	63									10ci			
										1ci			
	63									11			
	1557	1900	3.24"	9.56 8.86	B2.5 Ib					12ci	SB Bln	1.066 Air mass @ start	
										13			
	67m										Seeing Tests	No FANS Tonight	
	132										Dome SW	medium gusty N E Wind	
	60									14ci			

Int = 440 G1 mode.

7.45 K5 III

pg #2 165

Date 1993 Dec 15/16 ... Observers [B/n] T.N.

Emulsion Batches:

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Spectr. Temp.
Focus ... 6 ...
Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC 18425	HD 223094	23 41 23	+28 08 54	19 03 21		00 47 W			521
26	Comp							Fear Clear	60s
27	BIHS(4)								
28	Comp							Fear Clear	60s
29	HD 6456	01 00 19.4	+20 56 16	19 21 27		00 14 E			
30	Comp							Fear Clear	60s
31	Comp							"	"
32	HD 19832	03 06 17	+26 52 48	19 35 53		02 06 E			548
33	Comp							Fear Clear	60s
34	Comp							"	"
35	HD 21699	03 25 04	+47 40 57	19 52 48		02 10 E			472
36	Comp							Fear Clear	60s
37	Comp							"	"
38	HD 25642	03 59 08	+50 04 48	20 14 47		02 27 E			175
39	Comp							Fear Clear	60s
40	BIHS(4)								

Exp. Mtr. Se

1000 2

16K 3

12000 3

13300 3

13000 4

Spectr. Temp. Dome Temp./Hum. $+4.2^{\circ}\text{C}$ 48.6% Transparency Conditions .. *Better, some cloud.*

Focus ... *6-86*

Spectr. Temp. Dome Temp./Hum.

105

Comparison Filter Exp.	Exp. Mtr.	Seeing	P.V. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>521</i>	<i>4000</i>	<i>2.3"</i>	<i>7.45</i>	<i>K5 III</i>	<i>CHSS</i>	<i>1800/n</i>	<i>300/n</i>	<i>6604A</i>	<i>15ci</i>	<i>Std Vel</i>	<i>MAX 5400 ADU</i>	
<i>60s</i>					<i>CCD</i>	<i>6-6065</i>	<i>Full</i>		<i>16ci</i>			
									<i>1ci</i>			
<i>60s</i>									<i>17</i>			
	<i>16 K</i>	<i>3"</i>	<i>5.34</i>	<i>A1 Vn</i>					<i>18</i>	<i>Telluric Std</i>	<i>An OK Telluric Std.</i>	
<i>60s</i>									<i>19ci</i>		<i>indeed, NW one of pair</i>	
<i>4</i>									<i>17ci</i>		<i>1.086 AIR MASS</i>	
											<i>6 K ADU MAX</i>	
<i>548</i>	<i>12,000</i>	<i>3"</i>	<i>5.79</i>	<i>B8 (s1)</i>					<i>20ci</i>	<i>He weak Bln</i>	<i>5 K ADU MAX</i>	
<i>60s</i>									<i>21ci</i>		<i>(check 21 agst 19)</i>	
<i>4</i>									<i>22ci</i>			
<i>472</i>	<i>13,300</i>	<i>3.4"</i>	<i>5.48</i>	<i>B5 Vsn (Hew)</i>					<i>23ci</i>	<i>He wk Bln</i>		
<i>60s</i>												
<i>1</i>												
<i>175</i>	<i>13000</i>	<i>4"</i>	<i>4.29</i>	<i>A0 IVn</i>					<i>26ci</i>	<i>Bln</i>	<i>A shell/STAR?</i>	
<i>60s</i>									<i>24ci</i>			
									<i>1ci</i>			

pg #3 167

Date 1993 Dec 15/16... Observers [B/g]... Tn.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18441									
43	FLATS x 3					02 20E	+50°	TUNG A 1/2	45
44	Comp						FeAr	clear	60s
45	HD 35502	05 20 00	-02 54 22	20 30 45		03 03E			1805
46	Comp							FeAr Clear	60s
47	Comp							"	60s
48	HD 36485	05 26 54	-00 21 30	21 08 01		02 31E			1830
49	Comp							FeAr Clear	60s
50	Comp							"	"
51	HD 37479	05 33 45	-02 38 48	21 45 40		02 19E			736
52	Comp							FeAr Clear	60s
52	BIAS								127s
54	HD 37468	05 33 44	-02 39 28	22 03 47		02 11E		FeAr Clear	60s
55	Comp							FeAr Clear	60s
56	HD 37468	05 33 44	-02 39 28	22 09 16					295
57	Comp							FeAr clear	60

out of
square

Spectr. Temp.
Focus.....
Spectr. Temp.

Exp. Mtr.

2900

6800

2900

8700

17K

Spectr. Temp. Dome Temp./Hum. $+12.7^{\circ}\text{C}$ 61% Transparency Conditions ... *sl. hazy ... some cloud ...*

Focus 6.86

OK though

Spectr. Temp. Dome Temp./Hum.

108

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 G6065	300 FULL	6804A	2c		MAX 12K404	
								25c			
2900	6"	7.36	B5IV _{SN}					26c	He weak Bl _n		
								27c			
								28c			
6808	6"	6.85	B2V _{SN} (HeS)					29c	He str Bl _n = 2K404 max		
								30c			
								30c			
2900	8"	6.53	B2V _{pe} (HeS)					31c	He str Bl _n Air mass 1.788		
								5c			
								1c		Dome T = $+11.5^{\circ}\text{C}$	
8,700		3.81	09.5V					6c	Bl _n p _{gm}	MAX 1500404	
								7c	Seeing too poor To resolve AIS 4241D		
17K	10"-15"							8c	Bl _n P _{gm} (A report)	FRAN AB	

pg #4 109

Date 1993 Dec 15/16.. Observers [Blm] T_h.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18458	Comp							FeAr Clear	60s
59	HD 19832	03 0617	+26 52 48	22 2040		00 40 W			574
60	Comp							FeAr Clear	60s
→ 61	FLATS x 6	NOTE: 462 IS NOT A FLAT (DID NOT FIRE) III				"	"	TUNG Ap 1/2	4s
66									
67	BIAS(4)								
68								FeNe Clear	20/30
69	Comp/Stellar	HARTMAN							
70	FLAT					01 20E	-2 40		200s
71	Comp							FeNe Clear	30s
72	HD 37479	05 3345	-02 38 48	22 5949		00 52E			1499
73	Comp							FeNe Clear	30s
74	HD 37479	05 3345	-02 38 48	23 2713					1507
75	Comp							FeNe Clear	30s
76	HD 37479			23 5429		00 2W			1464
77	Comp							FeNe Clear	30s
78	HD 37479			00 2107					1565

Spectr. Temp.

Focus.....6

Spectr. Temp.

Exp. Mtr. Se

7K 8

T=+

10K 6

86K

105K 5

11K 4

Spectr. Temp. Dome Temp./Hum. $+1.2^{\circ}\text{C}$... 76.2% H Transparency Conditions ... Clear ... 11.0.
 Focus ... 6-86 / $\rightarrow$ 7.06 for 3730A
 Spectr. Temp. ... $\rightarrow$ 7.04 Dome Temp./Hum.

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
66s				CASS CCD	1800h G=6065	300	6604A	10			S/N
574	7K	8" 5.79	B8Si					11	He weak pgm	Repeat of one @ 1935	
60s								13ci		.728d period	
4s								32ci		max = 12 K ADU	
					1800 G=4065	300 Fu	3730A		He Str Bln		
20/30						300 250		3/4	Focus Test	x plot 438-447	
20s											
30s								5ci			
1499	10 K	6" 5.3	B2Ure (He S)					12ci	He Str Bln	15K plot in Z Aug 7/100/1	
30s								5ci			
1507	8.6K							13ci			
20s	8.6K	5"						5			
1464	10.5K	5"						14ci		16 K photons Z Aug	
30s								5ci			
1565	10 K	4"						5ci (5ci)			

Date 1993 Dec 15/16 Observers [B/n] Tn

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18479	Comp							FeNe Clear	30s
80	HD 37479	05 33 45	-02 38 48	00 49 34					803
81	Comp							FeNe Clear	30s
82	HD 37479	05 33 45	-02 38 48	01 07 42		01 13 W			1324
83	Comp							FeNe Clear	30s
84	HD 37479			01 31 54					1407
85	Comp							FeNe Clear	30s
86	BINS(4)								
87	FLATS x2								
88									

≈ 02W - 2°40' - Tung A 1/2 4sec
 ↓
 what does this mean? } should have been clear.
 Just that I had intended to use
 Aperture = Clear. No big deal Tu

Spectr. Temp.

Dome Temp./Hum. 400.3°C 80%

Transparency Conditions... *some cloud*... 112

* Should perhaps been 250m 511t / Forged to change

[illegible]

113

Thurs/Fri

Emulsion Batches:

Date 1993 Dec 16/17 Observers Hlw/[Rm]

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc18489	Bias (4)			cc386 clock 3 seconds ahead of WWF time					
90/91	Comp/Stellar	Hartman		this time is read off ✓ the cc386 (ie, correct it by subtracting 3 seconds)				FeAr Clear	30/35
92	Comp							FeAr Clear	60s
93	HD198726	20 ⁴⁷ 24 13	+27 52 30	18 22 52					200s
94	Comp							FeAr	60
95	Comp							FeAr	60
96	HD203156	21 15 23	+37 49	18 36 27					300s
97	Comp							FeAr	60
98	Comp							FeAr	60
99	HD213998	22 30 13	-00 37 59	18 54 11					133s
18500	Comp							FeAr	60
501	Bias (4)								
502	Comp							FeAr	60
503	HD214975	22 36 55	+56° 18.4	19 08 26					1268
504	Comp							FeAr	60

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr. Se

5200 ~

5400

10000

3000

Spectr. Temp. Dome Temp./Hum. $+0.2^{\circ}\text{C}/64.2\%$ Transparency Conditions ... Clear 114.
 Focus 6.90 Dome Fans ON @ 1700, south one turned off at 1815.
 Spectr. Temp. 90 again Dome Temp./Hum. 480 0 50 1024 41 ccdfmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 λ /mm G=5910	300 μ	6400 $\text{\AA}$	1		Noted upon arrival: ① Hartman Mask left in "Comp" position	
								3/4		② Home mirror gone!	
						Signal to Noise "Ratio"		5		75% Catwalk Humidity @ 182	
	5200	~4"	5.75	GOI _b		S.N.R. ~230		6	Rm (T Vul)		
								5			
								5			
	5400		5.9	F2		S.N.R. ~250		7	Rm		
								5			
								5			
	10000		4.02	B9 IV-V		S.N.R. ~290		8	Telluric		
								5			
								1			
								5			
	3000		8.4	GOI _b		S.N.R. ~220		9	Rm		
								5			

2 115

Thu/Fri

Date 1993 Dec 16/17 Observers H/W / [Rm] T_n

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
c 505-509	5x Flat							Tung 1/2 Ap	5s
cg30236-39	^{4x} HD10006	01 32 36	+45 50	2000		-0:10 E			67ms
cg30240-41	^{2x} HD10006	01 32 36	+45 50	2000		-0:10 E			133ms
cc18510	Comp							FeAr Clear	60s
11	VY Per	02 20 19	+58 28 01	20 21 40		00 12 W			3123
12	Comp							FeAr Clear	60s
13	VY Per	02 20 19	+58 28 01	21 21 40		01 02 W			2779
14	Comp							FeAr Clear	60s
15	BIAS (4)								
16	Comp							FeAr Clear	60s
17	HD25361	03 56 41	+58 20 58	22 13 04					1380s
18	Comp							FeAr Clear	60s
19	Comp							FeAr	60
20	HD 237190	03 46 10	+58 21 18	22 44 50					1859s
21	Comp							FeAr	60

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

Seel

515 23

405 24

3500 23

3000

Spectr. Temp. Dome Temp./Hum. $-0.3^{\circ}\text{C}/64.7\%$ Transparency Conditions Clear

Focus 6.90

Spectr. Temp. 9.0 gain Dome Temp./Hum.

Exp. Mtr.	Seeing	P.S. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
5s				Cass CD	1800l/mm	300 μ	6400A	10ci		Catwalk Humidity = 81% @ 2000	
67ms		7.5	K5		G=5910	Full Length			Seeing Test	No Wind, North fan <u>ON</u>	
133ms									Seeing Test	No Haze: Very clear.	
60s								5			
313	515	2.3" ^{10.8} -11.6	F5- F9					11	Rm pgm	11K photos 2 Aug $\approx 100/1$	S/N
60s								12ci			
279	405	2"						13ci	Rm pgm	Repeat to get S/N up	
60s								14ci			
60s								15ci			
133	3500	2.3" ^{7.30} -8.07	F6Ib -G2Ib					16	Rm pgm		
60s								17			
185	3000	8.64	G0Ib					18	Rm		
60								19			

3 117

Thu/Fr

Date 1993 Dec 16/17 Observers [Rm]/Tn/Hlw/[Bln]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc18522	Comp							Fe Ar Clear	60s
23	HD29260	04 31 26	18 20 24	23 24 31					600s
24	Comp							Fe Ar Clear	60
25	Comp							"	"
26	HD30282	04 41 05	+36 32 36	23 41 32		00 43W			
27	Comp							Fe Ar Clear	60sec
28	BIAS(4)								
29	Comp							Fe Ar Clear	60sec
30	SV per HSAO039783	04 42 46	+42 06 48	00 13 09					
31	Comp			00 54				Fe Ar Clear	60sec
32								TUNG	4sec
→ 34	FLATS x 3					01 33W	+42 17	Ap1/2	
35								Fe Ar	60/60
36	Comp/stellar	HARTMAN		01 00		"	clear		
37	"	"						Fe Ar Clear	40/55
38	"	"							
39	Flat	⊙ HD37479 position,					-3°		
40	Comp							Fe Ne Clear	30s

Spectr. Temp.

Focus.....6

Spectr. Temp.

Exp. Mir.

Sec

4000

4000

2800

T=-2

T=-2

Spectr. Temp. Dome Temp./Hum. $-1.8^{\circ}\text{C}/60.8\%$ Transparency Conditions ... Clear, Crystal. 118

Focus 6.90 $\rightarrow$ 7.05 for 3730A setup

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800l/mm	300 μ	6400A	20			
					G=5910						
4000		6.33	F5 Ib					21	Rm		
		-6.75	-F9.5 Ib								
								20			
								20			
4008	2"	B=7.9-8.8	F6-G2					22	Rm		
								5ci			
								1c			
								5ci			
2800	2"	8.95	G01b					23ci	Rm	7200/1 S/N	
								5ci			
								24ci		10K MAX ADU	
								25/26		Right on @ 440	
T = -2.5 $^{\circ}\text{C}$				Set 6.90							
T = -2.5 $^{\circ}\text{C}$				Set 7.05	1800l/m	250	3730A	25/26			
					G4065	pointed packet					
								28			

4. 119

Thu/Fri

Date 1993

Dec 16/17

Observers

[Bin]/Tn/Hlw/[Rm]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc18541	HD37479	05 33 45	-02 38 48	01:30:00		+1:44 W			1500
42	Comp							FeNe Clear	30s
43	Bias (4)								
44	HD37479	05 33 45	-02 38 48	01:58:46		02 12 W			1500
45	Comp							FeNe Clear	30s
46	HD37479	05 33 45	-02 38 48	02 26 27		2:40 W			1500
47	Comp							FeNe Clear	30s
48	HD37479	05 33 45	-02 38 48	02 53 46		3:05 W			1500
49	Comp							FeNe Clear	30
50	HD37479	05 33 45	-02 38 48	03 21 21		3:34 W			1500
51	Comp							FeNe Clear	30
52	Bias (4)								
53, 54	2x Flat							Tung Clear	200
55, 56	Comp / Stellar					1 W	+21°	FeAr	60/60
57	Comp							FeAr Clear	60

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

St

8000

860

8k

1500

700

6.92

Spectr. Temp. Dome Temp./Hum. $-3.0^{\circ}\text{C}/60.9\%$ Transparency Conditions Clear 120.

Focus 7.05 $\rightarrow$ 6.92 for Rm

Spectr. Temp. Dome Temp./Hum.

CCDT = -10.15°C @ 0140

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. V Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	Ci P.H.	Program	Remarks	Quality
1500		8000		6.53	B2I _{pe}	Cass CCD	1800l/mm G=4065	250 μ	3730A	29	Bl _n He Str	~130 S.N.R.	
303										30			
										1 2100			
1500		8160	3"	6.53	B2I _{pe}					31	Bl _n He Str		
303										30			
1500		~8 K								32	Bl _n He Str		
303										33			
1500		7500		6.53	B2I _{pe}					34	Bl _n He Str		
303										35			
1500		7100		6.53	B2I _{pe}					36	Bl _n He Str		
303										37			
										1			
										38			
1500		6.92 T = -	3.62				1800l/mm G=5910	300 μ	6400A	3ci/4c	Focus		
303										5			

S. 121

Thu/Fri

Date 1993 Dec 16/17 Observers [Rm]/Tn/Hlw.

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
W18558	NGC 2539 #60	08 05 41	-12 26 45	04 18 44					2700s
59	Comp							FeAr Clear	60s
60	Bias (4)								
61	Comp							FeAr Clear	60s
62	HD 759 35	08 47 54	27 18 00	05 19 24		02 02 W			595s
63	Comp							FeAr Clear	60s
Cg ^{30242-4x} 30245	HD 90861	10 24 17	+29 05 35	05 35					67ms
Cg ^{30241,7-2x}	HD 90861	10 24 17	+29 05 35						133ms
64	Comp							FeAr Clear	60
65	HD 90861	10 24 17	+29 05 35	05 41 36		0:45 W			447s
66	Comp							FeAr	60
67	Comp							"	60
68	HD 87901	10 03 03	12 27 22	05:54:53		1:16 W			42s
71	Comp					"		"	60
* 70-72	3x Flats (CC18569, 70, 72.)							Tung Clear	5s
73	Bias (4)								

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

208

3370

2500

25000

Spectr. Temp. Dome Temp./Hum. $-3.8^{\circ}\text{C}/60.9\%$ Transparency Conditions Clear 122
 Focus 6.92
 Spectr. Temp. Dome Temp./Hum. -38°C 65% TO incR cloud.

Exp. Mtr.	Seeing	Pre-Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2700s	208	3"	10.96	B-V	Cass CCD	1800 L/mm	300 μ m	6400A	6ci	Rm/Hlw	60(S/N)
60s			= 0.69		G=5910			7			
60s								7ci			
595s	3370	3"	8.62	G8V				8ci	stl vel.		
60s								9ci			
67m		6.9	K2 III						Seeing Test		
133m		6.9	K2 III						Seeing Test		
60								10ci			
447s	2500	6.9	K2 III					11ci	Rom Std Velocity.		
60								12ci			
60								13ci			
42s	25000	1.35	BTV					14ci	Telluric.		
60								15ci			
5s								16	Hll TO Perseus but		
									& W. O.R.M. not warm		

1 123

Date 1993 Dec 19/20 Observers HLW / EVys3

Emulsion Batches:

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[illegible]

Spectr. Temp. Dome Temp./Hum.

480 0 50 1024 41 ccdfmt

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion λ lambda	P.H.	Program	Remarks	Quality
						Cass CCD	1800 l/mm	300μ					
									1				
	20						G=4863		4940Å	3	more like 4936Å	Max ADU = 1200	
	"						G=5000		5133Å	4		Max ADU = 2500	
	"						G=5115		5303Å	5		Max ADU = 5400	
	"						G=5304		5570Å	6		Max ADU = 1200	
	20						G=5720		6146Å	7		Max ADU = 480	
	"						G=6202		6780Å	8		1500	
	"						G=6085		6630Å	9		1400	
	150						G=6780		7490Å	10	only 5 lines!!!!	Max ADU = 7800	
	20						G=7032		Unidentified			Two orders appear in image which is IR?	
							All to Perseus & WORM						

191. 125

Wed / Thurs

Emulsion Batches:

Date 1993 Dec 22/23 Observers [Blh/Rm.] Th/H/W...

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18584/85	Comp / Stellar	Hartman posns						FeAr Clear	40/40
CC18586	B/H 5(4)								
87	Comp							FeAr Clear	60s
88	HD 33328	05 04 22	-08 53 00	21 36 03		01 35 E			478
89	Comp			21 52 39	(a bit late due to failure)			FeAr Clear	60s
90	HD 33328	05 04 22	-08 53 00	21 55 49		01 03 45 ^E			1286
91	Comp							FeAr Clear	60s
92	Comp							FeAr Clear	60s
93	Bias (4)								
94	HD 87901	10 03 03	+12 27 22	22 36 46		05 12 E			1785
95	Comp							FeAr Clear	60s
96	Comp							"	"
97	HD 37468	05 33 44	-02 39 28	23 18 27					1014s
98	Comp							FeAr Clear	60s
99	Comp							FeAr Clear	60s

Spectr. Temp
Focus... 6.9
Spectr. Temp

Exp. Mtr. Se

Note H
5=6

10,855

27,000 6

1,500 8

20,000 5

Spectr. Temp. Dome Temp./Hum. ^{+6.8°C 59% H} Transparency Conditions ... *Part Cloudy* *125*.

Focus ... *6.90*

FANS on By 21 EST

Spectr. Temp. Dome Temp./Hum. *8*

CCDT → -100°C 90CGAIN

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>40/40</i>	<i>Note: Headers say G=6055 but they're WRONG!</i>			<i>CASS CCD</i>	<i>1800 l/h/mm G=6065</i>	<i>300μ Full</i>	<i>6609A</i>	<i>3/4</i>		<i>*Dome T dropping fast</i>	
								<i>1</i>			
<i>60s</i>		<i>4.2</i>						<i>5</i>			
<i>178</i>	<i>10,855</i>	<i>4.27</i>	<i>B2 IV</i>		<i>~270</i>	<i>S.N.R.</i>		<i>6ci</i>	<i>Myron Smith Request</i>	<i>ended By sp control failure</i>	
<i>60s</i>								<i>7ci</i>		<i>[grating tilt was disabled ∴ should be no problem]</i>	
<i>178</i>	<i>22,000</i>	<i>6"</i>	<i>4.27 B2 IV</i>		<i>~410</i>	<i>S.N.R.</i>		<i>8ci</i>			
<i>60s</i>								<i>9ci</i>			
<i>60s</i>								<i>10ci</i>			
								<i>1ci</i>			
<i>178</i>	<i>12,500</i>	<i>8"</i>	<i>1.35 B7 V</i>					<i>11ci</i>	<i>Telluric</i>	<i>AIR MASS = 4.00 at end cloudy here</i>	
<i>60s</i>								<i>12</i>			
<i>4</i>								<i>13</i>			
<i>1014</i>	<i>20,000</i>	<i>5-7"</i>	<i>3.81 09.5 V</i>		<i>~350</i>	<i>S.N.R.</i>		<i>14</i>	<i>Blh pyrm</i>	<i>D component also on slit</i>	
<i>60s</i>								<i>15</i>			
<i>60s</i>								<i>16</i>			

2127

Emulsion Batches:

Date 1993 Dec 22/23 Observers [BLW] Tn/Hlw

Note CSS Time seen to be... 10 secs. First Rel to WWV

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc18600	HD25642	03 59 08	+50 04 48	23 46 42		01 51W			1259
01	Comp							FeAr Clear	60s
02	Bills (4)								
03	Comp							FeAr Clear	60s
04	HD21686	03 24 56	+10 59 37	00 15 21					1036
05	Comp							FeAr Clear	60s
06-18	FLATS x 11							TUNG HP 1/2	45
17/18	Comp/Stellar Hartman							FeAr Clear	40/45
cc18619	Bias (4)								
20/21	Comp/Stellar							FeNe Clear	30/45
22	Comp							"	30s
23	HD37479	05 33 45	-02 38 48	01 03 58					1829
24	Comp							"	30s
25	HD37479	05 33 45	-02 38 48	01 37 25		02 19 W			1813
26	Comp							FeNe Clear	30s

Spectr. Temp. Dome Temp./Hum. $-10^{\circ}\text{C}/61.77$ Transparency Conditions Some Clouds, Thick Haze
 Focus 6.90 / 7.15
 Spectr. Temp. Dome Temp./Hum. $-12.4^{\circ}\text{C} \dots 62.9\%$ 128

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
15,308		4.29	A0 IV	Cass CCD	1800L G=6065	300 μ	6604A	17	Bln pgn		
								18c,			
								1			
								19			
15000	5"	5.14	A0 V _n					20	Telluric Std	AIRMASS = 1.46	
								21			
								22			
								23/24	Focus Test		
				Cass CCD	1800L/mm G=4065	250 μ	3730A	1			
								3/4	Focus Test	FOC = 7.15, T = -11.8°C	
								5			
?	5"	6.53	B2 V _{pe}					6	Bln He Str		
								7			
5600 (5-8")		6.53	B2 V _{pe}					8	Bln He Str.	< 100/1 S/N	
								9c			

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Date 1993. Dec 22/23... Observers [Bh-Pm] In. 1. H. Lu....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc18627	HD 37479	05 3345	-02 38 48	02 10 12		07 51W			1799
28	Comp							FeNe Clear	30s
29	HD 37479			02 43 17					1800
30	Comp							FeNe Clear	30s
31-33	3 x Flat					3:30 W	-2:36	Tung Clear	200
34	Bias (4)								
35 36	Comp / stellar	HURTMAN				00 10W	+47°	FeAr Clear	40/55
cg30248-51	HD 82582	09 27 46	+47 20 45					4x	.067
cg30252,3	"	"	"					2x	.133
cc18637	Comp							FeAr Clear	60s
38	HD 86360	09 52 51	+2:55:00	04:17:13					1800
39	Comp							FeAr Clear	60s
40	Bias (4)								
41	Comp							"	60
42	HD 112028	12:48:23	+83:57	05:01:00					1930
	Comp								

Spectr. Temp.
Focus... 7.1
Spectr. Temp.

Exp. Mtr. Se

Set 7/12

2+000

25 000 4

Spectr. Temp. Dome Temp./Hum. -12.8°C 64.5% Transparency Conditions ... mostly clear now ...

Focus ... 7.15 ...

Spectr. Temp. Dome Temp./Hum. -13.5°C 68.4%

130

CCDT -101.5°C

Exp. Mtr.	Seeing	P. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1799	6"	6.53	B2 V	CASS CCD	1800 G-4065	250 μ dacker	3730A	10c	Bln He Str		
30								12c			
1800	5070							11c	Bln He Str		
30								12c			
200								13c			
										Topup finished 0340	
40/50	Sel 7/12	$T = -13.4^{\circ}\text{C}$		CASS CCD	1800 G-4565	250 μ FULL	4476A	3c/4c	Focas.	* Actual 512 center = 44908	
.067	poor	6.52	F0 V			ABOVE 250 μ dacker			Seeing Test	Dome West.	
.133		"	"						Seeing Test	no wind.	
60/60								11			
1800	24 000	5.17	B9.5 V		~300	S.N.R.		12	Bln	Max ADU ~ 5000	
60/60								13			
								1			
60								14			
1930	25 000	4"	5.20	A2	~315	S.N.R.		15	Bln		

Wed / Thurs

Emulsion Batches:

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Spectr. Temp.

Focus... 7.1%

Spectr. Temp.

Exp. Mtr. See

[illegible][illegible]

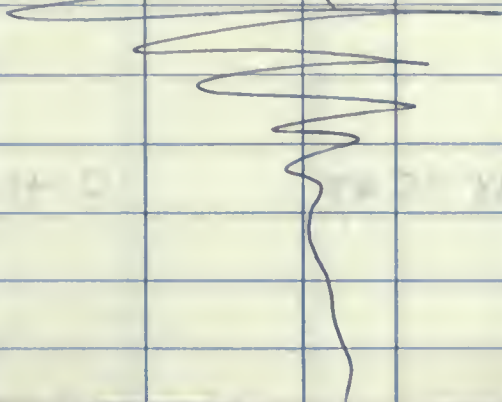
Transparency Conditions 51 h929.....

132

Dome Temp./Hum.

20

All to Perseus & Worm



Pg 1 133

Emulsion Batches:

Date 1993 Dec 23/24

Observers

{Vys3} Hlw/Tn

css 11 secs ahead of U.W.V. Time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc18653/4	Comp/Stellar					Zenith	Clear	FeNe FeNe	20/30
55	Bias (4)								
56	Comp							FeNe Clear	60sec
57	HD 1326	00 12 58	+43 27 44	17 28 46		00 41 E			880s
58	Comp								60sec
59	Comp							FeNe Clear	60sec
60	BD+40 45	00 11 52	+40 23 33	17 57 30		00 03 E			1800
61	Comp							FeNe Clear	60sec
-62 64	FLATSx3							TUNG Clear	7sec
65 66	Comp/Stellar	HORTMAN						FeNe Clear	20/30
67	Bias (4)								
68	Comp							FeNe Clear	60s
69	BD+40 45	00 11 52	+40 23 33	18 35 47		0:41 W			1800
70	Comp							"	60
71	Comp							"	60

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mir.

Sec.

2600 3

50 2

T:-99%

2100

Spectr. Temp. Dome Temp./Hum. $-9.1^{\circ}\text{C}/49.9\%$ Transparency Conditions Clear 134
 Focus 7.07

Spectr. Temp. Dome Temp./Hum. λ CCDT $\rightarrow -100^{\circ}\text{C}$ 90CGAIN

Comparison Filter	Exp.	Exp. Mtr.	Seeing	P.G. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Ne	20/30					Cass CCD	1800 G=4863	300 μ	4936A	3/4	Focus Test	T=-8.8 $^{\circ}\text{C}$, foc=7.07	S/N
										1			
	60s									5ci			
	880s	2600	3"	8.07	M1.5e					6ci	Vys Std.	Airmass ~ 1.01	95/1
	60s									7			
	Ne									8			
	60s												
	1800	1750	2-3"	9.00	MO					9	Vys Std.	AIR MASS ~ 1.005	
	60s									10ci			
	Ne												
	60s									11ci		11.3k ADU MAX	
	20/30					CASS CCD	1800 G=5000	300 μ	5133A	3/4	Focus test	foc = 7.07	
										1			
	60s									5ci			
	1800	2100		9.00	MO					6ci	Vys Std.	Air Mass = 1.01	
	60									7			
	60									8			

pg 2 135

Date 1993 Dec 23/24 Observers {Vys} Hlw/Tn.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc18672	HD1326	00 12 58	+43 27 44	19 11 27		0:58 W			720s
73	Comp							Felb Clear	60s
74								TUNG	
-76	FLATS x 3						clear	Ap/2	5s
77								Felb	
78	Comp/stellar Haqman							clear	20/30
79	Comp							n	60s
80	Bias (4)							FeNe Clear	60s
81	HD1326	00 12 58	+43 27 44	19 37 12		1:23 W			705s
82	Comp							FeNe Clear	60
83	Comp							n	n
84	BD+40 45	00 11 52	+40 23 33	19 55 03					
85	Comp							Felb Clear	60s
86								TUNG	
→88	FLATS x 3							Ap/2	9
89	Comp							FeNe Clear	30s
90	HD14055	02 11 22	+33 23 05	20 27 16					223
91	Comp							FeNe Clear	30s

Spectr. Temp

Focus... 7r

Spectr. Temp

Exp. Mtr.

S

2150

T=-10

2200

2

10 000

Spectr. Temp. Dome Temp./Hum. $-9.9^{\circ}\text{C}/50.6\%$ Transparency Conditions $\dots$ increasing haze $\dots$ BSC
 Focus ... 7.07 $\rightarrow$ increasing cloud
 Spectr. Temp. Dome Temp./Hum. $-10.1^{\circ}\text{C}/53.6\%$ Note All d's Tonight are True Pos 512 $\pm 2^{\circ}$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2150	2"	8.07	M1V	Cass CCD	1800 G=5000	300 μ	5133A	9a	Vys Std	X=1.017	
								10			
								11		102K max	
T=-10.1, Set 7.07					1800 G=5115	300 μ	5303A	3i/4c			
								5			
								1			
2200		8.07	M1V					6	Vys Std	1.035	
								7			
								8			
	2-3"	9.00	M0					9c	Vys Std	cloud at end	
								10c			
								11c		10K ADU max	
								12			
0,000		4.01	A1V					13	Telluric		
								14			

pg³ 127

Date 1993 Dec 23/24 Observers {Vys} H/W/Tn

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18692	Comp							Felto Clear	60s
93	HD 35770	05 22 00.8	+15 47 23	20 43 07					
94	Comp							Felto Clear	60s
95	BIAS(4)								
96/97	Comp/Stellar HARMAN							40/40 90s	
99	HD 35770	05 22 01	+15 47 23	21 06 06				Preceding Comp CC18698	90s 43
CC18700	Comp							Felto Clear	90s
701	Comp							"	"
702	HD 1326	00 12 58	+43 27 44	21 25 16		03 13W			697
703	Comp							Felto Clear	90s
→ 704 706	FLATS x 3					n	+44°	TUNG Hp 1/2	
707	BIAS(4)								
708	BIAS(4)			23 19					
cg30260-3	HD 35476	05 19 54	+43 ⁵⁵	23 27				4x	67ms
6465	n							4x	133ms

Spectr. Temp.

Focus... 7.1

Spectr. Temp.

Exp. Mtr.

Se

OK2

10700

500

6

4

Transparency Conditions... *cloudy... sort of... B8*

Dome Temp./Hum. -9.9°C / 55.9%

Dome Temp./Hum. -9.9°C / 55.9%

Solid Clouds end

[illegible]

pg 4 139

Date 1993 Dec 23/24 Observers {Vys} H/w/Tn...

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc18709	Comp							Felt Clear	90s
10	HD95735	10 57 54	+36 38 00	23 43 25		5 14 E			600s
11	Comp							Felt Clear	90s
12/13	Comp / Stellar	Hartman						Felt Clear	30/35
14	Bias (4)								
15	Comp							Felt Clear	90s
16	HD95735	10 57 54	+36 38 00	00 14 44		04 44 E			603
17	Comp							Felt Clear	90s
18	Comp							"	"
19	HD87901	10 : 03 : 03	12 : 27 : 00	00 38 47		3 : 34 E			31s
20	Comp							"	90s
21-23	3x Flats							Tung 1/2 Ap	5s
24/25	Comp / Stellar	Hartman						Felt Clear	30/35
26	Bias (4)								
27	Comp							Felt Clear	90s

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

Spectr. Temp

3200

T=1000

3250

4800

Spectr. Temp. Dome Temp./Hum. $-10.0/57.7\%$ Transparency Conditions ... *clear again 140*
 Focus *7.07* *sl hazy though*
 Spectr. Temp. Dome Temp./Hum. δ

Expan- sion filter	Exp.	Exp. Mtr.	Seeing	✓ P. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
90s						CASS CCD	1800lm G=5704	300μ Full Length	5570A	.			S.N.R.
600s		3200	1.2"	7.48	M2					26c	Vys Std.	X ~ 1.9	160
90s							1800lm/m G=5720	300μ Full	6146	3ci/Aci	Focus Test	<i>Route</i> Right on @ 650	
30/35										1			
90s										5ci			
603		3250	1.2"	7.48	M2					6ci	Vys Std	1.68 AIRMASS	
90s										7			
"										8			
31s		4800		1.35	B7V					9ci	Telluric	X ~ 1.80	
90s										10			
5s										11			
Ar ear	30/3					Cass CCD	1800L G=6085	300μ	6630A	3/4	Focus Test	Foc = 6.97, T = -10°C	
Ar ear	90s									1			
										5			

pg 5 141

Date 1993 Dec 23/24 Observers {Vys} Hlw/Tn

Emulsion Batches:

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[illegible]

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mr. S

26700

345

142

All Backed up too.

pg#1 143
Sun/Mon

Date . 1993 Dec 26/27 Observers [Bin].....Ta.....

Emulsion Batches:

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.....
CSS 386 14sec ahead of WWV time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18737 38	Comp / stellar	Hartman				00 14E	+28 43	FeAr clear	60/60
39	BIAS(4)								
40	Comp							FeAr clear	90sec
41	HD223094	23 41 23	+28 08 54	17 38 48		00 12 35W			970
42	Comp							FeAr clear	90s
CG 30266 69	HD 22 30 94							4x	6746
GG 30270 71	"					00 15W	+28 41	2x	133ms
CC18743	Comp							FeAr clear	90s
44	BD+26 3835	20 09.6	+26 27	18 07 18		04 45 W			2831
45	Comp							FeAr clear	90s
46	BIAS(4)								
47	Comp							FeAr clear	90s
48	HD 21 6 86	03 24 56	+10 59 37	19 09 01		02 04 E			775
49	Comp							FeAr clear	90s
-50 -52	FLATS x 3					02 E	+11°		

Spectr. Temp. Dome Temp./Hum. -16.0°C 44.4% Transparency Conditions Fine 1.44

Focus ... 7.00

Spectr. Temp. Dome Temp./Hum.

90C GAIN $\text{CCD} \rightarrow -100^{\circ}\text{C}$

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	$1800\frac{1}{4}''$ $G=6065$	300μ FULL length	$6604\text{\AA}$	$3/4\text{ci}$	Focus	Rapid Temp drop now -13°C/hr continue	
								1ci			
								5ci			
3100	$6''$	745	K5III					6ci	Std Vel	+ Tel Normalization Star	
--								7ci			
	poor	745	K5III						Seeing Test	Both Fans on By 1640 Gusty west wind South Fan OFF @ 1730 Dome Facing SW	
									"		
								8			
1565	$6''$	8.4 -9.1	B8					9	Blk pym	AIR MASS = 1.65	
								10ci			
								1ci			
								11			
12,608	$6''$	5.4	A0Vn					12	Telluric Std (Blk checked one)		
								13ci			
								2ci			

pg#2 185

Date 1993 Dec 26/27 Observers J. Taylor / J. T. n.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18753	Comp							Felt Clear	90s
754	HD15963	02 2854	+57 3800	00 40 29		00 38E			797
755	Comp							Felt Clear	90s
756	HD15963			19 59 58					2485
757	Comp							Felt Clear	90s
-758	FLATS x5							Tung Ap 1/2	4se
763	Comp BINS(4)								
764	Comp / stellar HARTMAN							Felt Clear	60/70
765								Felt Clear	60se
766	Comp								1904
767	HD15963	02 2854	+57 3800	21 12 51		01 13 W		Felt Clear	60se
768	Comp								60s
769	BINS(4)								
770	Comp							Felt Clear	60s
771	HD10516	01 3724	+50 11 00	21 55 25		02 51 W			249
772	Comp							Felt Clear	60s

Spectr. Temp.

Focus... 74

Spectr. Temp.

Exp. Mir.

Se

1275 5

1275

4000

-180°

2750 5

500 4

Spectr. Temp. Dome Temp./Hum. -18.0°C 52.8% H Transparency Conditions $S1\text{ hazg}$ 14.6.

Focus ... 7.00

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
90s				CASS CCD	1800 G-6065	300u Full	6604	14c			
797	12.75	5"	8.1	Ape				15	Shell JT	MAX $\approx 1200\text{ADU}$ 1.037 AirMass	
90s	12.75							16c			
2485	4000	4.7"	8.1	Ape				17c	Shell JT		
90s								18c			
90s								19c			
60/30	-18.0°C	set 7.17		CASS CCD	1800 G-4820		4865A 3/4				
60s								5c			
1914	2750	5"	8.1	Ape				6c	Shell JT	max $\approx 1200\text{ADU}$	
60s								20c			
60s								1c			
60s								20c			
249	18500	4"	4.06	BI pe				21c	Shell JT	MAX $\approx 5\text{KADU}$ (350/1 S/N)	
60s								22c			

147
p43

Date 1993 Dec 26/27 Observers J.T. / Tn

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC 18773	Comp							Felr Clear	60s
74	HD 20336	03 11 12	+65 17 00	22 10 23		01 03 W			439
75	Comp							Felr Clear	60s
76	Comp							"	"
77	HD 22192	03 29 24	+47 51 00	22 27 02		01 00 W			271
78	Comp							Felr Clear	60s
79	Comp							"	"
80	HD 23862	03 43 29	+23 51 00	22 45 24		01 13 W			693
81	Comp							Felr Clear	60s
→ 82	FLHTS x3							TUNG Clear	9s
85	B/H S(4)								
86	Comp							Felr Clear	60s
87	HD 35439	05 19 36	+01 45	23 09 15		W			773
88	Comp							Felr Clear	60s
89	Comp							"	"

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

Sec

18600 6

20000

17250 4'

27K

Spectr. Temp. Dome Temp./Hum. -19.8°C 60% Transparency Conditions 51 hazy... some cloud
 Focus $7.1.7$
 Spectr. Temp. Dome Temp./Hum. -20.2°C 64.4% 148

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	60s					CASS CCD	64820	300 μ Full	4865A	23			
	439	18,600	6"	4.83	B5e					24	Shell/JT	75K ADU max	
	60s				B2Ve								
	4									25c	Shell/JT		
	271	20,000		4.23	B5e					26c	Shell/JT	MAX 10K ADU	
	60s									27			
	4									28			
	693	17,250	4.8"	5.08	B8p					29	Shell/JT	350/1 S/N	
	60s									30			
	9s									2c		MAX 1K ADU	
										1c			
	60s									30c			
	773	19K		4.94	B1Ve					31c	Shell/JT	7500 MAX	
	60s									32c			
	4									32c			

pg 4 144

Date 1993 Dec 26/27 Observers J.T. ... / T.T.

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18790	HD 37202	05 3142	+21 05	23 2859				159sec	773
91	Comp							Felt Clear	60s
92	Comp							"	"
93	HD 248411	05 4530	+28 14	23 4406		00 29W			181
94	Comp							Felt Clear	60s
95	HD 248411	05 4530	+28 14	00 4811		01 07W			
96	Comp							Felt Clear	60s
97	BIAS(4)								
98	Comp							Felt Clear	60s
99	HD 45910	06 2512	+05 56	01 0045		01 08W			1927
CC18800	Comp							Felt Clear	60
01	Comp							"	"
02	HD 50138	06 4642	+06 51	01 4043		01 27W			1933
03	Comp							Felt Clear	60s
04	Comp							"	"

Spectr. Temp.

Focus... 7.1

Spectr. Temp.

Exp. Mtr.

Se

27,400

1

4

4

4

4

4

4

4

4

4

4

4

4

4

4

4

4

4

4

4

4

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions

sl hazy 150

Focus ... 7.17

Spectr. Temp.

Dome Temp./Hum.

-21.0°C 67.8%

incr cloud.

Comparison
Filter Exp.

Exp. Mtr.	Seeing	Pr. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
22400		2.98	B2IVp	CASS CCD	1800 G=4820	300u	4865A	33			5/11
		2.98	B2IVp					32	Shell JR		
								32			
* unknown	4" 8"	8.8	Ape					34c	Shell JR	6 Kphotons 2 AUG * Exp meter problem	75/1
								5c			
1600	5"	8.8	Ape					35c	Shell JR	2-20° from full moon	
								5c			
								1c			
		6.77	B2IVp					5c			
9300	5"	6.77	B2IVp					6c	Shell JR	some cloud	
								7c			
								8c			
9840	5"	6.6	B5Ve					9c	Shell JR		
								10			
								11			

Date 1993 Dec 26/27 Observers JT / TH

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[illegible]

Exp. Mtr.

Focus 7.17

Spectr. Temp.

Dome Temp./Hum. -20.0°C ... 66%

152
Solid Clay - lent

	Exp. Mtr.	Seeing	Mg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1948 60s	2850	5"	8.5	B3pe	CASS CCD	1800 G=4820	300 μ	4865A	12c:	Shell/JT	no emm evident	
60s									1c:			
60s									14			
90 60	745		8.4	A0e					15	Shell JT	SI fainter one too South one of pair	
90 60									18			
									1c:			
									111	To Perseus & WORM		

pg #1 153

Date 1993 DEC 27/28 Observers [KH] Hlw / Ta.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC 18817 18	Comp/ Stellar HATMAN					01 W	+43°	FeNe Clear	20/30
19	BIHSC4)								
20	Comp							FeNe Clear	30s
21	HD 209790	22 0054	+64 08	17 409		01 49W			65
22	Comp							FeNe Clear	30s
23	Comp							"	"
24	HD 217 675	22 57 18	+41:47	17 5116		1:00W			33s
25	Comp							"	30s
26	HD 217 675	22 57 18	+41 47	17 5754					43
27	Comp							FeNe Clear	30
28	Comp							"	"
29	HD 217782	22 5800	+42 13	18 0459		01 13W			165
30	Comp							FeNe Clear	30
31	Comp							"	"
32	HD 6961	01 05	+54 37	18 1429		0:46E			82s
33	Comp							FeNe	30s

Spectr. Temp.
Focus... 7.
Spectr. Temp.

Exp. Mtr. Se

T = -11.0°

5000

5200

6150

6500

5352

Spectr. Temp. Dome Temp./Hum. $+40.5^{\circ}\text{C}$ Transparency Conditions ... *Fine* ... 15.4 ..

Focus ... 7.38 ..

Spectr. Temp. Dome Temp./Hum. 90CGAIN $\text{CCDT} \rightarrow -100^{\circ}\text{C}$

Exp.	Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2/30	T=-11.0°	set	7.38		GAUSS CCD	600nm/mm G=2620	250µ pointed Decker	4200A	3/4	Focus Test	Stellar vs/Red $\#385$	
3/3									5			
5/30	5000	1.2"	4.63	A3m					6	KK	MAX 10K ADU	
3/3									7			
4/3									8			
33/3	5200	1"	5.17 $B=3.6$	B6p					9	KK		
30/3									10			
43/30	6150	1"	B36	B6p					9ci	KK ^{repeat} pgm	9.3K MAX	
30/3									10ci			
4/3									11			
165/30	6500	1"	5.17	A2					12	KK pgm		
30/3									13			
4/3									14			
82/30	5952	1"	4.50	A7V					15			
30/3									16			

pg #2 155

Date 1993 Dec 27/28 Observers [K.K.]... Th... I.H.W.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18834	BIAS(4)								
35	Comp							Fen Clear	30s
36	HD8890B	01 22'6	+88 46	18 26 33					1852
37	Comp							Fen Clear	30s Int
CG30272 73	HD8890B = Polaris off to lower Right							2 x	67ms
38	HD8890'A'	01 22 36	88 46	19:0414		1:20 E			26
39	Comp								
40 →44	FLATS x5					0115E	+88		
45	BIAS(4)								
CG30274 -77	HD10006	01 32.6	+45 50	019 22		0005E	+46	4x	67ms
78 79	"							2x	133ms
46	Comp							Fen Clear	30s
47	HD222368	1993.5 23 39 37	1993.5 +5 35 28	19 31 36		2:00W	+6		22
48	Comp							Fen Clear	30s
49	Comp							"	"

Spectr. Temp
Focus...
Spectr. Temp

Exp. Mtr. S

255

600

8500

Spectr. Temp. Dome Temp./Hum. $-11.3^{\circ}C$ 68.4% Transparency Conditions ... Fine ... 156

Focus ... 7.38

Full moon almost

Spectr. Temp. Dome Temp./Hum.

No FANS Tonight

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						Cass CCD	#600 250nm G=2620		4200A	1c			
										17			
	30	2155	1.2"	8.6	F					18c	K/K pgm		
	152									19			
	30												
	Int												
	67		1"	8.6	F	~150 S.N.R.	250nm pointers				polaris off window slit		
	26	6100		2	F					20c			
										20			
										22		MAX 13K ADU	
										1c		Dome T = $-11.8^{\circ}C$	
	14		1"	7.5	K5		above 250nm slit pointer left in					Dome west, Light S W wind	
	133												
	30												
	22	8500		4.13	F7V					24	Std Vel		
	30									25			
	4									26			

pg #3 157

Date 1993 Dec 27/28. Observers [KK] +Bln Hlw. / Tn.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18850	HD 29587	04 34 30	+41 57	19 48 18		2:24 E			1203
51	Comp								
52	Comp / Stellar					00 40 E	+26°	Felle Clear	40/66
53	HARTMAN								
54	Bias (4)								
55	Comp	Reset CSS Time to match WWV Time						Felle Clear	30s
56	HD 37479	05 33 45	-02 38 48	20 36 40		1:50 E			1800s
57	Comp							Felle Clear	30
58	HD 37479	05 33 45	-02 38 48	21 09 15		2:23 E			1812s
59	Comp							"	30s
60	Bias (4)								
61	HD 37479	05 33 45	-02 38 48	21:42:25		1 18 E			1769
62	Comp							Felle Clear	30s
63	HD 37479	05 33 45	-02 38 48	22 15 18		00 51 E			
64	Comp							Felle Clear	30s
65	HD 37479			22 11 11		00 24 E			1428
66	Comp							Felle Clear	30s

Spectr. Temp
Focus...
Spectr. Temp

Exp. Mtr. S

5900

T=-12

420

5211

11500

10

6400

Spectr. Temp. Dome Temp./Hum.

[illegible]

pg #4 / 59

Date 1993 Dec 27/28 Observers [Blk] Tn / H/4

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC188679	FLATs x 3							TUNG Clear	200s
70									
CC18871	Comp / Stellar	HARTMAN (after Topap)				00 15 E	+28°	FeNe Clear	40/66
72	Comp							FeNe Clear	30s
73	HD 37479	05 33 45	-02 38 48	00 19 44		01 16 W			150s
74	Comp							FeNe Clear	30s
75	Bias (4)								
76	HD 37479			00 47 35		1:52 W			1984s
77	Comp								
78	HD 37479	05 33 45	-02 38 48	01 23 16		2 20 W			1558
79	Comp							FeNe Clear	30s
80	HD 37479	05 33 45	-02 38 48	01 52 02		2 50 W			1530s
81	Comp							FeNe Clear	30s
82	Bias (4)								
83	HD 37479	05 33 45	-2 39	02 23 16					1260
84	Comp							FeNe Clear	30s

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

S

12K

3K

99K

1000

5570

Spectr. Temp. Dome Temp./Hum. -12.2° $75\% H$ Transparency Conditions *cloudy mostly* 150

Focus *7.20*

Spectr. Temp. Dome Temp./Hum.

Open dome again @ 00:15

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>2005</i>				<i>CASS</i>	<i>1800 m/m</i>	<i>250</i>	<i>3730A</i>	<i>14c</i>			
<i>40/66</i>				<i>CCD</i>	<i>G=4065</i>	<i>detector</i>		<i>16/17</i>	<i>Focus Test</i>	<i>Row #</i> <i>@ 335, stellar 2 pixel Red</i>	
<i>305</i>								<i>20</i>			
<i>1505</i>	<i>12 K</i>	<i>2"</i>	<i>B</i> <i>6.32</i>	<i>B2Vpe (HCS)</i>				<i>21c</i>	<i>Bln He Str</i>	<i>ppm</i>	
<i>305</i>								<i>22</i>			
<i>1984</i>	<i>13 K</i>		<i>B=</i> <i>6.32</i>	<i>B2Vpe</i>				<i>1c</i>			
<i>1558</i>	<i>9.9 K</i>	<i>3"</i>	<i>B=</i> <i>6.32</i>	<i>B2Vpe</i>				<i>23</i>	<i>Bln He Str</i>		
<i>305</i>								<i>24</i>			
<i>153</i>	<i>8000</i>	<i>3-4"</i>	<i>B=</i> <i>6.32</i>	<i>B2Vpe</i>				<i>25</i>	<i>Bln He Str</i>	<i>Extra detail Blue of Balmer jump very pronounced</i>	
<i>305</i>								<i>26</i>		<i>89% Relative Humidity on catwalk.</i>	
<i>126</i>	<i>5570</i>	<i>3-5"</i>	<i>B=</i> <i>6.32</i>	<i>B2Vpe</i>				<i>27</i>	<i>Bln He Str</i>		
<i>305</i>								<i>28</i>			
								<i>1</i>			
								<i>29</i>	<i>Bln He Str</i>		
								<i>30</i>			

161 pg 45

Date 1993 Dec 27/28. Observers [Bh]... Tn... H... {Vys}

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18885	HD 37479	05 33 45	-02 38 48	02 44 09		3:37 W			1300s
86	Comp							Felk Clear	30 _{sec}
87	Bias (4)								
88	Flat							Tung Clear	200s
89/90	Comp/Stellar	Hartman				Zenith			
91	Bias (4)								
92	Comp							Felk Clear	60s
93	B2-2 3000	09 48 10	-03 13 04	03 35 09		0:56 W			3691
94	Comp							Felk Clear	60s
95	Comp							"	"
96	HD 95735	10 57 54	+36 38	04 47 01		-0:05 E			729s
97	Comp							Felk Clear	60s
98	Bias (4)								
99	Comp							Felk Clear	60s
CC18900	BD-1 2892	13 55 53	-02 10 09	05 12 44		1 48 E			
01	Comp							Felk Clear	60s

Spectr. Temp

Focus... 7.

Spectr. Temp

Exp. Mtr. S

5000

1346

5400

1500

Spectr. Temp. Dome Temp./Hum. -12.9°C 75.4% Transparency Conditions $S1$ hazy 162.
 Focus $7.20 / -7.10$
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
5000	4"				1800 G=4065	250 μ 1	3730A	3/4	He Str Bh	To platform Limit	
								32			
								1			
								33			
				Cass CCD	1800d/mm G=5115	300 μ no dekker	5303A	3/4	Focus Test.	T = -13.0, foc = 7.10	
								1			
								5			
1346	1-2"	$\sqrt{2}$ 10.54	m					6	Vys Pgm	COARCT OBJECT NORTH 24 arc min from SI Brighter star	RV ~ 0 pk/s (± 20)
								7			
								8			
5400	1-2"	7.48	MZ					9	Vys Std vel		
								10			
								1			
								12c			
1500	1-2"	9.73	K5					14c	Vys pgm		
								18			

Spectr. Temp.

Dome Temp./Hum. -14.1° 78%

Big FIRE SSE of Hero Reported

[illegible]

pg 1 165

Date 1993 Dec 28/29 Observers [Bln] Hlw

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc18910/1	* Comp/Stellar	Hartman						FeAr Clear	30/30
12	Bias (4)								
13	Comp							FeAr Clear	60s
14	HD25642	03 59 08	50 04 48	22 08 46		0:19 W	+50:19		193s
15	Comp							FeAr Clear	60s
16	Comp							"	"
17	HD21686	03 24 56	10 59 37	22 18 56		1:10 W			470s
18	Comp							"	
19-24	Flats x 6					"			
25	Bias (4)								
cg30280-3	^{4*} HD29587	04 34 30	+41 57 00	22 44					.067
cg30284,5	² *HD29587	"	"	22 46					.133
cc18926/27	Comp/stellar	Hartman						FeNe Clear	20/33
28	Bias (4)								
29	Comp							FeAr Clear	30

Spectr. Temp.

Focus

Spectr. Temp.

Exp. Mtr. Se

3000

13000

Spectr. Temp. Dome Temp./Hum. $-11.8/62.2\%$ Transparency Conditions ... Scattered Clouds. KS

Focus 6.97/7.18 for Blue

480 0 50 1024 4 1 ccdemt

Spectr. Temp. again = 90

Dome Temp./Hum. Both Fans ON until 2200, then S turned off.

Compansor Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Ar 24r	3430				Cass CCD	1800l/mm G=6065	300 μ	6604A	3/4	Focus Test	T = -11.9	
									1			
Ar 60s									5			
Ar 193s	13,000		V= 4.29	A0IX					6	Bin		
Ar 60s									5			
"									5			
Ar 470s	13,000		V= 5.14	A0IX					7	Telluric		
									5			
									8			
									1			
							300 μ			Seeing Test	Light W wind, Dome West, North Fan <u>ON</u>	
Ar 20/53					Cass CCD	1800l/mm G=4065	250 μ	3730A	3/4	Focus Test	foc = 7.18, T = -12.3°C	
									1			
Ar 30									5		Accidentally used FeAr instead of FeNe. Weak Comp	

pg 2 167

Date 1993 Dec 28/29 Observers [Bin] Hlw

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc18930	HD37479	05 33 45	-02 38 48	23 18 53		0:17 W			1285
31	Comp							FeNe Clear	30s
32	HD37479	05 33 45	-02 38 48	23 43 11		0:48 W			1825
33	Comp							"	30
34	Bias (4)								
35	HD37479	05 33 45	-02 38 48	00 17 19		1:20 W			1805s
36	Comp							"	30
37	HD37479	05 33 45	-02 38 48	00 50 51		1:56 W			1800
38	Comp								
39	Bias (4)								
40-42	3xFlats							Tung Clear	200s

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

5000

1800

10500

3900

Spectr. Temp. Dome Temp./Hum.

168

[illegible]

pg #1 169

Date 1994 JAN. 21.3. Observers H.W. J. In

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18943 44	Comp / Stellar	HARTMAN			23 15	00 08 E	+43 43	FeNe Clear	20/40
45	Bias (4)								
46	Comp							FeNe Clear	35s
47	HD 30395	05 26 18	-03 41 00	23:43:26		1:16 W			1800s
48	Comp							FeNe Clear	35s
49-51	3x Flats	Vys 497 position				~0:30 E	+63°	Tung 1/2 ap	9s
52	Comp							FeNe Clear	35s
53	Bias (4)								
54	Vys 497	07 25 17	+63 09 16	00:28:06		0:09 W			2492
55	Comp							FeNe Clear	35
56	Vys 497	07 25 17	+63 09 16	01:12:04		0:19 W			423
57	Comp							FeNe Clear	
58-63	6x Flats	almost at platform. (facing S)				0:00 W	-24°5	Tung 1/2 ap	9
64	Bias (4)								

Spectr. Temp.

Focus

Spectr. Temp.

Exp. Mir. Se

2385 8

229 Shi

40

Spectr. Temp. gain = 90.....

Dome Fans ON South one turned off @ 0030

Dome Temp./Hum. 2 480 0 50 1024 4 1 ccdfmt

pg# 121 Tues / Wed

Date .1994. JAN. 4/5... Observers ... MKI. / T.H.

Emulsion Batches:

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CSSTime set to WWV Time... At start of night

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC18965 66	Comp / stellar HUBBARD							FeAr Clear	60/70
67	BIAS(4)								
68	Comp FLAT								
69	Comp							FeAr Clear	40s
CC18970 - 19029	V471 THU	03 44 43	+16 57 06	18 15 57	19 14 25	01 54 E		FeAr Clear	52s
CC19030	FLAT								
31	BIAS(4)								
32	Comp							FeAr Clear	40s
CC19033 - 92	V471 THU	03 44 43	+16 57 06	19 26 21	20 24 48	00 44 E			52s
93	BIAS(4)								
94	Comp							FeAr Clear	40s
95	FLAT							TUNG Ap 1/4	6s
CC19096 CC19155	V471 THU			20 34 01	21 32 33				
156	BIAS(4)			57 d					
157	FLAT							TUNG Ap 1/4	6s
158	Comp							FeAr Clear	40s

Spectr. Temp
Focus... 6.5
Spectr. Temp

Exp. Mtr. S

25 sec
2380
sum

1130 3

944 4

Spectr. Temp. Dome Temp./Hum. -8.6°C 59.0% H Transparency Conditions *mostly clear* 172

Focus ... 6.98 ... 90 CG4IN CCDT $\rightarrow -100^{\circ}\text{C}$

Spectr. Temp. Dome Temp./Hum. 550 0 7 1024 81 CCD FMT
HR 226 Encoder NORM STAR

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 lines/mm ($\lambda = 6035$)	300 μ Full Length	6563A	3/4	Focus	3-4 pixels 306-315 x/d (31 Rel)	
								1ci		STAR 525i BAT used	
								2ci		$\lambda = 11k \text{ ADP max}$	
								5ci			
25 each (380 sum)	4"	9.4 -9.7	KOII +wcl		60 frames			6ci	Mki pgm	1.415 AIR MASS @ start STAR 525i BAT x60	
								2ci		Thin cloud at end most image on col #3	
								1ci			
								7ci			
TOTAL 11 30	3"-4"	9.4 -9.7	KOII +wcl		60 frames			8ci	Mki pgm	guided FOR cols 3 & 4 hopefully	
								1ci	1.135	increasing haze/cloud AIR MASS	
								9ci			
								10ci		12.5k ADP max	
944	4"				60 frames			11ci	Mki pgm	4 = 5th cols.	
								1			
								12ci			
								13ci			

Date 1994 JAN 4/5 Observers MKi. Lm

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC 19187 19190	(CC 19189-19190) V471 Tau	03 44 43	+16 56 06	21 40 27	22 12 effectively				52s
CC 19191	Comp [ORIGINAL LOST] I duplicated Hr L & Dec and did much better.							Fair Clear	345s
192	✓ Comp								250s
193	BIHS(4)								
194	HD 87901	10 03 03	+12 27	22 32 18				1.	225
195	Comp			22 37 52				Fair Clear	30s
196	BLAT BIHS					04 45E	+12°	TUNG Ap 1/4	8s
197	BLAT						Ap 1/4	TUNG	8s
→ 198 199	Comp / Stellar HARTMAN					01 11W	+30°	Fair Clear	60/70

Spectr. Temp. Dome Temp./Hum. ^{-10.0°C} 5760^{9.4} Transparency Conditions ... *in CR closed* ... 17.4.

Focus 6.98

Spectr. Temp. Dome Temp./Hum. ^{-10.3}

Thick cloud at star by 2210

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
53s	4"	9.4 -9.7	FOK twd	CASS CCD	1800h/m	300u	6563A	14c	19190	<i>x40 - started cloud scanning</i>	
54s	<i>Should be 14c; cc19192 (overwrite 19191 with bias)</i>							14c	19190	<i>Prob cc19192 - Last good one.</i>	
55s	<i>normal</i>	cc19198	editobj					14c			
225	2700	6"	1.36	B7V				15c	Telluric Std	Cloud 2.92	
56s								16c			
57s								17c		<i>MAX 1311 ADY.</i>	
58s								17c		<i>6</i>	
59s								3/4c	Focus Test		
60s										<i>All To worms & Perseus.</i>	

Py#1 175

Date 1994 JAN 5/6... Observers [Bln] Tn.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC19200	BIAS(4)								
-201 -202	Comp / Stellar Hartman					00 10W	+40	FoAr Clear	60/60
203	Comp							FoAr Clear	60s
204	HD 3765	00 40 31	+40 09 29	17 57 06					7A1
205	Comp	[00 35 18 + 39 40 1900 epoch]							
CG30286 -289	HD 3765	u	u					Ax	67ms
-290 -91	HD 3765	u	u	21 8 15		2 00 20W		2x	133ms
CC19208	Comp							FoAr Clear	60s
207	HD 235679	21 55 00	+54 01	18 26 54		03 50W			2281
208	HOE actually Comp							FoAr Clear	60s
209	BIAS(4)								
→ 210 212	FLATS x3					03 55W	+54°	TUNG Ap 1/2	4sec
213	Comp							FoAr Clear	60sec
214	HD 21699	03 25 04	+47 40 57	19 20 11		01 25 E			204
215	Comp							FoAr Clear	60sec

Spectr. Temp.

Focus.....6

Spectr. Temp.

Exp. Mtr.

Se

2065 6

1700 5

4100 5

Spectr. Temp. Dome Temp./Hum. -12.0°C 46.8% H Transparency Conditions ... Fino ... 176...

Focus ... 6.98 ...

Spectr. Temp. Dome Temp./Hum.

CCDT $\rightarrow -100^{\circ}\text{C}$ CGAIN = 90

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CHSS CCD	1800 G=6065	300 μ FULL Length	6604A ⁰	1ci			
60/60								3/4	Focus Test	OK Row #300, still on 2 Red	
60s								5ci			
741	2065	6"	7.36	dK5				6ci	still 1	(22-27 cols)	
								7ci			
67ms			7.36	dK5		ABOVE 300 μ slit			Seeing Test	Domo West; no FAMS	
132ms									" "	medium NW wind.	
6s								8ci			
2781	1700	5"	B 9.21 V 8.86	B _{2.5} I _b	B-V = +0.35			9ci	B ₁₄ H α pgm (Sp Bin Blk)		
6s								10ci		<u>STR Hα emission?</u>	
								1ci			
4s								11ci		11 H ADD max	
60s								12			
204	4100	5"	5.48	B5 _{15n}	(How!)			13	He wK pgm	6039 H α mass	
60s								14ci			

1942 177

Date 1994 Jan 5/6... Observers [Bln] In.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
Cc 19216	HD21699	03 25 04	+47 40 57	19 27 17		01 11 E			574
17	Comp							FeAr clear	60s
18	Comp							"	"
19	HD14055	02 11 22	+33 23 05	19 44 09		00 13 W			148
20	Comp							FeAr clear	60s
21	Comp							"	"
22	HD25642	03 59 08	+50 04 48	19 55 01		01 23 ^E W			268
23	Comp							FeAr clear	60s
24	BIHS(A)								
25	Comp							FeAr clear	60s
26	HD19832	03 06 17	+26 52 48	20 08 22		00 04 E			938
27	Comp							FeAr clear	60s
28	BIAS(A)								
29	Comp							FeAr clear	60s
30	HD35502	05 20 00	-02 54 22	20 36 35					2429
31	Comp							FeAr clear	60s

Spectr. Temp.

Focus... 6.9

Spectr. Temp.

Exp. Mtr.

11,300 5

10000 5

1200 4

2,700 3-

6000 4

Spectr. Temp. Dome Temp./Hum. -14.5°C $49.3\% \text{H}$ Transparency Conditions ... 5.1 ... 1.78

Focus ... 6.98 ...

Spectr. Temp. Dome Temp./Hum. -15.7°C $52.8\% \text{H}$

increasing cloud

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
11,300	5"	5.48	B5 <u>sn</u>	CASS CCD	G-6065	300	6604A	13c	He w k	MAX 4700 ADU	
								15c		60 k photons $\approx$ Avg chare backgnd. $\rightarrow \approx 250/1 \text{ S/N}$	
								16c			
10000	5"	4.01	A1 <u>nm</u>					17c	Telluric Std	AIR MASS 1.015	
								18c			
								18			
12000	4"	4.29	A0 <u>IV</u>					19	Hx pgm (shell)	1.049 AIR MASS	
								20c			
								1c			
								21			
12,700	3"-4"	5.79	B8 (S) <u>(Si)</u>					22	He w k (Bh)	(Star sp in 90-29 Cool Range) 1.046 AIR MASS 6.6 K ADU MAX	
								23			
								1c			
								24			
6000	4"	7.36	B5 <u>IV</u> sn (He w)					25c	He w k (Bh)	cloud too AIR MASS = 1.633	
								26			

S/N
200/1

p9#3 179

Date 1994 JAN 5/6..... Observers [Blh]... Tn.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC19232	Comp							FeAr clear	60s
33	HD 6457	01 00 20	+20 55 48	21 24 54		03 21 W			1028
34	Comp							FeAr clear	60s
35	Comp							"	"
36	HD 36485	05 26 54	-00 21 30	21 49 07		00 27 E			1886
37	Comp							FeAr clear	60s
38	BIAS(4)								
39	Comp							FeAr clear	60s
40	HD 37479	05 33 45	-02 38 48	22 27 24					
41	Comp							FeAr clear	60s
42	HD 37468	05 33 44	-02 39 28	22 51 23		00 08 W			639
43	Comp							FeAr clear	60s
44	FLATS x 6			23 05		00	-2 35	TUNG Ap 1/2	45s
49	Comp / Stellar Hartman					00 00	+33°	FeAr	60/100
50						"	"	clear	45s
51									
52	FLATS x 3								
54									
55	BIAS(4)								

Spectr. Temp.

Focus... 6-7?

Spectr. Temp.

Exp. Mtr.

See

1300

7000 5

94500 5

11000 6

T=

Spectr. Temp. Dome Temp./Hum. -16.3°C $55\% \text{RH}$ Transparency Conditions *incr cloud* 180

Focus ... 6.98

Spectr. Temp. Dome Temp./Hum. -17.3°C

Exp. Mtr.	Seeing	Pgr. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 μm /mm G=6065	300 μm	6604A	27		Thin cloud here	
13000		5.56	A0V _n					28	Telluric Std	South Following of pair	
								29	1.40 AIR MASS		
		6.85	B2V _{SN} (He S)					30			
7000	5"	6.85	B2V _{SN} (He Str)					31	He Str (Blk)	1.425 Air mass	S/N > 200/1
								32			
								1			
								32			
24500	5"	6.53	B2V _{pe}					33	He Str Blk	α Ori E Cloud at end	
								32			
11000	6"-10"	3.81	O9.5V					34	Blk pgm	α Ori AB	
								35		σ Ori D also on slit	
								36c1		to Right of AB screen	
										ie to the East	
										133K 104 max	
								3/4	Focus Test	show 300 (stellar) 2 pixels Blue	
								2cd		5.4 pixel diff than w/ky	
										-12 $^{\circ}\text{C}$.	

$T = -17.3^{\circ}\text{C}$, Set S/N to 6.98

MORE Flats for good Luck

pg 1 181

Emulsion Batches:

Date 1994 Jan 9/10 Observers Hlw / [Hdy as backup]

CS386 clock 6 seconds fast

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T. + 6 seconds	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC19256/7	Comp/Stellar	Hartman						FeNe Clear	20/35
58	Bias (4)								
59	Comp							FeNe Clear	35s
60	HD216899	22 51 48	+16 02 00	18:20:10		~2:30 W			1209
61	Comp							"	35
62	Bias (4)								
63-65	3xFlats							Tung 1/2 Ap	9s
66	Comp							FeNe Clear	35
67	Vys 419 AB	03 18 13	+23 25 51	19:12:42		0:40 E			1892
68	Comp							"	35
69 ^{dude}	Comp							"	"
70	Vys 428 A	03 38 12	+16 21 30	19:50:17		0:23 E			1800s
71	Comp							"	35
72	Bias (4)								
73	Comp							"	35

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr. Sec.

199 5

287

787

Spectr. Temp. -100°C Dome Temp./Hum. $-14.2^{\circ}\text{C}/66.0\%$ Transparency Conditions Clear 18.2

Focus 7.05

Dome Fans off.

Spectr. Temp. $\text{Gain} = 90$

Dome Temp./Hum.

480 0 50 1024 4 1 ccd fnt

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 G=5115	300 u	5303A	3/4	Focus Test	very light N wind	
								1			
								5		Max ADU = 13969	
1099	5"	8.66	M2					6	Vys Std.	~80 SNR.	
								7			
								1			
								8			
								9			
287		10.47	m					10	Vys Pgm	~41 ⁴¹ SNR.	
								11			
								12			
487		9.96	m					13	Vys Pgm	~55 SNR	
								14			
								1			
								15			

Pg 2 163

Date 1994 Jan 9/10 Observers Hlw / [Hdy] as backup.

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc19274	BD-09 956	04 35 43	-09 23 26	20:31:53		0:40 E			1800s
75	Comp							FeNe Clear	35
76	BD-09 956	04 35 43	-09 23 20	21:04:50		0:05 E			1800s
77	Comp							"	35
78	Bias (4)								
79	Comp							"	"
80	HD 36395	05 26 18	-03 41 00	21:42:16		0:40 E			600s
81	Comp							FeNe Clear	35
82	Comp							"	"
83	Vys 467	05 36 15	+15 17 17	22:01:07		0:00	neither East nor West....		2432s
84	Comp							"	35
85	Vys 467	05 36 15	+15 17 17	22:44:25		0:26 W			1418s
86	Comp							"	35s
87	Bias (4)								
88-90	3 x flats							Tung 1/2 Ap	9s

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mr. S

442

441

190

374

239

Spectr. Temp. Dome Temp./Hum. $-15.8^{\circ}\text{C}/69.9\%$ Transparency Conditions Clear.....184.

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	$\sqrt{\frac{P}{M}}$ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1800s 442	4"	10.30	m	Cass CCD	1800 μm G=5115	300 μm	S303A	16	Vys Pgm	~50 S.N.R.	
35								17			
1800s 446		10.30	m					18	Vys Pgm	~50 S.N.R.	
35								19			
								1			
								20			
600s 1190		7.97	M1					21	Vys Std.	~87 S.N.R.	
35								22			
								23			
2432 379		10.61	m					24	Vys Pgm	~54 S.N.R.	
35								25			
1418s 239		10.61	m					24 24	Vys Pgm	~42 S.N.R.	
35								26			
								1			
9s								27			

Pg 3, 185

Date 1994 Jan 9/10 Observers Hlw / [Hdy] safety backup.

Emulsion Batches:

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.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc19291	Comp							FeNe Clear	35s
92	BD-08 2689	09 23 57	-08 49 46	00 22 59		1:30 E			1870
93	Comp							FeNe Clear	35s
94	Bias (4)								
95	Comp							"	"
96	BD-02 3000	09 48 10	-03 13 04	01:11:32		1:10 E			1800s
97	Comp							"	35
98	BD-02 3000	09 48 10	-03 13 04	01:43:58		0:40 E			1844
99	Comp								
cc19300	Bias (4)								
301	Comp							FeNe Clear	35
302	HD 95735	10 57 54	+36 38 00	02:23:10		1:40 E			612s
303	Comp							"	35
304-306	3x Flats							Tung Clear	9s
307/8	Comp/Stellar	Hartman						FeNe Clear	20/35

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

Se

424

3

434

5

465

2500

Spectr. Temp.

Dome Temp./Hum. ... 17.2°C / 68.5%

[illegible]

167

Date 1994 Jan 10/11/12 Observers KK

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
FIT01037	comparison						diffuser OUT	FeNe —	180 ^s
1038	Tungsten							TUNG- BG 39	7200 ^s
1039	comparison							FeNe BG 39	600
1040	Hartmann - IN					NO MASK	diffuser OUT	FeNe —	180 ^s
1041	Hartmann - OUT							"	"
1042	dark			19:55					7200
1043	Tungsten								
1044	Hartmann - IN						diffuser OUT	FeNe —	180 ^s
1045	Hartmann - OUT						"	"	"
1046	Hartmann - OUT						"	"	"
1047	Hartmann - IN						"	"	"
1048	Hartmann - IN	20	A steps				"	"	"
1049	Hartmann - OUT						"	"	"
1050	Hartmann - OUT	80	'S' steps				"	"	"
1051	Hartmann - IN						"	"	"
		30	A steps						

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

S

50

Transparency Conditions 188

Spectr. Temp. Dome Temp./Hum.

188.

out
- in

[illegible]

p.2 169 cont
Date 1994 Jan 11/12 Observ

Date 1994 Jan 7/12 Observers RK / ATW

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Spectr. Temp
Focus
Spectr. Temp

Exp. Mtr.	S
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
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92	92
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94	94
95	95
96	96
97	97
98	98
99	99
100	100

Dome Temp./Hum.

Focus

Spectr. Temp.

Dome Temp./Hum.

[illegible]

191 SAT/SUN

Date 1994 JAN 15/16... Observers [Bln]... Tg.....

Emulsion Batches:

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[illegible]

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	40/68		-19°C	set	7.23	CASS CCD	1800 μ /mm G=4065	250 μ darker	3730A	3/4c	Focus		
												increasing cloud anyway	
												Decimal too cold to continue @ -24°C, seeing 1.0 random, = Dec slow is slow.	

Wed/Thurs 193 pgs 1

Emulsion Batches:

Date 1994 JAN. 19/20... Observers Kk/Tu

CSS 386 Time Behind (1 min) (I did not correct it)

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
FIT 01059	FLAT (edit header & NOTAS batch) ✓			17 55 55				TUNG Ap=1/2	
FIT 01060	Comp							FeNe clear	1805
TAG SFIT 01061	HD 19326	03 01 40	+40 34 00	18 23 ?		00 36 E			1800
1062	HD 19326	"	"	18 54 50 ^{WWV Time}	19 24 51	00 26 30 W			1800
1063	(edit header #s) ✓	"	"	19 25 16		00 26 30 W			1800
1064	HD 19326	"	"	19 57 00		00 59 W			1800
065	Comp			20 26 ?					1800 1805
TAG SFIT 066	HD 35497	05 19 58	+28 31	20 44 ?	21 15 10 ^{WWV}	00 31 30 E			1800
" 067	"			21 22 13 ^{WWV Time}		00 06 W			1800
068	Comp							FeNe clear	1800
TAG SFIT 069	HD 35497	05 19 58	+28 31	22 00 47 ^{WWV}		00 45 W			1800
070	Comp							FeNe clear	1800
071	FLAT			22 40				TUNG Ap 1/2	1972
072	Comp							FeNe clear	1805
TAG SFIT 073	HD 67509	07 39 12	+28 16	23 21 ?		E			1800

Spectr. Temp. Dome Temp./Hum.

[illegible]

Pg#1 197

Thurs / Fri

Emulsion Batches:

Date 1994 JAN 30/21 Observers ...K.K.../T.n.....

CSSTime Areset to WWV Time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
FIT01077	FLAT [while opening]							TUNG Ap/2	1681
078	Comp							FeNe CLEAR	1803
TAG FIT01079	HD19326	03 01 40	+40 34 00	18 34 30		00 21 E			1800
080	"	"	"	19 05 05		00 09 W			1800
081	"	"	"	19 37 28		00 42 W			1800
082	"	"	"	20 07 43					
083	Comp							FeNe CLEAR	1803
084	HD 35497	05 19 58	+28 31	20 51 18		00 22 E			1800
SPK 085	"			21 25 35					1800
086	"			22 12		01 01 W			1800
CG 300298-301 302-304	"			22 10		00 20 W		4x 2x	67ms 133ms
087	Comp							FeNe CLEAR	180
CG 3002305-02 08-310	HD 42126/7	06 04 00	+48 44	22 55		00 27 W		4x	
088	HD 62509	07 39 12	+28 16	23 08 30					1800
089	"	"	"	23 46		00 09 W			1436

Spectr. Temp. Dome Temp./Hum. -14.5°C 70% H Transparency Conditions ... Part. clear ... 198
 Focus
 Spectr. Temp. Dome Temp./Hum. -15.0°C 73.5% H
 Both Funs on at start. (NE Letton)
 SW winds 20 km/hr

Comp. Filter	Exp.	Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
16	16	1500				PCS speckle	83/1mm 41.2° tilt	8K ff	6563A				
16	183												
16	180	400-1200	4"	VAR 2.1	B8V							kk speckle (Beta Per)	
16	180	500-1300	3"-8"									Bad seeing at end	
16	180	300-850	4"-8"									* Better seeing at end $\rightarrow$ 1200/sec	
16	180	400-1200	5" (steady seeing)										
16	180	300											
16	180	700-1600	4"	1.65	B7III							kk speckle std. Beta Tau	
16	180												
16	180	700-1700	VAR									THG = 5 mag	
16	180	A B	OK locking									Seeing test 20 km/hr SW wind	
16	180	300/5											
16	180												
16	180	1500-2500	3"-6"	1.14	K0III							Seeing test for scaling field	
16	180	1500-2500	POOP	u	u							Speckle std & STDVEL & some cuts to 3000/sec	
16	180											But then seeing got poor for last half	
16	180											But some cuts > 3000/sec	

Above ff hole
 Again, not a seeing test List obj

Above ff hole

ND0.3 in Stellar Beam
 Removed ND0.3 this time
 some cloud helped too

pg #2 199

Date 1994 JAN 20/21 Observers FKJ TS

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
01090	Comp							FeNe Clean	180s
091	HD 62509	07 39 12	+28 16	00 18		00 48 W			1800
092	Comp							FeNe Clean	180s
C630031-14 315-16	HD 14010	08 36 18	+49 15			2 00 20 W		4 x 2 x	67ms 133ms
THG SFIT 0093	HD 87901	10 03 03	+12 27	01 44		00 24 E			923
094	Comp							FeNe Clean	180
MIT 0095 THG 0095	HD 95689	10 57 34	+62 17	02 08		00 58 E			739
096	Comp *odd ✓							FeNe Clean	180
097	FLAT			02 31 47				THG Ap 1/2	3370
098	ST HD 95689	10 57 34	+62 17	03 30		00 41 W		1800cc	3370
099	"	"	"	04 00 20		01 00 W			1103s

To sockrel in

Comparison Filter	Exp.	Exp. Mir.	Seeing	P.V. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
e	180					PCS Spectle	831 41.2° tilt	8u FF	6563A			But some cats hit > 3500/sec	
	180	1000-2800	med poor (variable)	1.14	KO II b	(no stellar filter in)					Std vel	Then a bit of clearing cloud by the end <u>10 meg for TAG</u>	
x	67ms		OK	69	FO		a bare	8u filter Fed hole,			seeing test sculling	Thickening cloud	
TimeTAGS Reliable to warm To TAG01082.KK4, Now current TimeTAG Disk FULL. All last 2 nights DATA TO N!1 Spectle to FIT01092+TAGS Yet to do Tonights Fits + Remaining TAGS to now warm disk													
923	180	1000-2500	SOSO poor	1.36	B7V						Telluric Stl.	some cloud	✓
	180											but prob not used full here.	
79	180	400-2500	3 ^u 8"	1.79	KO II-III			8u FF	6563A ^o		Kk spectle x UIMA		✓
	180											Then really cloudy	
113	180	1700											
113	180	1500-3000	3 ^u	1.79	KO II-NI						Kk spectle	ONLY Rarely > 3000 catz/sec	
113	180	700-1700	"	"	"						"	cloud again	

Date 1994 JAN 20/21..... Observers K + Jw.....

Emulsion Batches:

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[illegible]

Spectr. Temp.

Focus

Spectr. Temp.

Exp. Mtr.	Se
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320

Spectr. Temp.

Dome Temp./Hum.

[illegible]

Spectr. Temp. -100.

Dome Temp./Hum. -12.3°C 69% H

Transparency Conditions ... *Fine, some clouds*

Focus 7.13

Both FANS on at start

2004

Spectr. Temp.

Dome Temp./Hum.

SE off before seeing tests

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
3/44			Set F013	T = -12.8°C		CASS CCD	1800 l/m m 38.3° actual	29µ	3730A	3/4	Focus Test		
A67 ^{ms}			5"	8.5	?		G=4065	moderately			Seeing Calibration	Double Star.	
A67 ^{ms}			"	8.5	?		"	300µ			"	" / Dome SW	
B7 ^{ms}											Seeing Test		
33											Seeing Test	Through clouds.	
											All to Perseus & Norm.....		

105 A: Wed Thurs
Mon / Tues

Date 1993 JAN 24/25 Observers ~~SS~~ - T4

26/27

CSS 386 10 sec ahead of W.W.V. Time on ACR PC

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC19314	Comp / Stellar Hertmann			18 30		0 0	+25	FelNe Clear	30/44
16	BIAS(4)								
17	Comp							FelNe Clear	30s
18	HD37479	05 33 45	-02 38 48	18 58 17		02 04 E			1749
19	Comp							FelNe Clear	30s
20	HD37479	05 33 45	-02 38 48	19 31 17		01 35.5 E			1485
21	Comp								
22	HD37479	05 33 45	-02 38 48	19 58 44		01 04 E		* BG 39 Filter in front of Exp meter now	30s 1747
23	Comp								30s
24	HD37479	05 33 45	-02 38 48	20 30 14					1682
25	Comp 2 BIAS(4)								
26	Comp							FelNe Clear	30s
27	HD37479	05 33 45	-02 38 48	21 02 14					334
28	Comp							FelNe Clear	30s
29									
31	FLATS x3					00 16 E	-2 37	TUNG Clear	222s
32	BIAS(4)								

Spectr. Temp.

Focus... 7.2

Spectr. Temp.

Exp. Mir.

Plate in C

Frame 1

12

340

5

3380

1370

2410

4

145

Spectr. Temp. Dome Temp./Hum. -16.2°C 48.5% Transparency Conditions *part cloudy 20%*
 Focus 7.20 *winter storm coming from SE*
 Spectr. Temp. Dome Temp./Hum. -20.4°C 42.5% *Fast.*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
3044				CHSS CCD	1800nm G=4665	300nm Full	3730A	3/4	Focus test	@ 403-4178 plot right on	
								1c;			
								5			
3340	6" +	6.32	B2V _{pe}					6c;	He Str Blu	> 8th photens at base blued guided N to hopefully work Blue port	$\approx 90/1$
								7c;		SKY lines @ Raw #s 810, 850, 874,	
3380	5"							8c;	He Str Blu		
								9c;			
2370								10c;	He Str Blu		$\approx 100/1$
								11c;			
2410	4.5"							12c;	He Str Blu		
								1c;			
								13c;			
145								14		Thick cloud from SE	
								15		also expected	
								16, 17, 18 o/s		MAX 12 K ADU	
								1c;		All to work in 5 PERSONS.	

page 1
267

Date 1994 Jan. 30/31. Observers H/w E Vys3

Emulsion Batches:

cs386 clock is set

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc19333 34	Comp/stellar Hartman					+0:25	+44:50	FeNe Clear	20/35
35	Bias (4)								
36	Comp							FeNe Clear	35s
37	AC+23 368-59	03 18 13	+23 25 51	19:28:14			+23:46		185C
38	Comp							FeNe Clear	35s
39	Comp							"	"
40	HD36395	05 26 18	-03 41 00	20:15:38			-3:35		607
41	Comp							FeNe Clear	35
42	Bias (4)								
43-45	3x Flats *							Tung 1/2 AP	9 sec
cg30331 4	^{4x} HD29587	04 34 30	41 57 00	20:40					67ms
cg30335 6	^{2x} HD 29 587	04 34 30	41 57 00	20:43					133ms
cc19346	Comp							FeNe Clear	35s
47	HD29587	04 34 30	41 57 00	20:46:52		+0:38	+42:08		600s
48	Comp							FeNe Clear	35s

Spectr. Temp
Focus... 7.
Spectr. Temp

Exp. Mtr. S
Note:
Exposure

is off

26 3

204

590

Spectr. Temp. -100°C Dome Temp./Hum. $-16.3/54.4\%$ Transparency Conditions Scattered Clouds
 Focus 7.05 Tel. focus = 2823 Both dome fans ON since 1715 208
 Spectr. Temp. gain 90 Dome Temp./Hum. $-17.2/59.0$ ^{EST 2050} SE fan turned OFF at 1930

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20/35	Note: Exposure meter fan is off			Cass	1800	300 μ	5303A	3/4	Focus Test	Dome wheels frozen to rails. Got dome to rotate after 40 minutes of much rocking and 1 can of Methyl Hydrox on wheels.	
				CLD	G=5115	long		1			
								5			
26	3"	10.5	M0					6	Vys Pgm.	~30 S.N.R.	
								7			
								8			
204		7.97	M1					9	Vys Std.		
								10			
				* - Note: CC19 344.fts is dark; source did not fire!				1			
								11			
		7.29	dG2					12	Seeing Test	Dome W, light NW wind. Some haze.	
		7.29	dG2					12	Seeing Test		
								12			
590		7.29	dG2					13	Std. Velocity		
								14			

page 2 209

Date 1994 Jan 30/31 Observers Hlw {Vys} / [Rm]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC19349	Comp							FeNe Clear	35s
50	NGC 2539 #60	08 05 41	-12 26 45	22:27:21		-0:40	-12:42		2400
51	Comp							FeNe Clear	35s
52	Bias (4)								
53	Comp							"	"
54	HD 62509	07 39 12	+28 16 00	23:18:49		-0:02	+28:02		31s
55	Comp							"	35s
56-58	3x Flats							Tung 1/2 Ap	9s
59/60	Comp/stellar Hartman					β Gem pos'n		FeAr Clear	30/40
61	Bias (4)								
62	Comp							FeAr Clear	40s
63	HD 62509	07 39 12	+28 16 00	23:55:09		+0:35	+28:02		18s
64	Comp							FeAr Clear	40s
65	Comp							"	40s
66	NGC 2539 #60	08 05 41	-12 26 45	00:06:17		+1:19	-12:42		360C
67	Comp							FeAr Clear	40s

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr. Se

42

10 000

5000

75

Spectr. Temp.

Dome Temp./Hum. ... -17.7/59.8%

Transparency Conditions ... Some clouds, and haze.

Focus ... 7.05/7.00

Spectr. Temp.

Dome Temp./Hum.

210

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
35s				Cass CCD	1800 G=5115	300 μ	5303A	17			
2400	42	10.96	?					18	H/w/Rm		
35s								19			
								1			
								20			
31s	10,000	3"	1.14	KOIIIb				21	Std Vel.	β Gem	
35s								22			
9s								11			
30/40				Cass CCD	1800 G=6035	300 μ	6563A	23/24	Focus Test	fac = 7.00, T = -18.3	
								1			
40s								25			
18s	5000	1.14	KOIIIb					26	Std. Vel		
40s								27			
40s								28			
360s	75	10.96	?					29	H/w/Rm		
40s								30			

page 1 23

Date 1994 Jan 31/Feb 1 Observers Sgs/Hlw

Emulsion Batches:

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Spectr. Temp.

Focus.....

Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC19379/80	Comp/Stellar Hartman							FeAr Clear	40/50
81	Bias (4)								
82	Comp							FeAr Clear	60s
83	V440 Per	02 16 54	+54 54	18 30 35					730s
84	Comp							FeAr Clear	60s
85	BIAS (4)								
86	Comp							FeAr Clear	60s
87	VY Per	02 20 19	+58 28	18 55 40					2700s
88	Comp							FeAr Clear	60s
89	BIAS (4)								
90	Comp							FeAr Clear	60s
91	HD 237190	03 46 10	+58 21	19 52 43					1800s
92	Comp							FeAr Clear	60s
93	BIAS (4)								
94	Comp							FeAr Clear	60s

Exp. Mir. Se

5600

47

750

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions 214..

[illegible]

Page 2 215

Date 1994... Jan 31/ Feb 1 Observers Sgs/ Hlw

Emulsion Batches:

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.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC19395	HD25361	03 56 41	+58 22	20 29 43					1200s
96	Comp							FeAr Clear	60s
97	BIAS (4)								
98	Comp	04 41 05	+36 32					FeAr Clear	60s
99	HD30282	04 41 05	+36 32	21 08 56					637s
400	Comp							FeAr Clear	60s
01	BIAS (4)								
02	Comp							FeAr Clear	60s
03	HD29260	04 31 26	+18 20	21 33 01					600s
04	Comp							FeAr Clear	60s
05	BIAS (4)								
06	COMP							FeAr Clear	60s
07	SAO 039783	04 42 46	+42 07	21 56 19					1771s
08	COMP							FeAr Clear	
09	BIAS (4)								
10-15	FLATS X6							1/2 Tung	

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

1460

825

2100

616

Spectr. Temp. Dome Temp./Hum.

cloud at end.
2/6

[illegible]

Pg 2 2/7

Emulsion Batches:

Date 1994 Feb 1/2 Observers H/W {Vys}

as 386 clock 2 seconds fast

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc19416/7	Comp/Stellar Hartman							FeNe Clear	20/35
418	Bias (4)								
419	Comp							FeNe Clear	35
420	BD-09 40	00 12 34	-09 14 23	18 32 29		+3:05 W	-8:41		1201
421	Comp							"	35
422	Comp							"	35
423	HD 1326	00 12 58	+43 27 44	19 02 31		+3:25 W	+43:59		600
424	Comp							"	35
425	Comp							"	"
426	HD 1326	00 12 58	+43 27 44	19 23 19		+3:45 3:45 W	+43:59		654
427	Comp							"	35
428	Bias (4)								
429	Comp							"	"
430	AC+69 173	00 21 09	+69 35 29	19 49 04		+4:30	+70:06		2100
431	Comp							"	35
432-4	3x Flats					"	"	Tung V ₂ AP	95

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mir.

Spectr. Temp.

Exp. Mir.

Spectr. Temp.

Exp. Mir.

Spectr. Temp.

Exp. Mir.

Spectr. Temp.

Exp. Mir.

Spectr. Temp.

Exp. Mir.

Spectr. Temp.

Exp. Mir.

Spectr. Temp.

Exp. Mir.

Spectr. Temp.

Exp. Mir.

Spectr. Temp.

Exp. Mir.

Spectr. Temp.

Exp. Mir.

Spectr. Temp.

Exp. Mir.

Spectr. Temp.

Spectr. Temp. ... -100°C

Dome Temp./Hum. ... -12.0/59.8%

Transparency Conditions ... Some Clouds, Haze...

Focus ... 7.05

Dome Fans OFF

218

Spectr. Temp. ... again 90

Dome Temp./Hum.

Exp. Mtr.	Seeing	✓ Prg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2075				Cass CCD	1800/5115	300 μ m	5303A	3/4	FocusTest	-11.9°C, foc = 7.05	
								1			
35								5			
1201	92	11.0	MO					6	Vys Pgm	I think this is the last time I'll get this one this season...	
35								7			
35								8			
600	823	8.1	M1 α					9	Vys Std	West Side of Piers	
35								10			
								11			
654	856	8.1	M1 α					12	Vys Std.	East Side Side of Piers	
35								13			
								1			
								14			
2100	?	10.54	MO					15	Vys Pgm	Note source has been mis-firing. Check all flats to make sure the signal is there.	
35								16			
95								17			

* Note: cc19433.fts is a 9 second dark source did not fire.
-02/94 Hlw

pg 2 Q19

Date 1994 Feb 1/2 Observers Hlw {Vys} / [Rm]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cg30342 -345	4x HD29587	04 34 30	+41 57	20:50					.067s
cg30346 347	2x HD29587	04 34 30	+41 57 00						.133
cc19435	Comp							FeNe Clear	35s
436	HD29587	04 34 30	+41 57 00	20 53 27		+0:53	+42:08		600s
437	Comp							FeNe Clear	35s
438	Bias (4)								
439-444	6x Flats							Tung 1/2 Ap	9s
445	Comp							FeNe Clear	35s
446	NGC 2539 #60	08 05 41	-12 26 45	23 49 02		+0:40	-12:42		1800
47	Comp							"	35
48	NGC 2539 #60	08 05 41	-12 26 45	00 21 32		+1:12	-12:42		1800
49	Comp							"	35
50	NGC 2539 #60	08 05 41	-12 26 45	00 55 03		+1:43	-12:42		1597
51	Comp							"	35
52	Bias (4)								
53	Comp							"	"

Spectr. Temp

Focus

Spectr. Temp

Exp. Mtr.

S

1000

83

83

96

Spectr. Temp. Dome Temp./Hum. $-13.7/65.2$
 Focus 7.05
 Spectr. Temp. Dome Temp./Hum.

Transparency Conditions Clear, then cloudy...
 then clear + clouds

220

Exp.	Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
.067		2"?	7.29	dG2	Cass CCD	1800 5115	300 nm	5303A		Seeing Test	Dome East light	
.133			7.29	dG2						"	West wind.	
35									18			
600	1000		7.29	dG2	* Note: CC19439.f.ts is another 9 second dark... source misfired - 02/04 H/W				19	Std. Vel.	Clouds @ 2120	
35									20		cleared @ 2350 after	
									21		2.5 hours of clouds	
9									17		* Check stats of flats	
35									21		to make sure source	
1800	83		11.0	?					22	H/W/Rm	didn't misfire.	
35									23			
1800	83		11.0	?					24	H/W/Rm		
35									25			
1597	96		11.0	?					26	H/W/Rm		
35									27			
									1			
									28			

pg 3 221

Date 1994 Feb 1/2... Observers H/W {Vys} / [Rm]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc19454	HD 81797	09 22 07	-08 14 00	01 33 23		+0:38	-8:37		41s
55	Comp							FeNe clear	35s
56	Comp			01 48 29				"	"
57	BD-02 3000	09 48 10	-03 13 04	01 56 06 01 48 29		+1:05			1811
58	Comp							FeNe clear	35
59	Bias (4)							"	"
60	Comp							"	"
61	HD 95735	10 57 54	+36 38 00	02 36 06		+0:16	+36:08		721
62	Comp							"	35
63*	Comp							FeNe clear	35
64*	HD 95735	10 57 54	+36 38 00	03 02 42					600s
65*	Comp							"	35
66/67	Comp/Stellar	Hartman				Zenth		"	20/30
68	Bias(4)								
69-73	5x flats							Tung Clear	5s

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

8000

190

1927

1/20

Spectr. Temp. Dome Temp./Hum. $-14.5/73.07$ Transparency Conditions ... scattered clouds 222
 Focus 7.05 / 7.10
 Spectr. Temp. Dome Temp./Hum.

Exp.	Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
41s	8000	2"	2.0	K3 III	Cass CCD	1800 5115	300 μ m	5303A	29	Std. Vel.		
35s									30			
"									31			
1811	190		10.5	M0					32	Vys Pgm		
35									33			
"									34			
721	1927		7.5	M2					35	Vys Std		
35									36			
35					Cass CCD	1800 5003	300 μ m	5140A	5		foc = 7.10	
600s	1620		7.5	M2					6	Hlw		
35									7		lost safety backup.	
20/30									3/4			
									1			
5s									7			
											✓ All okay. (no misfires) 02/94 - #16	

*Note. Headers are wrong
 for c19463-5. Clamden 5140
 not 5303, grating 1800, 5003
 not 1800, 5115

All to WORM & Perseus

Page 1 223

Emulsion Batches:

Date 1994 Feb 3/4

Observers [Rm]... H/w. ^{*}Tn. ^{*}[Still, after 25 years Today].....

N A = Jim Thomson... as in Feb 2/3/69 Book

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc194 74	Comp / Stellar	HuA Ten Ar				0 0	+390	FeAr Clear	30/35
75									
76	Bias (4)								
77	Comp							FeAr Clear	60s
78	NGC 2539 #60	08 05 41	-12 26 45	22 44 26					3000s
79	Comp							FeAr Clear	60s
80	Bias (4)								
81	Comp							FeAr Clear	60s
82	HD 81797	09 22 07	-08 14 00	23 57 21	23 57 21 START	00 50 E			72s
83	Comp								
84	Comp							FeAr Clear	60s
85	HD 62509	07 39 12	+28 16 00	00 07 24	00 07 24				19
86	Comp							FeAr Clear	60s
87	Comp							"	"
88	HD 84441	09 40 12	+24 14	00 16 53					73s
89	Comp							FeAr Clear	60s
90	Bias (4)								

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

S

~100

1/2

10K

OK

Pg 225

Date 1994 Feb 3/4... Observers [P.M./B.L.] H.L.M./J.G...

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC19491 -496	FLATS x 6					00 40 E	+23 48	TUNG CLEAR	
497	Comp / Stellar							FeAr CLEAR	30/30
498	HURTMAN FOR			6604 A	Region		?		
499	Bias (4)								
500	Comp							FeAr CLEAR	60s
501	HD 93521	10 42 42	+38 06 00	00 41 04		01 05 E			1400
502	Comp							FeAr CLEAR	60s
503	HD 93521	10 42 42	+38 06 00	01 08 04		00 36 E			1451
504	Comp							FeAr CLEAR	60s
505	HD 93521	10 42 42	+38 06 00	01 36 03		00 09 E			1401
506	Comp							"	60s
507	Comp							"	"
508	HD 87901	10 03 03	+12 27	02 08 35					45s
509	Comp							FeAr CLEAR	60sec
510	Bias (4)								
511	Comp							FeAr CLEAR	60sec

Spectr. Temp.

Focus... 7/1

Spectr. Temp.

Exp. Mtr.

Sc

587

6300

2H

Spectr. Temp. Dome Temp./Hum. -11.4°C 59% Transparency Conditions *Fine* 226

Focus ... *7.1 D. for G=4820* ... *7.00 for G=6065*

Spectr. Temp. Dome Temp./Hum. *48.65*

Comparison Filter Exp.	Exp. Mtr.	Seeing	Mag. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					CASS CCD	1800 G=4820	300 μ	4865A				
30/30					"	1800 lines/mm G=6065	300 μ	6604A	3/4c			
						still 1st order			1			
60s									16c			
1400	5200	4"	7.04	09.5V					17c	Bln pgm	AIRMASS @ 1.028	
60s									18c			
1451	5879		7.04	09.5V					19c	Bln pgm		
60s									20c			
140	6300		7.04	09.5V					21c	Bln pgm		
60s									22			
									23			
45s	12 K		1.36	B7V					24	Telluric Std		
60s									25			
60s									26			

Pg#3 127

Date 1994 Feb 3/4..... Observers [B/k]... T.n. / H.W.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC19512	HD103095	11 4713	+38 2610	02 2314					777
513	Comp							FeAr Clear	60s
CG30348 351	HD103095	11 4713	+38 2610	22 40				4x	67ms
CG30352 353	"							2x	133m
CC19514	Comp							FeAr Clear	60s
15	HD93521	10 42 42	+38 06	02 49 58		01:04 W			1400
16	Comp							FeAr Clear	60s
17	HD93521	10 42 42	+38 06	03 16 22		01:31 W			1400
18	Comp							"	60
19	HD93521	10 42 42	+38 06	03 42 33		01 57 W			1400
20	Comp							FeAr Clear	60
21	HD93521	10 42 42	+38 06	04 08 54					1172
22	Comp							FeAr Clear	60
23	Bias (4)								
24	Comp							"	"

Spectr. Temp.

Focus.....7

Spectr. Temp.

Exp. Mtr.

Se

2100

7300

3

7600

6535

2177

Spectr. Temp. Dome Temp./Hum. -11.2°C 60% Transparency Conditions *Part Cloudy* 226
 Focus *7.00*
 Spectr. Temp. Dome Temp./Hum. ** No FHM night*

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2100		6.45	G8V _p	CASS cep	1800 G=6065	300 μ	6604A	27	std vel		
								28			
	3"	6.45	G8V _p		(Above 300 μ slit)		6604A	29c	Seeing Test	* str west wind Dome West	
7300	3"	7.04	O9.5V					30	Bln pgm		
								31			
7600		7.04	O9.5V					32	Bln pgm		
								33			
6535		7.04	O9.5V					34	Bln pgm	Air mass 1.082 @ end	
								35			
2377		7.04	O9.5V					36	Bln pgm		
								37			
								1			
								5			

Dome Temp./Hum.

Quality

pg#1 237 Fri SAT

Date 1994 Feb 4/5..... Observers [Bla]..... T2.....

Emulsion Batches:

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CSS 386 6905 ahead of W.W.V. (Left that way)

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC 19533	BIAS(4)								60
34/35	Comp/Stellar HARTMAN					00	+10°	Felt Clear	60/3
36	Comp								60s
37	HD 21699	03 25 04	+47 40 57	18 43 44		00 01 W			474
38	Comp							Felt Clear	60s
39	Comp							"	60s
40	HD 19832	03 06 17	+26 52 48	19 00 46		00 43 W			676
41	Comp							Felt Clear	60s
42	BIAS(4)								
43	Comp							Felt Clear	60s
44	HD 18411	02 52 22	+39 15 45	19 24 21		01 16 W			340
45	Comp							Felt Clear	60s
46	Comp							"	"
47	HD 25642	03 59 08	+50 04 48	19 38 56		00 18 W			180
48	Comp							Felt Clear	60s
49	BIAS(4)								

Spectr. Temp. Dome Temp./Hum. -8.6°C $H=598$ Transparency Conditions ... Fine ... 232

Focus ... 7:00

Standard 480 0 50 1024 4 1 CCD Fmt

Spectr. Temp. Dome Temp./Hum.

CCD T $\rightarrow$ -100°C

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 λ /mm G=6085	300 μ Full Length	66048				
				Setting & focus unchanged from previous night setting S =				3/42i			
								5			
								6	He weak Bln pyg	1046 Air	
								7			
								8			
								9	Bln He weak	1.056 AIR MASS MAX 7800 cts	S/N 270/1
								10.	70K photons Σ Aug above background		
								11			
								12	Telluric Std	AIR MASS @ START = 1.026 MAX 19K ADU	
								13			
								14			
								15	Ashell star ? (Bln)		
								16			
								1			

pg#2 233

Date 1994 Feb. 4/5... Observers [B.H.] J.H.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CG 30 ³⁵⁴ 358 359 360	HD 24587 " "	04 34 30	+41 57					INT 4x	67ms 133ms
CC 19550	Comp								
51	HD 24587	04 34 30	+41 57	19 5730		00 10 W			680
52	Comp							Fear clear	60s
53	Comp							"	"
54	HD 35502	05 20 00	-02 54 22	20 16 30		00 04 E			1317
55	Comp							Fear clear	60s
56	Comp							"	"
57	HD 87901	10 03 03	+12 27	20 49 54		04 35 E			54s
58	Comp							Fear clear	60s
59	BIHS(4)							"	"
60	Comp							Fear clear	60s
61	HD 93521	10 42 42	+38 06 00	20 59 25		04 45 E			1270
62	Comp							Fear clear	60s

Spectr. Temp.
Focus...
Spectr. Temp.

Exp. Mtr.

2400

3550

8K

4700

Spectr. Temp. Dome Temp./Hum. -9.8°C 65% Transparency Conditions ... FINE ... 234 ...

Focus ... 7.00 ...

Spectr. Temp. Dome Temp./Hum.

Comparison Filter Exp.	Exp. Mtr.	Seeing	Plat Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Int x 6 mag		1"	7.29	dG2			300 μ Full length	Image above slit			Seeing Dome west Tests Light SW wind	
2x 132 mag								6604A	16			
680	2400	1"	7.29	dG2					17	std vel too		
68									18			
137	3550	2"	7.36	B5 IV sn					19c			
68									20c	He Weak Bln 1.466 AIR MASS		
4									21	MAX 11K	Hot pixel off spectrum	
54	16K	4"	1.36	B7V					22			
68									23	Telluric Std	AIR MASS = 2.510	
									24		MAX 10K 404	
									1			
68									25c			
127	4700	2-3"	7.04	O 9.5 V					26c	AIR MASS 1.78 @ start Bln high priority pgm	S/N 7200/1	
68									25c			

p943 239

Date 1994 Feb 4/5... Observers [Blh]... Tu... / m Ki... here & guiding

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC 19563 565	FLATS x3							TUNG Ap 1/2	5sec
566	HD 93521	10 42 42	+38 06 00	21 28 58	21 48 58				1200
567	Comp.				21 51 45			FeAr clear	60s
568	FLAT				21 53 15			TUNG Ap 1/2	5sec
569	HD 93521	10 42 42	+38 06 00	21 55 05	22 11	03 51 E			1170
570	Comp							FeAr Ap 1/2	60s
571	BIAS(4)								
572	HD 93521	10 42 42	+38 06	22 17 46		03 28 E			1202
573	Comp							FeAr Clear	60s
574	HD 93521	10 42 42	+38 06	22 40 43		03 05 E			1210
575	Comp							FeAr Clear	60s
576	HD 93521	10 42 42	+38 06	23 04 05		02 40 E			1286
577	Comp							FeAr Clear	60s
578	BIAS(4)								
579	HD 93521	10 42 42	+38 06	23 29 05		02 16 E			1229
580	Comp							FeAr Clear	60s

Spectr. Temp.

Focus... 7.6

Spectr. Temp.

Exp. Mir.

Se

2.6mm.

4000 3

5000 2

5350

5300 3

8

5100 2

Then mostly clear
By 23 hrs

[illegible]

277
1944 Fri - Sat

Date 1994 Feb 4/5..... Observers [Blk]...Tn.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC19581 82	FLATS x 2							TUNG Ap 1/2	4 sec
83	HD 93521	10 42 42	+38 06	23 55 36		01 49 E			1240
84	Comp							FeAr clear	60s
85	HD 93521	10 42 42	+38 06	00 18 58		01 25 E			1262
86	Comp							FeAr clear	60
87	BIAS(4)								
88	HD 93521	10 42 42	+38 06	00 45 09		00 56 E			1440
89	Comp							FeAr clear	60 sec
90	HD 93521			01 12 21		00 30 E			1386
91	Comp							FeAr clear	60 sec
→ 92 94	FLATS x 3					00 26 E		TUNG Ap 1/2	4 sec
95	Comp								
96	HD 87901	10 03 03	+12 27	01 45 16					36s
97	Comp							FeAr clear	60s
98	BIAS(4)								

Spectr. Temp.

Focus... 7.0

Spectr. Temp.

Exp. Mtr.

See

5960 3'

5130

3500 2'

3000 2'

14K

Spectr. Temp. Dome Temp./Hum. -11.2°C 74% Transparency Conditions Thin cloud $\rightarrow$ haze 238

Focus 7.00

Spectr. Temp.

Dome Temp./Hum. -10.8°C 75%

incr cloud

Comparison Filter Exp.	Exp. Mtr.	Seeing	Plg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
6 2 4sec					C455 CCD	18001in/mm G=6065	300 μ	6604A	11ci		MAX=11.5 K ADU	
1240 6s	5960	3"	7.04	09.5					12ci	Bh pgm		
1262 6s	5130								13			
1440 60sec	3500	2.3"							14		cloud again @ end	
1386 60sec	3000	2.3"							16			
6 2 4sec									1ci			
36 60s	14K		1.36	B7V					17ci		cloud though	
									18			
									30ci			
									5ci			
									7ci		MAX 11.5 K ADU	
									10ci			
									11	Telluric Std	1.18 AIR mass Through cloud bit	
									13			
									1			
										All To Perseus & Worm		

#1 279 SUM / MON

Emulsion Batches:

Date 1994 Feb 6/7..... Observers [Blh.]... Tn.....

CSS 386 = 9 secs. ahead of WWV time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC 19599	Comp / Stellar	Hartman				00 10W	+30°	FeAr clear	60/70
CC 19600									
01	BIAS(4)								
02	Comp							FeAr clear	60s
03	HD 77327	08 56 48	+47 33 08	00 08 09					
04	Comp							FeAr clear	60s
→ 05	FLATS x 3					00 00	+47	TUNG Ap 1/2	5s
→ 07									
08	Comp							FeAr clear	60s
09	HD 93521	10 42 42	+38 06	00 21 29		01 13E			1363
10	Comp							FeAr clear	60s
11	HD 93521			00 48 01					1434
12	Comp							FeAr clear	60s
13	HD 93521			01 15 05		00 20 E			1335
14	Comp							FeAr clear	60s
15	BIAS(4)								
→ 16	FLATS x 3					00 15 E	+37 35	TUNG Ap 1/2	5s
→ 18									

Spectr. Temp.

Focus... 7.00

Spectr. Temp.

Exp. Mtr.

X Focus H

7.00

7.00

10K

3500

3640

3550

5.00

Spectr. Temp. Dome Temp./Hum. -10.0°C 61.4% H Transparency Conditions .. Clearing... now..... 2.45
 Focus... 7.00 (And Dropping Fast)
 Spectr. Temp. Dome Temp./Hum.
 But gusty N W wind

Exp. Mtr.	Seeing	✓ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
* [Focus Header for Set] says 7.00 It is 7.00 actually				CASS CCD	1800 $1/4$ in G=6065	300 μ Full length	6604A	3/4	focus	3 pixel scale @ 300 While chip warming to -100°C (But Temp dropping Fast)	
								1			
								5			
10 K		3.60	A1V _n					6	* Telluric Std	Note * Not a "V" detection a Tel Normalized object	
								7			
								8.		$\approx 15 \text{ K max}$	
								9			
3500	VV poor	7.04	09.5V					10ci	Blu pgrm	(Em Feature? in Helina) $\approx 160/s$	SH
								11ci			
3640	6"							12ci		1.028 AIR MASS	
								13ci			
3550	5-10"							13ci			
								14ci			
								1ci			
								15ci			

pg 42 241

Date 1994 Feb 17..... Observers [P/n] T2.....

Emulsion Batches:

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[illegible]

Spectr. Temp

Focus . . . 74

Spectr. Temp

Exp. Mtr.

S

10 K

242

Exp.	Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60					CASS CCD	1800 μ /mm G 605	300 μ	6604A	18			
38	10 K								17		Telluric Std 1.185 Air mass	
60									16			
									15			
									14			
									13			
									12			
									11			
									10			
									9			
									8			
									7			
									6			
									5			
									4			
									3			
									2			
									1			

pg 1 *W3*

Emulsion Batches:

Date 1994 Feb 7/8.... Observers *[Blz]...Tr./Hlw.....**CSS 386 set to WWV Time...tonight.....*

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
<i>CC19623</i> 24	<i>Comp / Stellar</i>		<i>Comp HURTMAN</i>			<i>0 0</i>	<i>+390</i>	<i>FeNe clear</i>	<i>30/48</i>
25	<i>BIH5(4)</i>								
26	<i>Comp</i>							<i>FeNe clear</i>	<i>30s</i>
27	<i>HD37479</i>	<i>05 33 45</i>	<i>-02 38 48</i>	<i>18 35 09</i>		<i>1:30 E</i>			<i>2335</i>
28	<i>Comp</i>							<i>FeNe clear</i>	<i>30s</i>
29	<i>HD37479</i>	<i>05 33 45</i>	<i>-02 38 48</i>	<i>19 17 31</i>		<i>0:48 E</i>			<i>2300</i>
30	<i>Comp</i>							<i>FeNe clear</i>	<i>30s</i>
31	<i>BIH5(4)</i>								
<i>-32</i> 33	<i>FLATS x2</i>							<i>TUNG clear</i>	<i>200s</i>
34	<i>Comp</i>							<i>FeNe clear</i>	<i>30s</i>
35	<i>HD37479</i>	<i>05 33 45</i>	<i>-02 38 48</i>	<i>20.20.36</i>		<i>0:14 E</i>			<i>428</i>
36	<i>Comp</i>							<i>FeNe clear</i>	<i>30s</i>
37	<i>Flat</i>							<i>TUNG clear</i>	<i>200s</i>

Spectr. Temp.

Focus...7/12

Spectr. Temp.

Exp. Mtr. Se

3427 5

2138

394

Spectr. Temp. Dome Temp./Hum. -13.7° 56% Transparency Conditions $5/$ hazy 1 244
 Focus 7.18
 Spectr. Temp. Dome Temp./Hum.
 δ inc $rising$ -
 set -100° C for CCD T

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	18004/mm G=4065	300u Full Length	3730A	3/4	Focus	Row #360-369 (stellar vs Red)	
								1c			
								5c			
3427	5"	B 6.32	B2V _{pe}					6c	He Str Blk	clouding in	
								7c			
2138		B= 6.32	B2V _{pe}					8c	He Str Blk	guided on column $\approx 50/15/4$ 30! (whoops)	
								9			
								10		≈ 11 K max, He Str	
								11			
394		B= 6.32	B2V _{pe}					12	He Str Blk	VERY weak. Totally	
								13		clouded in on us.	
								10			

Pg 1 245

Date 1994 FEB 9/10 Observers ... Sgs/Hlw

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc19638/9	Comp/Stellar	Hartman				Zenith		FeAr Clear	40/50
640	Bias (4)								
641	COMP							FeAr Clear	60s
642	HD 237190	03 46 10	+58 21.3	18 40 44					1800s
643	COMP							FeAr Clear	60s
644	BIAS (4)								
645	Comp							FeAr Clear	60s 1200
646	HD 25361	03 56 42	+58 23	19 20 06					1200
647	COMP							FeAr Clear	60s
648	COMP							FeAr Clear	60s
649	HD 30282	04 41 05	+36 32.6	19 49 41					1029
650	COMP							FeAr Clear	60s
651	BIAS (4)								
652	COMP							FeAr Clear	60s
653	HD 29260	04 31 26	+18 20	20 ¹⁷ 39					600s

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

S

2

3660

310

Spectr. Temp. Dome Temp./Hum. $-15.1/62.0\%$ Transparency Conditions *Scattered clouds*
 Focus *7.03*
 Spectr. Temp. Dome Temp./Hum.

246

Exp. Mtr.	Seeing	✓ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40/51				Cass CCD	1800 G=5920	300 μ	6400A	3/4			
								1			
60s								5			
1800s	2-3"	8.64	60Ib					6	Sgs Program		
60s								7			
								1			
60s								8			
120s		7.3 8.07	F6Ib -G2 Ib					9	Sgs		
60s								10			
60s								11			
1000s	2660	7.9- 8.8	F6- G1					12	Sgs		
60s								13			
								1			
60s								14			
600s	3600	6.33- 6.75	F5Ib- F4s7b					15	Sgs		

Pg 2 247

Date 1994 FEB 9/10... Observers Sgs/Hlw.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc19654	Comp							Clear FeAr	60s
655	BIAS (4)								
cg 30360 -3	4x HD 29587	04 34 30	41 57 00	20:39		1:00 W	+42:08		.067
cg 30364 -5	2x HD 29587	04 34 30	41 57 00	20:40					.133
656	Comp							FeAr Clear	60s
657	HD 29587	04 34 30	41 57 00	20:42:35					1007s
658	Comp							FeAr Clear	60s
659	BIAS (4)								
660	Comp							FeAr Clear	60s
661	SAD 039783	04 42 46	+42 06 48	21 15 37					
662	Comp (OMP)							FeAr Clear	60s
663	BIAS (4)								
664	Comp							FeAr Clear	60s
665	HD 44990	06 19 48	+07						600s
666	Comp							FeAr Clear	60s

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

S

2320

Spectr. Temp. Dome Temp./Hum. ... -17.0°C / 65.4% Transparency Conditions A FEW CLOUDS 24.8

Focus 7.03

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	V Prg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60s				Cass CCD	1800 L/mm 5920	300μ	6400A	16			
								1			
0.067	~3"	7.29	dG2						Seeing Test	Dome West, light N wind	
0.133		7.29	dG2						Seeing Test		
60s								17			
100s		7.29	dG2					18	RJ Std		
60s								19			
								1			
60s								20			
2443		8.95	60Ib					21	Sgs Program	SOME THIN CLOUDS	
60s								22			
								1			
60s								23			
3692								24	Sgs Program		
60s								25			

Pg 3 2M9

Date 1994 FEB 9/10... Observers Sgs/Hlw.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC19667	BIAS(4)								
668	COMP							Clear FeAr	60s
669	HD62509	07 39 12	+28 16 00						17s
670	Comp							Clear FeAr	60s
671	BIAS(4)								
672	COMP							Clear FeAr	60s
673	N6C 2539 #60	08 05 41	-12 26 45	23 01 31					2700s
674	Comp							Clear FeAr	60s
675	BIAS(4)								
676	COMP							Clear FeAr	60s
677	HD 87901	10 03 03	+12 27 22	00 07 28					29s
678	Comp							Clear FeAr	
679	BIAS(4)								
680-688	FLATS X 9							1/2 Tung	5s

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Nr.

S

10K

302

19K

Spectr. Temp. Dome Temp./Hum.

[illegible]

pg 2 ~~Thurs~~ / Fri

Date 1994 Feb 10/11

+1994 Feb 11/12

Observers Hlw / Tn [KK]

Emulsion Batches:

* Time noted is WWV Time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
FIT01103	Comparison				Day		diff out f/6	FeNe	600
1104	Flat			17:32	Feb 10/11 ↑ Feb 11/12	diffuser IN	clear f/11.8		
1105	HD 34029	05 09 18	+45 54	* 18 34 45	Feb 11/12		NDO.3		1800
1106	HD 34029	"	"	19 07		00 30 E	NDO.3		1800
1107 1110	"	"	"	19 38 25		00 00	"	"	"
1108	"	"	"	20 09 15			"	"	"
1109 1109	"	"	"	20 40		01 04 W	"	"	"
1111	"	"	"	21 13			"	"	"
1112	Comparison					F18 Stop OUT →	diffuser out (f/6)	FeNe Clear	600s
CG 30367 - 370	4x HD 57263	07 15 24	+39 11 05					4x	67 msec
CG 30371 - 72	2x "	"	"					2x	133 msec
CE 06818 6819	In board / OUT BOARD HARTMAN					Dome T = -130, Set	2370	Th Ar Clear	20/12
6820	BIAS (A)								
6821	FLAT							Tung	160s
6822	Comp							Th Ar Clear	10s

Spectr. Temp.

Focus

Spectr. Temp.

Exp. Mtr.

8"

40'

1150

1500-3000

200-2800

OK

1600-2700

20-2500

35-55

Image above

By Fiber Opt

X-grating

pg 2. 253

Fri Sat

Date 1994 Feb 11/12

Observers

$$[KK] T_n/H|w$$

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1 CE06823	HD34029	05 09 18	+45 54	23 45 13		3:40 W			178
24	Comp							ThAr Clear	10sec
25	HD34029			23 51 40					675
26	Comp							ThAr Clear	10s
27	Bias (4)								
28	Comp							ThAr Clear	10s
29	HD47105	06 31 54	+16 29	00 10 38		3 16 W			1944
30	Comp							ThAr	10s
31	Comp							"	"
32	HD56986	07 14 12	+22 10	00 49 14		3 12 30 W			1948
33	Comp							"	10
34	Comp							"	10
35	HD76644	08 52 24	+48 26 00	01 28 37		2 11 W			1833
36	Comp							ThAr	10s
37	BIAS(4)								

Spectr. Temp.

Focus

Spectr. Temp.

Exp. Mtr.	Se
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Se

Spectr. Temp. Dome Temp./Hum. $-12.9^{\circ}\text{C}/63.6\%$ Transparency Conditions ... Clear 25.4 ...

Focus 2370

Spectr. Temp. Dome Temp./Hum.

2217 Tel Focus for Echelle position

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
178	6,700		B 0.89	G8III +F?	Echelle CCD			3990A	4	KKpgm	max ADU ~ 2000	
105									53			
675	25K								8ci		max = 8K ADU	
105									3			
105									1	3955 center of 3rd order from top		
1944	11,200	3"	B 1.9	A0IV					3		max 12K for comp	
105									6ci		@ 3960A = 340/1 S/N	
105									3			
1948	2450	3"	B 3.9	F0IV					3			
10									2ci		@ 3960A = 150/1 S/N	
10									3ci			
1933	4560	2-3"	B= 3.32	A5					4ci			
105									3ci			
									1ci			

pg 3 ²⁵⁵ Fri SAT

Date 1994 Feb 11/12... Observers [KK]... H/W... /Tn.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
ce06838	Comp							ThAr	10s
39	HD 95689	10 57 36	+62 17	02 06 09		00 42 W			
40	Comp							ThAr	10s
41	Comp							"	"
42	HD 99028	11 18 42	+11 05	02 46 21		01 13 W			2368
43	Comp							ThAr	10s
44	BIAS(4)								
45	Comp							ThAr	10s
46	HD 8890	01 22 36	+88 46	03 37 41		11 08 W			1993
47	Comp							ThAr	10s
48	Comp							"	"
49	HD 121370	13 49 54	+18:54:00	04:19:57		00 05 W			1696
50	Comp							ThAr	10s
51	BIAS(4)								
	Comp								

Spectr. Temp. Dome Temp./Hum. -12.7°C ... 60.6% H Transparency Conditions ... Sl. hazy ... 256.

Focus ... 2370

Spectr. Temp. Dome Temp./Hum.

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	X Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
105					Eckelle 18.00	64370 W=60 H=600 μ		39908	7ci			
105	17000	2"	1.79 V Combined 1.79	KOJTa					2c			
7										KK pgm	@ 3955 = 250/1 SN	
238	1828	3"	B 4.34	F2IV					3			
105									4ci	KK pgm	@ 3955 $\approx$ 120/1 SN @ 3955 = 250/1 SN	
105									1ci			
105									7ci			
1993	8,200	3-5"	1.9	F2					6ci	KK pgm	2 250/1 SN	
105									3			
4									3		3rd ORDER FROM TOP 250/1 3970-3941 Å ORDER 144	
16%	3600		B= 3.27	GO					2	KK pgm	SNR ~ 200	
105									3			
									1			
											3998 = 3967 Å ORDER 143 About 3 Å overlap in this region between ORDERS	

pg #4 757 Fri/Sat

Date 1994 Feb 11/12 Observers [KK] Hlw/Th

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
ce06852	Comp							ThA	10s
53	HD 137107	15 19.1	+30 39	04 55 27		0:40 E			2135
54	Comp							ThA	10s
55	HD 137107			05 32 53		00 15 E			1394
56	Comp							ThA	10s
57	Comp							"	"
58	HD 137909	15 23 42	+29 27 00	06 01 25		0:09 W			1437s
59	Comp							ThA	10s
60	Bias (4)								
→ 61 63	FLATS x 3			[F18 STOP PUT IN + DIFFUSER IN]		0:30 W → +30°		ThA TUNG	160s
				~ 06 59					
FIT 01113.FTS	FLAT			for earlier FTS OBS,		[F18 STOP IN DIFFUSER IN]		TUNG CLEAR	2hs

some cloud coming

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	x Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
-	10 _s					Echelle @ 18°	.4370 W 60μ H=600μ		3990A				
2135		400	3"	B 6.2	G2V						KK pgm	80 SNR	
10 _s		4											
1394		240	4"	6.2	G2V					2ci	KK pgm		
10 _s										3ci			
"										3			
1437 _s		1045c		B= 3.93	F0p					4ci	KK pgm		
10 _s													
160 _s										Ac:		MAX = 9 H ADU,	
								All CE Files To			WORMS PARSECS.		
16	210 _s	1000				PTS FiberTel	600μ/mm 32.2°	8μ Fiber			4340A	(Not backslight)	

Date 1994 Feb 13/14 Observers KK / Jn

Emulsion Batches:

CSS 386 10sec ahead of WU V Time.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
FIT0114	Comp					DIFFUSER OUT F18 STOP OUT		Felle clear	600
115	Comp (extra)					" "		"	600
116	HD 34029	05 0918	45 54	19 48		00 20 W			.
117	"	"	"	20 19	WVV Time <u>203646</u>				
118	Comp			20 44		DIFFUSER OUT F18 stop OUT		Felle clear	600
FIT0119	FLAT			20 48		DIFFUSER IN F18 stop OUT		Tung clear	400
ce06864 65	inBOARD / OUT BOARD HURTMAN							ThAr	20/14
ce06866	Comp			22 12 44				ThAr	10 ^{sec}
67	HD 34029	05 0918	+45 54	22 14 01		02 31 W			930
68	Comp							ThAr	10 ^{sec}
69	BHS(4)								
70	HD 34029	05 0918	+45 54	22 35 04		07 52 W			914
71	COMP							ThAr	10 ^s
72	FLAT	"	"					Tung	160 ^s
73	Comp							ThAr	10 ^s

Spectr. Temp. Dome Temp./Hum. -5.2°C 67.2% Transparency Conditions *Cloud $\rightarrow$ snow 260*
 Focus *But just improved @ 19 45*
 Spectr. Temp. Dome Temp./Hum. *Gustly NW wind*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
CH B											
15-25				<i>PES Spectle</i>	<i>1800/n/mm</i> <i>49.1°</i>	<i>8um Fiber</i>	<i>4340A</i>				
15-27										<i>(Image fine and compact 1st 5mins)</i> <i>Windy (hard to guide)</i> <i>KK pgm</i> <i>Focus optimized ok</i> <i>Cloud at end</i>	
600-1300	<i>(Relative) V</i> <i>good 0.09</i>		<i>G8 III</i> <i>+ F?</i>								
200-800	<i>to Variable</i> <i>poor</i>										
15-27											
650-800										<i>4900 secs,</i> <i>CUT SHORT</i>	
-5° set	<i>1.2420</i>			<i>Echelle CCD</i> <i>Ech=180</i>	<i>1200/n</i> <i>.4370</i>	<i>W=60um</i> <i>H=800um</i> <i>W=60um</i> <i>H=600um</i>	<i>3990A</i>	<i>3/4</i>	<i>CCDT $\rightarrow$</i>	<i>-100°C</i>	
13000	<i>5"</i>	<i>V</i> <i>0.09</i>	<i>G8 III</i> <i>+ F?</i>					<i>5ci</i>			
								<i>6ci</i>	<i>KK pgm</i>	<i>MAX 14K (holone?)</i> <i>-9°C By 2217 EST</i> <i>A 300/1 SIN 3rd ORDER</i>	
								<i>2ci</i>			
13,200	<i>5"</i>							<i>6ci</i>			
								<i>5ci</i>			
						<i>Hc left</i> <i>at 600um</i>					

Vol 1 pg #2

Date 1994 Feb 13/14 Observers KK-Tn

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CE06874	HD 47105	6 31.9	+16 29		23 15 45				933
75	comp	"	"		23 17 25			ThAr	10 ^s
76	HD 47105	"	"	23 18 52	23 32 37				825
77	comp	"	"					ThAr	10 ^s
78	comp							ThAr	10 ^s
79	HD 62509	7 39.2	+28 16	23 39 30		01 23 W			608
80	comp								
81	bias (4 average)								
82	comp							ThAr	10 ^s
83	HD 83808	9 35.8	+10 21	00 02 10					2566
84	comp							ThAr	10 ^s
→ 85	FLATS x 5					00 26 W +10°			160
89									
90	Bias (4 average)								
FIT01120	FLAT			01 41 38	D. Huser IN FIS OUT			TUNG clean	

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

2500

2500

4000

1250

Spectr. Temp. Dome Temp./Hum. -10.2° 59%
 Focus 2420
 Spectr. Temp. Dome Temp./Hum. -11.5° 62%

Transparency Conditions ... S1 hazy - Cloudy 252
 E still very gusty
 from NNW

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
933	2500	1.9	A0V	Echelle 18.0	1200 4370	60/600	3990A	6		max 2400 ADU	
825	2500										
608	4000	B 2.14	K0 IVb						Std Vel.	2200	
1250	5"	3.5	F5 II + A5						KK pgm	2 10015 S/NO 3950A	
						60u 800u				MAX 10K ADU	
								2ci 1c		All To warm & perseus	
				PT5 Spectro Setup	1800u 49.1°	8u FF	4340A			Not backed up some night. done next day	

pg #1 263

Mon/Tues

Date 1994 Feb 14/15... Observers .. KK. / Tm.....

Emulsion Batches:

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CSS Time set to match W.U.V...Time.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
FIT01124	comp [Done much earlier]			16:00		DIFF OUT		FeNe	600s
121	Comp [Just Before Stellar]							FeNe clear	600s
FIT01122	HD 34029	05 09 18	+45 54	19:02		00 23 E			1800s
123	"	"	"	19 32 45		00 08 W		"	"
125	"	"	"	20 03 11		00 38 45 W		"	"
CG 30373	"	"	"					4x	67ms
-76									
77	"	"	"			00 45 W		2x	133ms
78									
FIT01126	Comp			20 44		DIFF OUT		FeNe	600s
FIT01127	FLAT	(At end of night)				F18 stop out		clear	7200
						DIFF IN		Tung	
						F18 stop out		clear	
CE06891	B/H 5(4)	CCDT →	-100 15 min earlier						
92	comp		under out	20 20 6				ThAr	10s
93	HD 34029	05 09 18	+45 54	21 06 17				#	474
94	Comp			21 19 14				ThAr	10s
95	HD 34029			21 21 10		01 37 W			599
96	Comp							ThAr	10s

Spectr. Temp

Focus

Spectr. Temp

Exp. Mtr.

S

15-25

100-200

200-700

3

3500

3

3

3

3

3

3

3

3

3

3

3

3

3

3

3

3

3

3

3

3

Spectr. Temp. Dome Temp./Hum. -8.5°C 56.2% Transparency Conditions ... medium thick cloud...

Focus

Spectr. Temp. Dome Temp./Hum. -10.0°C 60.0% H

2C4

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
600s	X. 100-1100	3"			PTS Spectde	1800ln/in 49.1°	8u Fiber Red	43408			* By 19110 cnts To 800/sec	
600s	15-25											
1800s	* 100-1200	3"	V 0.09	G8111 +F?						HK pgm	variable cloud cnts > 1000/sec by 1912 cnts < 300/sec after 1921	
"	1000-2000	2-3"			(Low cnts last 1/3 exp)						only THIN cloud now	
"	200-700	3"									cloud thickening	
670s						ABOVE 8u Fiber Hole				Seeing Test Dome WNW, no wind		
1330s										" " Only NEFANON.		
600s										All To 1126 Backed up to PERSUS & WARM		
720s	500-700 cnts									Not wither tonight.		
4hr 10sec	2420 Focus	unchanged			Dome T = -9.7				1c0			
474	11,000		V 0.09	G8111 +F?			W 60u H 600u		3c1		A 300/1 S/N @ 39508	
10sec									4c1	HK pgm	MAX = 7K ADCL	
599	3500	3"							5c1			
10sec									4c1	HK pgm	cloud at end	

#2 No 5

Date 1994 Feb 14/15... Observers K.K. / T.m.....

Emulsion Batches:

.....
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
ce 06897	Comp							ThAr	10s
98	HD 62509	07 39 25	+28 16	21 39 25		00 29 E			884
99	Comp							ThAr	10s
ce 06900	HD 62509			21 57 04		00 19 E		432	1000
901	Comp							ThAr	10s
902	BIAS(4)								
903									
-907	FLATS x 5					02 37 W +28°		TUNG	160s
908	Comp							ThAr	10s
909	HD 83808	09 35 49	HD 21	23 24 35		00 10 E			2613
910	Comp							ThAr	10s
911	BIAS(4)								
912	Comp							ThAr	10s
913	HD 95689	10 57 36	+62 17	00 18 29		01 00 E			2/1200
914	Comp							ThAr	10s
915	FLAT					00 56 W +19°		TUNG	160s
916	BIAS(4)								

Spectr. Temp
Focus...
Spectr. Temp

Exp. Mtr.

985

1000

(All)

500

480

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions ...

cloudy! ... 2.0

Focus ... 2420

Spectr. Temp.

Dome Temp./Hum. ...

-10.5% 68% H

- PARTIAL clearing

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
10s				ekd/6 CCD	1200 - 14370	60um 600um	3990A	5c			
8s	965	4"	B 214	KOIII b				6c	std vel	Thick cloud.	
10s								3c			
32 10s	1000							2c	std vel	Cloud thinner now	
10s								3			
								1c			
16s	(All to worms versus to head)				W 60um H = 800um			3c		MAX 9K ADU	
10s					H = 600um width 60um			5c			
26s	500	4"	351	F5II +45?				6c	KK pgm	Dome T - 10.7°C	
10s								5c			
								1c			
16s								5c			
21s	4680	2.4"	✓ 1.79	KOIII a				2c	KK pgm	Hazy only	
10s								5c			
16s					60um width 800 height for FLAT			3c		CURRENT Optical Disk is now Full.	
								1c		Reminder to worms & Versen	

py#1 Uo7

Date 1994 Feb 16/17... Observers Sgs./Tn.....

Emulsion Batches:

.....
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC19689 90	Comp / Stellar					00-00	+43°	FeAr Clear	60/60
91	B/H5(4)								
92	Comp							FeAr Clear	60s
93	V440 Per	02 16 54	+54 54	18 56 56		0221 W			1124s
94	Comp							FeAr Clear	60s
95	BIAS (4)								
96	Comp							FeAr Clear	60s
97	HD25361	03 56 42	+58 23						2067
98	COMP							FeAr Clear	60s
99	BIAS Sum of 4								
700	BIAS (4)								
701	Comp							FeAr Clear	60s
702	HD29260	04 31 26	+18 20						
703	COMP							FeAr Clear	60s
704	BIAS SUM OF 4								

Spectr. Temp
Focus.. 6.9
Spectr. Temp

Exp. Mtr. S

7361

Exp. meter 73300

Spectr. Temp. Dome Temp./Hum. -3.6°C 60% H Transparency Conditions ... Part cloudy ... 25.5

Focus ... 6.90

Spectr. Temp. Dome Temp./Hum.

~~Grating not used since~~

Comparison Filter Exp.	Exp. Mtr.	Seeing	V _{Fig} Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60/60					CASS CCD	1800 lines G=5920	300 μ Full	6400A	3/4	Focus Test	Right on.	
60s									1			
11/24s	4361	2"	6.18- 6.32	F7Jb					5ci			
60s									6ci	Sgs Program	Through cirrus S/N ~ 250:1	
60s									7ci			
60s									8ci			
20/6s	(Exp meter stopped) > 3300		7.30- 8.07	F6Ib- G2Ib					9ci	Sgs Program	Still more cirrus	
60s									10ci			
											USING Tn's BSUM4.BAT (SUM OF 4 BIASES) USING BIAS4.BAT	
60s									11ci			
			6.33- 6.75	F5Ib- F45Ib					12ci		CLOUDS THICKENING TO ALMOST THIN OVERCAST.	
60s									13ci		EXPOSURE THIN CALLED ON ACCOUNT OF CLOUDS USING BSUM4.BAT	

Pg#2 269

Emulsion Batches:

Date 1994 FEB 16/17... Observers ... Sgs/Tn.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
705	BIAS (4)								
706	BIAS COMP							FeAr Clear	60s
707	HD62509	7 39 12	28 16						329s
708	COMP							FeAr clear	60s
709- 711	FLATS X 3							Tung 1/2	5s
712	BIAS SUM OF 4								
713	BIAS (4)								
714	BIAS BIAS COMP							FeAr Clear	60s
715	HD87901	10 03 03	12 27 00	21 08 50					167s
716	COMP							FeAr Clear	60s
717	BIAS SUM OF 4								
718	COMP							FeAr Clear	60s
719	HD84441	09 40 12	24 14 00			-2h48m E			456s
720	COMP							FeAr clear	
721	BIAS SUM OF 4								
722-4	FLATS X 3					3h 04m W		Tung 1/2	5s

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mir.

Se

5500

14K

-100

Transparency Conditions 1270 ...

Spectr. Temp.

Dome Temp./Hum.

[illegible]

P91 271

Date 1994 Feb 17/18 Observers [Bln] Tn/Hlw/Hdy

Emulsion Batches:

CSS 386 clock is 10 seconds fast

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC19725/6	Comp/Stellar	Hartman						FeAr Clear	20/30
27 28	Bias (4)								
28	Comp							FeAr Clear	40s
CC19729	Nova Cas 93	23 36 59	+56 57 45	19 25 36		+5:32 W	+57:30		908s
30	Comp							"	40s
31	Nova Cas 93	23 36 59	+56 57 45	19 43 30		+5:52 W	+57:30		962s
32	Comp							"	40s
33	Nova Cas 93	23 36 59	+56 57 45	19 43 30		6 11 W	+57:30		953
34	Comp								40s
35	BIAS(4)								
36 - 38	3x Flats					+6:18 W	+57:30	Tung 1/4 ap	5s
39	Comp							FeAr Clear	40s
40	HD19275	03 01 05	+74 00 49	20 35 36		+3:07 W	+74:20		182s
41	Comp							FeAr Clear	40s
42	Comp for Nova CAS 93							"	4

[OG560 Filter in Comp Tung Beam]

GG385
(Clear FUV Filter for Stellar)

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

Spectr. Temp.

Exp. Mtr.

Spectr. Temp.

Exp. Mtr.

Spectr. Temp.

Exp. Mtr.

Spectr. Temp.

Exp. Mtr.

Spectr. Temp.

Exp. Mtr.

Spectr. Temp.

Exp. Mtr.

Spectr. Temp.

Exp. Mtr.

Spectr. Temp.

Exp. Mtr.

Spectr. Temp.

Exp. Mtr.

Spectr. Temp.

Exp. Mtr.

Spectr. Temp.

Exp. Mtr.

Spectr. Temp.

Spectr. Temp. ... $\sim 100^{\circ}\text{C}$ Dome Temp./Hum. ... $+1.0^{\circ}/76.6\%$ Transparency Conditions ... HAZY : 27.2Focus 7.10Fans Off
350 0 50 1024 4 1 ccdfmtSpectr. Temp. ... gain = 90

Dome Temp./Hum.

Note: central row is actually more like 6538 Å

Exp. Mtr.	Seeing	Mag. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion clamps	P.H.	Program	Remarks	Quality
				Cass CCD	831 ℓ/mm G=3616	300 μ long slit	6563 Å	1/2	Focus Test	T = 1.0°C , foc=7.10	
								1			
								3			
172	~2"	~10 ²		East side of Pier.				4	[Bln]	Max ADU ~ 6000 at H α <u>Strong</u> emission	
								5			
180	~10							6	[Bln]		
								7			
?		~10						8	[Bln]	1.737 H α mass	
								9			
								1			
								10			
								11			
~4K		4.87	A2V					12	Telluric	max ADU = 12K	
								13		Humidity on Catwalk = 82% @ 2040	
								14		very faint object (same mag as H α) @ 1900: 23 36 54 +58 02 45	

Pg 2 277

Date 1994 Feb 17/18

Observers

H.W./J.N. [Bln/KK]

Emulsion Batches:

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC19743	Novae Cas 93	23 36 59	+56 57 45	20 51 03		07 05 W			1299
44	Comp					(06560 Filter in)	Fe Ar Clear		40s
45	Novae Cas 93			21 15 28		+7:32 W			1475
45	Bias (4)								
46	Comp						Fe Ar Clear		40s
47	HD14055	02 11 22	+33 23 05	22 14 42		+5:36 W			306s
48	Comp						"		40s
cg 30379 -82	HD70647	08:17:57	+42:19:37	22:30					.067
cg 30383 -84	HD70647	08 17 57	+42 19 37	22:34	22:34	-0:16 E	+42:02		.133
cc19749 -54	FLATS x 6					00 12 E	+42°	Tung Ap 1/4	5s
55	Comp								
55	Bias (4)								
56/57	Comp/Stellar	Hartman						Fe Ne clear	20/20
58	Comp							"	60s
59	HD8890B	01 22 36	88 46 00	23 22 06		7:17			1901s
60	Comp							"	60s
61	Bias (4)								

Spectr. Temp

Focus... 7°

Spectr. Temp

Exp. Mtr.

S

321

2530

2

No fit

286

Spectr. Temp. Dome Temp./Hum. $+00.3^{\circ}\text{C}$ $77.4\% \text{H}$ Transparency Conditions $\checkmark$ Hazy 2.74
 Focus 7.10 / 6.95
 Spectr. Temp. Dome Temp./Hum.
 ↑
 stands for "very"

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1299		12?		CASS CCD	8B1 G=3616	300 Full	6563A	15	MAX12KAD	AIR MASS 2.08 very 1.92g	
40s								16		85% on catwalk @ 21:30	
1475	321	2.3		This observation was lost forever due to a computer failure. Henikon had to be reset / 7c						AIR MASS 2.237 @ 21:31	
								1			
40s								3			
306s	2530	4.01	AIY					4		~ 2.3 air mass	
40s											
0.67	2"				West side of pier				Seeing Test	Dome West, No Wind Very Hazy, some clouds	
0.133		6.18	gks MAX								
5s										Telescope unbalanced now	
	No filters ↓			Cass CCD	1800 l/mm G=5000	300μ	51408	1	Focus Test	foc = 6.95, T = 0.1°C	
20/20								3/4	Focus Test	foc = 6.95, T = 0.1°C	
60s								5			
120s	1286	8.6	F					6	KK pgm	East side of pier	
60s								7	KK pgm		
								1			

pg 3 ~75

Date 1994 Feb 17/18 Observers Hlw/Tn

Emulsion Batches:

.....

.....

.....

[illegible]

Spectr. Temp. Dome Temp./Hum. + 0.1°C / 78.2% Transparency Conditions ... Hazy ... 276
Focus ... 6.95 ... Clouds at end.
Spectr. Temp. Dome Temp./Hum.

Exp.	Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1905	1436	2"	8.6	F	Cass CCD	1800 l/mm G=5000	300 μm long	5140 Å	8	KK pgm	Tel East side of Piers	
60									9			
"									10			
61	566		7.29	dG2					11	Std. Vel.	Tel still East side of Piers	
60s									12			
7s									13		max 13K ADU	
									1	Hll to Wrens & Persaus		
					CASS CCD	1800 l/mm G=5115	300 μm	S303A		Focus Test	Clouded in!	

pjt 277

Date 1994 Feb 21/22 Observers Sgs/Hlw

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC19775/6	Comp/Stellar	Hartman						FeAr Clear	20/25
777	Bias (4)								
778	COMP							FeAr Clear	60s
779	HD44990	06 19 48	+7:08	23:09:17		3 1 40 W			
780	COMP							FeAr Clear	60s
781	BIAS (4)								
782	COMP							FeAr Clear	60s
783	W GEM?	06 29 14	+15:24	23 45 22					524s
784	COMP							FeAr Clear	60s
785	BIAS (4)								
786	COMP							FeAr Clear	60s
787	HD62509	07 39 12	+28 16	00 08 12					40s
788	COMP							FeAr Clear	60s
789	BIAS (4)								
cg30385 -9	HD90861	10 24 17	29 05 35	00:20		-0:10 E			.67
cg30340 -1	HD90861	10 24 17	29 05 35		00:27				.133

Spectr. Temp.

Dome Temp./Hum. $-1.4^{\circ}\text{C}/63.7\%$

Dome Temp./Hum.

Transparency Conditions Clear, ... some 278

aurore borealis

480 0 50 1024 41 ccd fmt.

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	20/25					CASS CCO	1800 $\text{\AA}/\text{mm}$ $\lambda = 5920$	300 μ	6400 $\text{\AA}$	3/4	Focus Test	$T = -1.2$, $f_{oc} = 6.87$	
	60s									1		- WWV clock did not read properly, so time was typed in from red dome clock	
										5			
		~3300	~5"	B =	F7Iab					6	Sgs	Close to $\frac{3}{4}$ full moon.	
	60s	~3300		6.5-8.0	-K1Iab					7			
										1			
	60s									8			
	524s	390								9	Sgs	S/N ~ 130	
	60s									10			
										1			
	60s									11			
	40s	7K								12	RV std.		
	60s									13			
										1			
	.67			6.9	K2 III							Seeing Test	Dome SV, light Wind
	.133			6.9	K2 III							* Seeing test	clear, $T = -3.0^\circ\text{C}$

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions ... CLEAR 280 ..

Comparison Filter	Exp.	Exp. Mtr.	Seeing	V _T Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
r	60s					CASS CCD	1800 l/mm $G=5920$	300 μ	6400A	14			
	32s	5300		1.35	B7V					15	Telluric		
r	60s									16			
	10s												
na	20/35					Cass CCD	1800 l/mm $G=511.5$	300 μ	5303Å	3/4	Focus Test	$T = -3.9^{\circ}\text{C} / \text{foc} = 6.92$	
	35s									1			
r	615s	395		4-5"	$\frac{V}{7.48}$	M2II				5			
	35s									6	Vys Std.		
										7		<u>Clouded In</u>	
										1		(Damn!)	
						All to Perseus & WORM.				11			

281

pg #1

SAT/SUN

Date 1994 Feb. 26/27

Observers [Bln] ... Tn

Emulsion Batches:

.....

Note CSS 386 Time (Headers) 20 secs. ahead of WWV time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC 19813 14	Comp / Stellar	HARTMAN	Posns			0 0	+39°	KoAr Clear	30/44
15	BINS(4)							+ OG560 Filter	
16	Comp							FeAr Clear	40s
17	HD 19275	03 01 05	+74 00 49	19 12 57		(146 sec exp)	GG 385 - U.V.F. FOR Stellar	1/ter Beam	
18	Comp							FeAr Clear	40s
19	Comp			19 54 05				"	"
20	Nova Cas 93	(not) a field star		19 54 05					380s
21 22	FLATS x 2			20 26 53				TLING Ap 1/4	4s
CC 19823 24	Comp / Stellar	HARTMAN				00 00	+39°	FeNe Clear	30/44
25	Comp							FeNe Clear	30s
26	HD 37479	05 33 45	-02 38 48	21 19 17		02 11W			1225
27	Comp							FeNe Clear	30s
28	BINS(4)								
29	HD 37479	05 33 45	-02 38 48	21 43 37		02 35W			1220
30	Comp							FeNe Clear	30s

Spectr. Temp. Dome Temp./Hum. -13.8°C 52% Transparency Conditions $OK \rightarrow 5/1$ cloudy 282

Focus 7.20 for 831 nm

and - Gusty NW wind

Spectr. Temp. Dome Temp./Hum.

V time

Comparison
filter Exp

30/4

30

40/2

F. / Her

40/2

h

38/2

9/2

30/4

30/2

12/2

30/2

12/2

30/2

12/2

30/2

12/2

30/2

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	831 nm/mm G=3616	300u	6563A	3/4		Tel East Side of	
								1		Piers for observations	
								5			
No exp meter	4"							6	Telluric Std		
								10ci		Nova Cas 93 must be very faint now. could not find it.	
								8			
								10ci	Not the	Nova intended.	
								12ci			
T = -14.8°C	Set	7.20		CASS CCD	1800 nm/mm G=4065	300u	3730A	14/5ci	Focus Test	(Locks good)	
		B						16	Blh He str	East Side of Piers again	
	5"	6132	B2 Type					17ci	Blh He str		
Exp meter started on its own								18ci		> 1000 ADU 5 Aug 0 hour Back ground. (5 K photons)	
								1ci			
1952	4.38"							19ci	Blh He str	<u>75/15/N</u>	
								20ci			

pg#2 267

Date 1994. Feb. 26/27

Observers [Bln] Tn

Emulsion Batches:

Remember Those Times are 20 secs. ahead of correct time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC19831	HD37479	05 33 45	-02 38 48	22 05 52		02 58W			1246
32	Comp							FeNe CLEAR	30sec
33	HD37479	05 33 45	-02 38 48	22 29 31		03 19W			1092
34	Comp							FeNe CLEAR	30s
35	HD37479	05 33 45	-02 38 48	22 49 46		03 40W			1175
36	Comp							FeNe CLEAR	30s
37	BIAS(4)								
38	HD37479	05 33 45	-02 38 48	23 13 31		04 05W			1226
39	Comp							FeNe CLEAR	30s
→ 40 42	FLATS x 3					04 10W	-02 35	TUNG CLEAR	200sec
43	BIAS(4)								
CG30392 → 395	HD85373	09 46 18	38 24 00			00 19W	38°	4x	67msc
CG30396 → 397	"							2x	133msc

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mir. Se

* Failed

9-4-94

8

Feing

much better

Spectr. Temp.

Dome Temp./Hum. - 14.5°C 60%

4 Transparency Conditions... *sl hazy* 284

+ Full Moon

FANS on by 22:30, SE OFF by 23:30

[illegible]

pg#1 285

Date 1994. Feb. 27/28. Observers [Bln]...Tn.....

Emulsion Batches:

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.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC19844	BIAS(4)								
45	Comp								
46	#11 on FID NOVA CAS 93	23 36 59	+56 57 45	19 09 11					
47	Comp								
48	#2 TRY NOVA CAS 93 (nope)			19 27 24					
49	#3 TRY nope (Scut one of 3 in group)			19 36 25					
50	Comp								
51	nope NOVA CAS 93 (that faint)			19 48 26					
52	yes NOVA CAS 93	23 36 59	+56 57 45	20 08 10					
53	Comp								
54	yes NOVA CAS 93			20 29 07					
55	Comp								
56	FLATS x 5								
60									
61	BIAS(4)								
62	Comp for red star								

GG385
-UV
FOR Stellar
Beam

*
OG560
Filter
FOR SOURCES
COMPARISON

Took 3 CG series (FG)
images with this obj on slit

#46 REMARKS

Fair
clear

Spectr. Temp.
Focus... 7.2
Spectr. Temp.

Exp. Mir. See

No Exp
meter

Bright

0 42

1/11 3

Spectr. Temp. Dome Temp./Hum. -10.8°C 44.6% H Transparency Conditions Fine - inc R cloud 286

Focus 7.20

Note CCD T note at end.

CCD FMT for 831 h/m

Spectr. Temp.

Dome Temp./Hum. Forgot to set to -100°C

350 0.50 1024 4 1

Telescope East Side

Con- dite	Exp.	Exp. Mir.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		No Exp meter Tonight				CHSS CCD	831 h/m G3616	300 μ Full length	6563A	1		used HR21 for offset	
						*OG560 filter and its F18 stop mount found out of place at end of this Run at this dispersion				3		check as was done Feb 17	
729		0	42"			I think it fell out when Reversing Telescope.				4		Something v. s. ble 5" SSE of Nova, lower left screen	
405										5	W	#1 star Im opish view	
407		All				3 objs inside FG Box				6		S	
417										7	Im Aquista	Field Drawn in Field Book	
40										8		1.76 AIR MASS	
										9		cloud sometimes too	
										10c		CG30901 Taken	
893							max ADU 2000			11	Nova I think	N2 East from 103	
40										12	now, Barely visible	Δ RA -00 00 37 should be it A Dec -00 00 18	
1694										13c		HR21 offsets RA -00 00 40 Dec -00 00 15	
40										14		MAX 14K ADU	
40										15c			

pg 43 267

Emulsion Batches:

Date 1994 Feb 27/28.... Observers [Blh] Tn.....

CSS Times = 22 secs ahead of WWV clock.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC19863	HD18411	02 52 22	+39 15 45	21 03 53		04 21 W			111
64	Comp							Fair Clear	40s
65	HD18411			21 09 03					
66	Comp							Fair Clear	40s
67	BIAS(4)								
CG30402 -405	HD 70647	08 17 57	+12 19 37					4x	67ms
CG30406 407	"					00 44 E	+42°	2x	133ms
CC19868 69	Comp/stellar	HARTMAN posns				00 20 E	42°	Fair Clear	60/65
70	Comp							Fair Clear	60s
71	HD 93521	10 42 42	+38 06	22 30 58	will edit subtr 22secs from time.	01 42 E			1242
72	Comp							Fair Clear	60s
73	HD 93521	10 42 42	+38 06	22 55 46		01 19 30 E			1200
74	Comp								
75	BIAS(4)				CSS TIME CORRECTED				
76	HD 93521	10 42 42	+38 06	23 20 11		00 58 E			997

Spectr. Temp.

Focus.....7.

Spectr. Temp.

Exp. Mir. See

Set 7.0

Exp meter
used to 4000

206 1/3

1/20 42

1/20 1"

Spectr. Temp. Dome Temp./Hum. -12.5°C $48.3\% \text{H}$ Transparency Conditions ... *Part cloudy* 258

Focus 7:20

Spectr. Temp. Dome Temp./Hum.

Comparison Filter Exp.	Exp. Mir.	Seeing	P.V. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
111			4.70	A2V _n	CHSS CCD	831 1/4 in G=3616	300 _u	6563	16c	Telluric Std	Tel still East Side TO 214P	
45												
		42"	4.70	A2V _n								
			4.70	A2V _n								
172		42"	6.18	g45		1 ABOVE 300 _u SLIT				Tel Westside now Seeing Test	Thin cloud too Dome W, Light WNW wind	
172										" "	CCD FMT Back to	
606	Set	7.03	T- -12.3°C		CHSS CCD	1800 1/4 in G=6065	300 _u	6604A	13/14	Focus Test	480 0 50 1024 41	
606	Exp meter Standard to work again								15c:			
1242	2006	1-3"	7.04	09.5V					16c:	Bln-0* pgn	Thin cloud 1.093 AIR mass	S/N 230/1
									17			
206	1620	42"							18			
									19			
									1c:			
992	1640	1"							20c:	Bln-0* pgn		

Date 1994..Feb 27/28...

Observers [Blh] Tn.....

Emulsion Batches:

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[illegible]

Spectr. Temp.

Dome Temp./Hum. -14°C 63%

Note CCD Temp not adjusted to usual -100°C
Seems it was @ -128°C All night.

Page 1 LA1

Date 1994 Mar 1/2 Observers H/W

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc19895/6	Comp/Stellar	Hartman	Filters: GG85 in stellar beam (used all 4) : OG 560 in comp & flat beam this page			Zenith		FeAr Clear	30/44s
897	Bias (average of 4)								
898	Comp							FeAr Clear	40s
899	Nova Cas1993	23 36 59	+56 57 45	19 43 32		+6:33 W	+57:30		600s
900	Comp							"	40
901	Nova Cas1993	23 36 59	+56 57 45	19 57 46		+6:48 W	+57:30		600s
902	Comp							"	40
903	Nova Cas1993	23 36 59	+56 57 45	20 10 52		+7:00 W	+57:30		600s
904	Comp							"	40
905	Bias (4)								
906	Comp							FeAr Clear	40
907	HD87901	10 03 03	+12 27 22	20 45 57		-3:00 E	+12:08		14s
908	Comp							"	40s
909	Bias (4)								
cg 30408	4x								
cg 30411	2x								
cg 30412	"								
cg 30408	HD57263	07 15 24	+39 11 05	21:00					.067
cg 30411	"	"	"	21:02		+0:03 W			.133

Spectr. Temp. -100.0°C.

Focus 7.15

Spectr. Temp. again = 90

Dome Temp./Hum. -3.7°C / 66.0%

Dome Temp./Hum. -5.9°C / 73.9%

Transparency Conditions Clear 29.2

350 0 50 1024 4 1 ccd fnt

Fans OFF all night.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	831.2/mm G = 3616	300 μ	6563 Å	3/4	Focus Test	T = -3.7, foc = 7.15	good.
								1		78% Relative Humidity	
								3		on Catwalk @ 2000	
	~3"	<15	emission					4		This is it.	
								5			
	~3"	<15	em					6			
								7			
	~3"	<15	em					8			
								9	Telluric	airmass = 1.6	
								1			
								1			
									Seeing Test	Dome SW, No Wind, very clear	
									Seeing Test	T = -5.6°C, Hum = 72.5%	

Pg. 2 203

Date 1994 Mar 1/2 Observers H/W & Vys3

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc19910 -15	6x Flats			[Same filters as previous page]		Zenith		Tung 1/4 Ap	4 sec
cc19916/7	Comp/Stellar	Hartman		[No Filters from now on]				FeNe Clear	20/35
18	Bias (Sum of 4)								
19	Comp							FeNe Clear	35
20	Vys 488	07 04 19	52 26 28	22:09:48		+1:52 W	+52:17		1912
21	Comp							"	35
22	Bias x 4								
23 -25	3x Flats					"	"	Tung 1/4 Ap	9s
26	Comp							FeNe Clear	35s
27	^{unidentified} AC+36 28826	08 22 03	35 21 00	22 53 59		+1:19 W	+35 03		1888
28	Comp							"	35s
29	AC+36 28826	08 22 03	35 21 00	23 30 48		+1:59 W	+35 03		2090
30	Comp							"	35s
31	Bras x 4								
32	Comp							FeNe Clear	35s

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

Cooling = 35s

Cooling = 48s

0 2

45

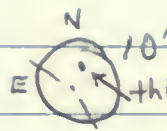
0

Spectr. Temp. -100.0°C Dome Temp./Hum. $-5.9^{\circ}\text{C}/73.9\%$ Transparency Conditions Clear 294Focus $7.15/7.00$

Fans OFF

Spectr. Temp. $\text{again} = 90$

Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
4 sep	ccdfmt = 350 0	50 1024 41		Cass CCD	831 μm $\alpha = 3616$	300 μm	6563A	11			
20/35	ccdfmt = 480 0	50 1024 41		Cass CCD	1800 μm	300 μm	5303A	3/4	Focus Test	$T = -6.1$, $\text{foc} = 7.00$	a touch too cold.
								1			
35								5		Catwalk humidity 90%	
1912	0	2-3"	11.3	MO				6	Vys Pgm	at 2240, railing is getting icy.	
35								7			
								1			
9s								8			
35s								9			
1888	45	9? 10	Gor K?					10	Vys Pgm		
35								11			
2040	0	10.7	MO					12	Vys Pgm		
35s								13			
35s								14			

Spectr. Temp. $\dots 90 \dots$

Dome Temp./Hum. -8.1°C/80.3%

480 0 50 1024 4 1 ccdfmt

	Exp. Mtr.	Seeing	Prg. √ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
600s	660	3-4"	7.48	M2	Cass LCD	1800 l/mm G=51/5	300μ	S303A	15	Vys Std	94% Humidity on catwalk @ 0030	
35s									16			
"									17			
2220	0	3-4"	11.5	M0					18	Vys Pgm	95% Humidity on catwalk @ 0100	
35									19			
									1		→ closing due to humidity, ice forming on surfaces outside.	
9 sec									20			
						All to WORM & Perseus.						

page 1 297

Date 1994 Mar 2/3 Observers Sgs / Hlw

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc19945/6	Comp/ Stellar	Hartman						FeAr Clear	36/35
47	Bias (av of 4)								
48	Comp							FeAr Clear	60s
49	HD237190	034610	+58°21'3	19 20 10					1800s
50	Comp							FeAr Clear	60s
51	BIAS(av. of 4)								
52	Comp							FeAr Clear	60s
53	HD25361	035642	+58°22'97	19 58 56					1262s
54	Comp							FeAr Clear	60s
55	BIAS(av. of 4)								
56	Comp							FeAr Clear	60s
57	HD29260	043126	+18°20'4	20 36 10					
58	Comp							FeAr Clear	60s
59	BIAS (av. of 4)								
60-62	FLATS X3							Tung 1/4	15s

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

Wasted

Sc

Spectr. Temp. ... -100.0°C.

Dome Temp./Hum. ... -3.2°C/62.3%

Transparency Conditions Hazy, scattered clouds

Focus ... 6.90

Spectr. Temp. again ... 90

Dome Temp./Hum.

480 050 1024 4, ccd/mk

Exp. Mtr. busted	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
35/35				Cass CCD	1800 λ /mm G=5920	300 μ	6400 A	3/4	Focus	T = -3.1°C foc = 6.90	good
								1			
60s								5			
1800s		8.64	G0Ib					6	Sgs	SNR ~ 145	
60s								7			
								1			
60s								8			
1200s		7.30- 8.07	F6Ib- G2Ib					9	Sgs	SNR ~ 260	
60s								10			
								1			
60s								11			
		6.33- 6.75	F5Ib- F9.5Ib					12	Sgs	SNR ~ 240	
60s								13			
								1			
15s								14			

Page 2 299

Date 1994 Mar 2/3 Observers Sgs/Hlw

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
19963	COMP							FeAr Clear	60s
64	HD30282	04 41 05	+36° 33'	21 04 13					1200s
65	COMP							FeAr Clear	60s
66	BIAS (av. of 4)								
67	COMP							FeAr Clear	60s
68	HD44990	06 19 48	+7° 08'	21 37 00					1025s
69	COMP							FeAr Clear	60s
70	BIAS (av. of 4)								
71	COMP							FeAr Clear	60s
72	HD62509	07 39 12	+28° 16'	22 09 29		0h 53mW			
73	COMP							FeAr Clear	60s
74	BIAS (av. of 4)								
75-77	FLATS X3							Tung 1/4	15s
78	BIAS (4)								
79	COMP							FeAr Clear	60s

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

(P. 125)

Se

480

~1600

~950

Spectr. Temp. ... -100.0°C

Dome Temp./Hum. ... -4.2°C/63.7%

Transparency Conditions scattered clouds ... 300.
thickening to overcast

Focus ... 6.90

Spectr. Temp. ... (gain = 90)

Dome Temp./Hum.

Exp. Mtr. (RVISED)	Seeing	✓ Prg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60s				CASS CCD	1800 μ /mm G=5920	300 μ	6400 λ	15			
1200s	480	7.9- 8.8	G1					16	Sgs	SNR ~ 230	
60s								17			
								1			
60s								18			
1200s	~1600	6.5- 8.0	F7Lab- K1Lab					19	Sgs	THROUGH CLOUD? SEEING WORSE CLOUDED OVER DURING EXPOSURE SNR ~ 400 HOT PIXEL: ROW 853 COLUMN 26	
60s								20			
								1			
60s								21			
		1.14	K011b					22	RV SED	THROUGH THICK CLOUDS SNR ~ 275	
60s	~950							23			
								1			
15s								24		~11000 MAX ADU	
								1		CLOUD BREAK	
60s								25			

Page 3 701

Date 1994 March 2/3 Observers Sgs/Hlw

Emulsion Batches:

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Spectr. Temp.

Focus.....

Spectr. Temp.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC 19980	HD 62509	07 39 12	+28° 16'	23 51 19		2h 32m W			21s
81	COMP							FeAr Clear	60s
82	BIAS (4)								
83	COMP							FeAr Clear	60s
84	HD 114762	13 07 30	+18° 02'	00 06 08		2h 20m E			1200s
85	COMP							FeAr Clear	
86	COMP							FeAr Clear	60s
87	HD 123782	14 04 24	+49° 56'	00 43 50		2h 51m E			300s
88	COMP							FeAr Clear	60s
89	BIAS (4)								
90	COMP							FeAr Clear	60s
91	HD 87901	10 03 03	+12° 27'						43s
92	COMP							FeAr Clear	60s
93-95	FLATS X3							1/4 Tung	15s

Exp. Mtr.

See

340

450

700

6k

Dome Temp./Hum.

[illegible]

20th pg 1, Thurs / Fri

Date 1994 MAR 3/4..... Observers [Sgs] / H. W. / Tn.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc199 ⁹⁶ 97	Comp / Stellar	HARTMAN				00	+41°	FeAr clear	60/60
98	Bias (4)								
99	Comparison							FeAr, clear	60s
cc20000	HD237190	03 46 10	58 21 18	19 37 22		+2:42 W			1800s
1	Comp							FeAr, clear	60
2	Bias (4)								
3	Comp							FeAr clear	60s
4	HD25361	03 56 41	58 22 59	20 14 53		+2:59 W			1223
5	Comp							FeAr clear	60s
6	Comp							"	"
7	HD29260	04 31 26	+18 20 24	20 43 56		+2:51 W			923
7	HD29260	04 31 26	+18 20 24	21 12 11		+3:20 W			977s
8	Comp							FeAr clear	60s
9	Bias (4)								
10	Comp							"	"
11	HD30282	04 41 05	+36 32 36	21 37 16		+3:40 W			1302
12	Comp							FeAr clear	60s

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr. See

230 23

776 74

777

733

593 3

Spectr. Temp. -100.0°C Dome Temp./Hum. $-100.0^{\circ}\text{C}/47.6\%$ Transparency Conditions Clear - Incr cloud 304Focus 6.90

Fans OFF

Spectr. Temp. $\text{gain} = 90$ Dome Temp./Hum. $480\ 0\ 50\ 1024\ 4\ 1\ \text{cdfmt}$

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
6460				Cass CCD	1800 lines/mm G=5920	300 μ Full/L	6400A	3/4 μ	focus test	50% Relative Humidity on catwalk @ 1920	good
230	2'-3'	8.64	G0 Ib					8μ 6 8 μ 1	Rm pgm		
776	3'	7.30 -8.07	F6 Ib -C2 Ib					10 μ	Rm pgm		
787		6.33 -6.75	F5 Ib -F9.5 Ib					13			
1733		6.33 -6.75	F5 Ib -F9.5 Ib					4 5 1 6	Rm pgm	Heurikon crashed after observation, and had to be reset. $\therefore$ Observation was lost...	
593	3'	B= 7.9-8.8	F6 -G1					7	Rm pgm	>200 S.N.R. (fast estimate)	

pg 2. nos

Date 1994 Mar 3/4 Observers [Rm] Tn/Hlw / [Srt]

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc20013	Bias (4)								
14	Comp							Fe Ar Clear	60s
15	HD44990	06 19 48	+07 08 00	22 08 47		02 29 W			960
16	Comp							Fe Ar Clear	60s
17	Comp							n	?
18	HD42397	06 05.4	+25 02	22		3:11 W			1200s
19	Comp							Fe Ar Clear	60s
20	Bias (4)								
21-29	9 x Flats							Tung x Ap	15s
30/31	Comp/Stellar	Hartman				[filter = BG39]		Fe No Clear	30/45
32	Bias (4)							Fe No Clear	60s
33	Comp								
34	HD124897	14 11 06	+19 42 00	23 51 09		03 50 E		Fe No Clear	230
35	Comp							Fe No Clear	60s
36	Bias (4)								
37	Comp								



Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

Se

200 3-

48

34

Spectr. Temp. -100°C

Dome Temp./Hum. -2.0°C/53.0% Transparency Conditions ... Clear, partial clouds...

Focus 6.90.../6.98.

30C

Spectr. Temp.

Dome Temp./Hum.

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 l/mm G=5920	300 μ	6400 Å	1			
								9			
960 2000	3-5"	6.5 -80	F7Iab - K1 Iab					10c 11c 12	Rm pgr	T Mon 1.485 AIR MASS	
468		803	G0 IV					13 14 1	Std vel		
								15		~12000 counts ADU	
				Cass CCD	1200 l/mm G=5090	250 μ	3950 Å	3/4		T = -2.7°C, foc = 6.98	
30 K	100	-0.04	K2 III	Note 2nd ORDER of 1200 l/mm used.				5 6	Srt Pgm		
								7 1 8			

pg 3 307

Date 1994 Mar 3/4 Observers [Srt] Tn/Hlw

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC20038	HD137759	15 22 42	59 19 00	00 13 52	[filter = BG39]				1760
39	Comp							FeNe Clear	60s
40	Bias(4)								
41	Comp							"	"
42	HD124897	14 11 06	19 42 00	00 53 12		-2:51 E			103s
43	HD124897	14 11 06	19 42 00	00 55 37		-2:46 E			200s
44	Comp			00 55 37				FeNe Clear	60
45	Bias(4)								
46	Comp							FeNe Clear	60s
47	HD153210	16 52 56 16 52 56	09 32 00	01:10:42					179s
48	Comp							FeNe Clear	60s
49	Comp							"	"
50	HD137759	15 22 42	59 19 00	01 57 49		02 33 E			146s
51	Comp							"	60
52-54	3x Flats							Tung Clear	180s
55	Bias(4)								

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mir.

Ser.

30K

54K

9500

23000

Spectr. Temp. ... -100.0°C ...

Dome Temp./Hum. ... -2.8°C/59.1%

Transparency Conditions ... partially cloudy 308

Focus ... 6.98 ...

Fans OFF

Spectr. Temp. ... gain = 9.0 ...

Dome Temp./Hum.

430 0 50 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
710	22K	4"6"	3.29	K2II	Cass CCD	12002/nm G=5090 2nd order	250μm with dekker	3950A	9ci	Srt Pgm	
65								10			
								1			
"								11			
103	30 K		-0.04	K2III				12	Srt Pgm		
200	54 K		-0.04	K2III				13	Srt Pgm	200/1 SINE H&K Did again to up signal.	
60								14			
								1			
60								15			
100	9500	6"8"	3.20	K2III				16	Srt Pgm	80/1 SINE H&K bottom MAX 9300AD4 - Hot pixel	
65								17			
1								18c			
100	23000	4"6"	3.29	K2III				19ci	Srt Pgm		
60								20ci			
180								21			
								1			

pg. 4 369

Date 1994 Mar 3/4 Observers [Srt] Tn/Hlw {Vys}

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc20056	Comp				[Filter = BG39]			FeNe Clear	60s
57	HD153210	16 52 56	+09 32 00	02 53 39		-3:03 E			1800s
58	Comp								60s
59	Bias (4)								
60	Comp							FeNe Clear	60s
61	HD124897	14 11 06	+9 42	03 38 35		-0:03 E			148
62	HD124897	14 11 06	19 42	03 ^{42 27} 38 35		0:00			122
63	Comp								
⁶⁴ -66	FLATS x 3							TUNG Ap clear	250s
67	Bias (av. of 4)								
68/69	Comp/stellar	HARTMAN poshs				01 W	+14 54	FeNe Clear	20/35
70	Bias (sum of 4)								
71	Comp							FeNe Clear	35s
72	HD119850	13 40 36	+15 27 00	04:25:15		1:21 W	+14 59		691
73	Comp							"	35
74	Bias x 4								

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

Se

28K

33K

35K

Set 698

363

Spectr. Temp. -100.0°C ... Dome Temp./Hum. $-3.7^{\circ}\text{C}/62.4\%$ Transparency Conditions ... some clouds ... 310.
 Focus 6.98 ...
 Spectr. Temp. $\text{cgain} = 90$... Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H. cache	Program	Remarks	Quality
				Cass CCD	1200 l/mm G=5090 Second Order	250 micron with dekker	3950Å	22		430 0 50 1024 41 ccdfmt	
28 K	3.20	K2 III						23	Srt Pgm		
								24			
								1			
								25			
33 K	-0.04	K2 III						26	Srt Pgm		
35 K	-0.04	K2 III						27	Srt Pgm		
								28			
								29;		7800 - 5000 Å D4 Red → Blue	
								1			
Set 6.98 T = -4.4°C				Cass CCD	1800 l/mm G=5115	300µ FULL	5303	3/4		480 0 50 1024 41 ccdfmt	
								1			
								5			
363	8.48	M1						6	Vys Std		
								7			
								1			

page 5 311

Date 1994 Mar 3/4 Observers Hlw/Tn EVys

Emulsion Batches:

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[illegible]

Spectr. Temp. $\text{cgal}^{\wedge} = 90$

Dome Temp./Hum. ... 71° C ... 66% RH

312

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	35s					Cass CCD	1800l/mm G=5115	300μ	S303A	8c1			
	199	0	4"	10.45	MO					2c2	Vys Pgm	too cloudy	
	35s			1						10		Completely clouded in.	
	9s									11			
										1			

Page 1 3/3 Sat/Sun

Date 1994 Mar. 5/6 Observers [Rm/Srt] Tn/Hhw

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc20085/6	Comp/Stellar	Hartman	[Filters: GG 385 in stellar beam OG 560 in comp & flat beam]					FeAr Clear	30/44s
87	Bias (avg. of 4)								
88	Comp							FeAr Clear	40s
89	Nova Cas 1993	23 36 59	56 57 45	19 23 30		6:28 W			474s
90	Comp							"	40s
91	Nova Cas 1993	23 36 59	56 57 45	19 36 36		6:52 W			1237s
92	Comp							"	40s
93	Nova Cas 1993	23 36 59	56 57 45	20 01 58		7:17 W			1200s
94	Comp							"	40s
95	Bias (4)								
96	Comp							FeAr Clear	40s
97	HD 18411	02 52 22	+39 15 45	20 29 35					120s
98	comp							FeAr Clear	40s
99-104	6x Flats							Tung 1/4 ap	4 sec
105	Bias (4)								

Spectr. Temp.

Focus

Spectr. Temp.

ap. Mir. Se

0 2

0

0

00 2

Spectr. Temp. -100.0°C Dome Temp./Hum. $-0.6^{\circ}\text{C}/55.5\%$ Transparency Conditions $\dots$ clear, slight haze...
 Focus $\dots$ 7.10 Fans OFF 314
 Spectr. Temp. $\dots$ again = 90 Dome Temp./Hum. $\dots$ 350 0 50 1024 4 1 ccd fnt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	8312/mm G=3616 1st ORDER	3004 long	6563A	3/4 1	Focus Test	T = -0.8°C , $f_{\text{ic}} = 7.10$	good
								5			
0	2"?	<16	em.					6	Novu Cas 93 pgn	This is it. not really visible in either TV view.	
								7			
0		<16	em					8		AIR MASS 1.95	
								9		MUCH fainter than any of stars in nearby triangle	
0		416	em.					10		Actually slightly visible only in slit view.	
								11			
								12			
1100	2"	470	H2V _n					13	Telluric Std.		
								14			
								15			
								1			

page 2315

Date 1994 Mar 5/6... Observers [Rm] Tn/Hlw...

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc20106	Comp							Fear Clear	60s
107	HD44996	06 19 48	+07 08 00	20 57 52		+1:25 W			900s
108	Comp							"	60s
109	Bias (4)								
110	Comp							Fear Clear	60s
111	SAO 039783	04 42 46	+42 06 48	21 27 32		+3:55 W			2400
112	Comp							"	60s
113	Bias (4)								
114	Comp							"	"
115	HD30282	04 41 05	+36 32 36	22 15 43		+4 30 W			1481
116	Comp							Fear Clear	60s
117	Comp							"	"
118	RX Aur	04 54 28	39 48 42	22 46 51		4 53 W			1812
119	Comp							Fear Clear	60s
120	Bias (4)								

Spectr. Temp.
Focus... 6.9
Spectr. Temp.

Exp. Mtr. Se

Note: Exp. Mtr.
Unreliable S

457

108 3

100 2

Spectr. Temp. Dome Temp./Hum. -20°C $59.2\% \text{H}$ Transparency Conditions $5/14/74$ 316
 Focus ... 6.90
 Spectr. Temp. Dome Temp./Hum. -30°C $60\% \text{H}$

Comparison Iter. Exp.	Exp. Mtr.	Seeing	Mag. √	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60s	(note. Exp meter) Unreliable still				CASS CCD	1800 μ /mm G5420	300 μ Full length	6400A	16			S/N
90s	?	6.5 -8.0	F7 Iab -K1 Iab						17	Rm pgm	T Mon	
60s									18			
									1			
60s									19			
2400	457	8.95	G0 Ib						20	Rm pgm		160/1
60s									21			
									1			
"									22			
1480	1600	3"	R = 7.9-8.8	F6 -G1					23	Rm pgm	5K MAX 1.47 AIR MASS	270/1
60s									24			
1800	1400	2-3"	7.28 -8.02	F6 -G2					25	Rm pgm		
60s			7.38						26			
									19			

page 3 717

Date 1994 Mar 5/6 Observers [Rm] Tn/Hlw...

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
ccc20121	Com p							FeAr Clear	60s
122	RS Ori	06 16 31	+14 43 30	23 25 55					1709
123	Comp							FeAr Clear	60s
124	Comp							"	60s
125	W Gem	06 29 14	+15 24 30	00 01 25		04 19 W	4:19 W		929
126	Comp							FeAr Clear	60s
127	Bias (4)								
128	Comp								
129	HD 62509	07 39 12	+28 16 00	00 26 17		03 19 W	+3:19 W		20s
130	Comp							FeAr Clear	60s
131	Comp							"	60s
132	HD 65934	07 56 06	+26 55 00	05 32 47		3:31 W			1395
133	Comp							FeAr Clear	60s
134	Bias (4)								
135	Comp							"	"

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr. See

400 32

533 4

5400

30 23

Spectr. Temp. -100.0°C Dome Temp./Hum. $-3.0^{\circ}\text{C}/59.8\%$ Transparency Conditions *Clear - incr. cloud*
 Focus 6.90
 Spectr. Temp. Dome Temp./Hum.

318

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Pls. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	60s					Cass CCD	1800l/mm	300μ	6400A	26			
	170g	2400	3"	8.01 -8.88	F5 Ib -G1 Ib		G = 5920	long		27	Rm Pgm		
	60s									28			
	60s									28			
	129g	1533	4"	6.54 -7.38	F5 -G1					29	Rm pgm		
	60s									30			
										1			
										5			
	20	5400		1.14	K0 IIIb					6	Std. Vel	Max ADU = 14000!	
	60s									7			
	60s									7			
	1395	980	2'-3"	7.94	G8 III					8	std vel		
	60s									9			
										1			
	"									10			

page 4 319

Date 1994 Mar 5/6 Observers [Rm] Tn/Hlw...

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC 20136	HD 84441	09 40 12	+24 14	01 03 31		01 56 W			74
37	Comp							FeAr clear	60s
38	Comp							"	"
39	HD 89449	10 14 18	19 59	01 13 12		1:38 W			360s
40	Comp							FeAr clear	"
141	Bias (4)								
142	Comp							FeAr clear	60s
143	HD 87901	10 03 03	+12 27 22	01 25 25		01 57 W			67s
144	Comp							FeAr clear	60s
145	Comp							"	"
146	HD 62509	07 39 12	+28 16	01 38:37		4:31 W			33s
147	Comp							FeAr clear	60s
148-156	9 x Flats					+3:21 W	+28:02	Tung 1/4 Ar	15s
157	Bias (4)								
58/59	Comp/Stellar	Hartman		[Filter =	BG39]			FeNe clear	30/5

Spectr. Temp. Dome Temp./Hum. $2.9^{\circ}\text{C}/60.1\%$ Transparency Conditions .. increasing clouds 310

Focus

Spectr. Temp. Dome Temp./Hum.

Comparison Filter Exp	Exp. Mtr.	Seeing	Mag. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
74	4400		2.98	G1 Iab	CAS CD	1800 G-5920	300 μ	6400A	11	std vel		
62									12			
									12			
360s	4700	2-3"	4.79	F6IV					13 α	std vel		
									14			
									1			
60s									15			
67s	25K		1.36	B7V					16	Telluric Std	1.32 Air mass	
69s									18			
4									18			
33s	4770		1.14	K0III					19	std vel	B Gem at Telescope good position comparable to many of the program stars	
65s									21			
15s									23			
									1			
30s									3/4	Focus Test	T=-3.5 foc=46.98	OK

pg. 5 321

Date 1994 Mar 5/6 Observers [srt] Tn/Hlw

Emulsion Batches:

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[illegible]

Spectr. Temp. -100.0°C Dome Temp./Hum. $-3.4^{\circ}\text{C}/62.4\%$ Transparency Conditions *Very Hazy, some clouds*
 Focus 6.98
 Spectr. Temp. Dome Temp./Hum. -3.6°C 62.3% 322

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1200l/mm G=5090	250 micron	3950A	5			
41000	-0.04		K2III		second order	with dekker		6	Srt pgm	max ADU = 7500	
53000	-0.04		K2III					7	Srt pgm	through some clouds	
								8			
								1			
								8c;			
2850	2"	3.75	K2III					9c;	Srt pgm std clouds	* Note: This spectrum has unusual features, maybe due to CCD malfunction. Possible saturation we didn't notice? Readout failure?	
								10c;			
								10c;			
										CCD Temp = -101.3°C	

pg#1 323

Emulsion Batches:

Date 1994 MAR 7/8 Observers Sgs/Tn

CSS 386 Time 27sec ahead of U.W.V. time

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC20172	BIAS (4)								
73	Comp							FeAr Clear	60s
74	V440 PER	02 16 54	+54 54	14 28 43		4 20 W			1834
75	Comp							FeAr Clear	60s
76	Comp							"	"
77	HD237190	03 46 10	+58 21	20 08 25		3 44 W			2700
78	Comp							FeAr Clear	60s
79	BIAS (4)								
80	Comp							FeAr Clear	60s
81	HD25361	03 56 42	+58 23	21 00 00		4 08 W			1635
83	Comp							FeAr Clear	60s
82	BIAS (4)								
84	Comp							FeAr Clear	60s
85	HD44990	06 19 48	+07 08	21 38 50					1065
86	Comp							FeAr Clear	60s
87	BIAS (4)								

Spectr. Temp. ... -100.0°C

Dome Temp./Hum. +2.3°C / 78.1%

Transparency Conditions MAINLY... CLOUDY..... 3.2.4

Focus 6.88

Spectr. Temp.

Dome Temp./Hum.

CCD T -108°C 480 0 50 1024 1 1 CCD FMT

Exp. Mtr.	Seeing	V. Pte. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800 l/mm G=5920	300μ Long	6400A	1			
								3			
1420	2-3'	6.18- 6.32	F7Ib					4	Rmpgr	PARICLAR ←	
								5		(SNR > 250)	
								5c.			
340	2-3'	8.64	G0Ib					6ci	Sgs Pgm	SNR ~ 170 SKIES CLEARING	
								7ci			
								1c			
								8ci			
945		7.30- 8.07	F6Ib- G2Ib					9ci	Sgs Pgm		
								10ci		BIAS WRITTEN BEFORE COMP	
								1ci			
								10ci			
1573		6.5- 8.0	F7Iab- K1Iab					11ci		SKY PRETTY MUCH CLEAR	
								12ci			
								1ci			

pg #2 325

Date 1994 MAR 7/8 Observers Sgs/Jn

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC20188	Comp							FeAr Clear	60s
89	W Gem	06 29 14	+15 25	22 07 11		2 37 W			1205
90	Comp							FeAr Clear	60s
91	Comp							FeAr Clear	60s
92	HD62509	07 39 12	+28 16	22 39 07					10s
93	Comp							FeAr Clear	60s
94	HD62509	07 39 12	+28 16	22 26 06		01 59 W			811
95	Comp							FeAr Clear	60s
96	BIAS (4)								
97	Comp							FeAr Clear	60s
98	HD 84441	09 40 12	+24 14	23 08 01		0 10 W			
99	Comp							FeAr Clear	60s
200	Comp							FeAr Clear	60s
01	HD 65934	07 56 12	+26 55	23 16 42		2 21 W			1302
02	Comp							FeAr Clear	60s
03-08	FLATS x 6							1/4 Tung	15s

Spectr. Temp.

Focus

Spectr. Temp.

Exp. Mtr. Se

234 2

700

581

642

Spectr. Temp. $+1.3^{\circ}\text{C}/84.6\%$

Dome Temp./Hum.

Transparency Conditions ... CLEAR To A FEW CLOUDS

Focus

increasing Fog

326

Spectr. Temp.

Dome Temp./Hum. 91%

480 0 50 1024 4 1 CCD FMT

Exp. Mtr.	Seeing	V ₄₅ Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
60s				CASS CCD	1800 h/mm G=5920	300 μ	400A	13ci			
1234	2-3	6.54- 7.38	FS- G1					14ci	Rm pgin		
60s								15ci			
60s								15ci			
10s	~1700	1.14	K0III b					16ci	Std Vel	(EXPOSURE TIME IS A GUESS) B Gem with no filter	
60s								17ci			
811	1681	1.14	K0III b					18ci	std vel	NO=2.0 B Gem with next. den. filter	
60s								19ci			
60s								1ci			
60s								20ci			
60s		2.98	G1IInb					21ci	Std Vel		
60s								22ci			
60s								23ci			
1302	642	7.94	68II					24ci	Std. Vel.		
60s								25ci			
15s								26ci		~10000 MAX ADU	

27th Tues/Wed

Date 1994 MAR 8/9... Observers [Blm] Tr/Wde...

Emulsion Batches:

CSS 386 = 8secs Fast. Lett that way too...

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc20209	BIAS(4)								
a200210	Comp							FeAr Clear	40s
200211	Nova Cas 93	23 36 59	+56 57 45	19 21 13				For sources	678
412	Comp							FeAr Clear	40s
13	Nova Cas 93			19 39 05		07 06 W			1208
14	Comp							FeAr Clear	40s
15	BIAS(4)								
16	Comp							FeAr Clear	40s
17	HD 18 441	02 52 22	+39 15 45	20 28 12		04 23 W			167
18	Comp							FeAr Clear	40s
→ 19 23	FLATS x 5					04 30 W	40°	TUNG Ap 1/4	5sec
cc20224	BIAS(4)								
cc20225/26	Comp/stellar HARTMAN					03 E	37°	FeAr Clear	60/65
27	Comp							n	60sec
28	HD 93521	10 42 42	+38 06	21 11 10		02 31 E			1035
29	comp							FeAr	60s

(GG385 - UV not used tonight)

OG560 in Comp F18 holder

Spectr. Temp. Dome Temp./Hum. -2.3°C 50% H Transparency Conditions ... Part cloudy 328

Focus ... 7.13 ... CCDT $\rightarrow -100^{\circ}\text{C}$ gusty NW wind

Spectr. Temp. Dome Temp./Hum. ... 90 CGAIN 350 0 50 1024 4 1 CCD

Exp. Mtr.	Seeing	Fig. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
no exp meter tonight				CASS CCD	831/n/m	300n Long	6563A	1			
					831/n/m 1 STOPPER			3		Star N 5' of Novus 93 offsets α -000048	
		Prob 16						4		+000612	
		medium fainter than V=15 poor as noted MHR 6 on I44 BULL						5		Δ -000048 white -000100 guiding	
		Images Taken in Image Acquisition View includes nearby triangle of stars to South (called Novus 931) or something similar						6	HiRM 155 2.015	Just visible in slit view ONLY 1900 nsec limit	
								7		In sensitive up the way	
								1			
								8ci			
		4.70 A2Vn						9ci	Telluric Std 1.147 HiRM 155		
								10			
		(All 831 grating OBS with Tel Eastside)						11 & 9ci		12 K ADU max	
				CASS CCD	1800n/m	300n Long	6604A	1ci	480 0 50 1024 4 1 CCD FMT		
T-35°C 6.925					G=6065			12/13	Focus test		
								14			
		7.04 09.5V						15	B/n pgrm		S/N 170/11
								16			

pg#2 224

Date 1994 MAR 8/9..... Observers [B/n]..Tn.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC20230	HD 93521	10 42 42	+38 06 00	21 33 16		02 08 30 E			1055
31	Comp							FeAr CLARK	60s
32	HD 93521			21 53 39		01 48 E			1077
33	Comp							FeAr CLARK	60s
34	BIAS(4)								
35	HD 93521			22 15 05		01 25 E			1166
36	Comp							FeAr CLARK	60s
37	FLATS x 4							TUNG Ap=1/2	4sec
40									
41	HD 93521			22 40 52		00 58 E			1235
42	Comp							FeAr CLARK	60s
43	Comp							1	n
44	HD 71327	08 56 48	+17 33 03	23 08 48		00 57 W			1085e
45	Comp							FeAr CLARK	60s
46	BIAS(4)								
47	Comp	For HD 93521 - over 23 15 56						FeAr CLARK	60s

Spectr. Temp. Dome Temp./Hum. -3.9°C 54.4% Transparency Conditions Fine 330 ...
 Focus 6.925 ...
 Spectr. Temp. Dome Temp./Hum.

Comparison Filter Exp.	Exp. Mtr.	Seeing	Plg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1055		3"	7.04	09.5 V	C455 CCD	1800nm	300 Long	66049	17ci	Blu 0* pgn		S/N L200/1
68									18			
1077		3-4"							19	Blu 0* pgn		L200/1
68									20		4263 mag	
									1c,			
1166									21ci	Blu 0* pgn		
68									22ci		4203	
1235		3"							23ci		MAX 12 K ADU	
68									24ci	Blu 0* pgn		
									25ci			
108									25ci		4020 mag	
68			3.60	A1U _n					26c	Telluric Std near zenith		
									27ci			
									1c)			
68									28ci	Final one.	Slightly saturated chip with FeNe, Full 60sec (waited with CISC running while	

pg #3 331

Date 1994 MAR 8/9..... Observers T.H..... M.Ki..a.bit

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC 20248	HD 93521	10 42 42	+38 06 00	23 35 15					1201
49	Comp							Fear Clear	60sec
50	HD 93521			23 58 46		00 20W			1231
51	Comp							Fear Clear	60sec
52	BIAS(4)								
53	HD 93521			00 23 41		00 44W			1175
54	Comp							Fear Clear	60sec
55	HD 93521			00 47 04		01 08W			1201
56	Comp							Fear Clear	60s
57	HD 93521			01 10 00		01 33W			1324
58	Comp							Fear Clear	60s
59	BIAS(4) Comp							?	?
60	HD 87901	10 03 03	+12 27 22	01 41 34		02 24W			54s
61	HD 87901 Comp							Fear Clear	60s
62	FLATS x 5					02 32W	+12°	TUNG AP 1/2	5sec
66									
67	BIAS(4)								60s

Spectr. Temp. Dome Temp./Hum. -5.5°C 60% H Transparency Conditions Fine 3.32

Focus... 6.925

Spectr. Temp. Dome Temp./Hum. -6.0°C 64%

Note, chip saturated with 60sec FeNe @ 23.16, but running Cisc for 20 mins until it.

Exp. Mtr.	Seeing	Plg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1201	2"	7.04	095V	CHSS CCD	1800 h/m G=6065	300 μ Long	6604R	30ci	Bln pgrm		5/A >200/1
								31ci			
								32			
								31ci			
								1ci			
1175	3"							32ci	2ci		200/1
								3ci			
120	3"							8ci		fracking erratic in RA	
								3			
								9ci			
								3			
								1ci			
54		1.36	B7V					10ci	Telluric Std	Airmass 1.41	
								3			
								11ci		MAX 15K ADU	
								1ci	CCDT still OK	-101.7°C	

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Thu/Fri

Date 1994 Mar. 10/11 Observers [Blr] Tn/Hlw

Emulsion Batches:

CSS 386 Time set to W.W.V. Time, ...

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC20268/1	Comp/Stellar	Hartman			[Filters: GG385 OG 560]			FeAr Clear	30/36
CC20270	Bias (4)								
71	Comp							FeAr Clear	40s
72	Nova Cas. 1993	23 36 59	+56 57 45	19:47:47					553
73	Comp							FeAr Clear	40s
74	Nova Cas 93	23 36 59	+56 57 45	20:05:45					689
75	Comp							FeAr Clear	40s
76	Flats x 3							Tung 1/4 Ap	4s
79, 80	2x Bias (4)								
cg40007 -10	4x HD57263	07 15 24	+39 11 05	20:52					.067
cg40005 -6	HD57263	07 15 24	+39 11 05	20:45					
CC20281/2	Comp/Stellar	Hartman						FeAr Clear	60/55
83	Bias (4)								
84	Comp							FeAr Clear	60s
85	HD 93521	10 42 42	+38 06	21 32 36		01 58 E			1249
86	Comp							FeAr Clear	60s

Spectr. Temp. Dome Temp./Hum. $-2.3^{\circ}\text{C}/56.7\%$ Transparency Conditions Clear 334
 Focus 7.10/6.88 Fans on - Then only N Fan Left on.
 Spectr. Temp. Dome Temp./Hum. $-3.8^{\circ}\text{C}/63.5\%$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30/36				Cass CCD	831 l/mm G=3616	300 μ slit	6563 Å	3/5	Focus Test	Troublesome snow hanging on edge of dome shutters.	
								1			
								7			
553	0	L15	em					8		weak exposure	
								9			
689	0	L15	em					10			
								1			
		6.39	K0 III						Seeing Test	* Note: All data lost due to bug in software, (except cg40001 on c:, and cg40007 on c: drive)	
		6.39	K0 III						Seeing Test		
60/55				Cass CCD	1800 l/mm G=6065	300 μ slit	6604 Å	3/4	Focus Test	T=-3.8 foc=6.88	
								1c			
								5c			
720	2-3"	7.04	09.5 V					12c	0* Blurred	(mostly H α cosmic RAY) 1118 Airmass	S/N 200/1
								13c			

p4#2 275

Emulsion Batches:

Date 1994 MAR 10/11..... Observers [B/n] H/w J.Ta.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
CC20287	HD 93521	10 42 42	+38 06	21 52 23		01 35 E			120
88	Comp							Fair Clear	60
89	BIAS(4)								
90	Comp							Fair Clear	60
91	HD 77327	08 56 48	+47 33 08	22 ^{36 51} 22 36 51		0:30 W			159
92	Comp			n				Fair Clear	60
CG40014	HD 85373	09 46 18	+38 24	22:58			+38°	4 x	67.5
CG40017									
CG40018	n	"	"					2 x	133.5
19									
CC20293	Comp							Fair Clear	60.5
94	BIAS(4)								
95	HD 93521	10 42 42	+38 06 00	23 09 24					120
96	Comp								
97	Bias(4)								
98	HD 93521	10 42 42	+38 06 00	23 33 13		0:02 W			121.5
99	Comp							Fair Clear	60

Spectr. Temp. Dome Temp./Hum. -3.9°C 64.0% Transparency Conditions .. V. S. / hazy 33%
 Focus .. 6.8.8 some cloud.
 Spectr. Temp. Dome Temp./Hum.

Comparison Filter Exp	Exp. Mtr.	Seeing	Flt. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
12% 68	1510	3"	7.04	09.5V	CHSS CCD	1800 lines/mm G 6065	300μ Long	6604A	14ci	Bln O* pgm		
									15ci			
									16ci			
15% 68	5500		3.60	A1II					17ci	Telluric Std at Zenith		
									18ci			
			6.74	FOV			300μ ABOVE SLIT			Seeing Test	NE FWH ON.	
										"	Dome WSW medium NW wind	
									19ci			
									1a			
20% 68	2087		7.04	09.5V					20	Bln O* pgm		
									21			
									1			
12.5% 68	2335			09.5V					22	Bln O* pgm		
									23			

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Date 1994 Mar 10/11 Observers Tn/Hlw

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc20300	HD93521	10 42 42	+38 06 00	23 56 20		+0:25 W	+37:36		1201
301	Comp							Fe Ar clear	60s
302	HD93521	10 42 42	+38 06 00	00 19 23		+0:48 W			1204
303	Comp							Fe Ar Clear	60s
304	Bias (4)								
305	HD93521	10 42 42	+38 06 00	00 43 29		1:13 W			1202
306	Comp							Fe Ar Clear	60s
→ 7 9	FLATS x3							TUNG Ap 1/4	4sa
10	HD93521	10 42 42	+38 06 00	01 08 40		1:38 W			1244
11	HD93521 Bias(4)							Fe Ar Clear	60s
12	Comp							Fe Ar Clear	60s
13	HD93521	10 42 42	+38 06 00	01 33 20		2:03 W			1235
14	Comp							"	60
15	HD93521			01 56 56		02 25 W			
16	Comp							Fe Ar Clear	60s
17	Bias(4)								

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

Ser

2-00 3

2327

2350 3

2300

2275

2200 3

Spectr. Temp. -100.0°C

Dome Temp./Hum. -4.6°C/69.27%

Transparency Conditions .. Hazy, ... some clouds.

Focus 6.88

NE Fan ON

338

Spectr. Temp. 90.0 gain

Dome Temp./Hum. -5.2°C 68.5%

480 0 50 1024 4 1 ccdfmt

Comparison
Filter Exp.

1201

60s

1204

60s

1202

60s

1203

60s

1204

60s

1205

60s

1206

60s

1207

60s

1208

60s

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2400	3"	7.04	09.5V	Cass CCD	1800 μ /mm G=6065	300 μ long slit.	6604A	24	Bln 0* pgm	81% Humidity on catwalk @ 0000	
2327		7.04	09.5V					25			
2327		7.04	09.5V					26	Bln 0* pgm		
2327		7.04	09.5V					27			
2327		7.04	09.5V					1			
2350	3"	7.04	09.5V					28	Bln 0* pgm		
2350		7.04	09.5V					29			
2350		7.04	09.5V					2		11 K4D4 max	
2300		7.04	09.5V					30			
2300		7.04	09.5V					1			
2300		7.04	09.5V					5			
2275		7.04	09.5V					6			
2275		7.04	09.5V					7			
2200	3"	7.04	09.5V					12			
2200		7.04	09.5V					13			
2200		7.04	09.5V					14			

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Emulsion Batches:

Date ... 1994 MAR 10/11 Observers [Bln] H/w/Tn

13

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
CC20318	HD 93521	10 4242	+38 06	02 20 28		02 49 W			1166
19	Comp							FeAr Clear	60s
20	HD 93521			02 42 21		03 10 W			1100
21	Comp							FeAr Clear	60s
22	HD 93521			03 03 45		3:30 W			1095
23	Comp							FeAr Clear	60s
24	Bias (4)								
25	Comp							FeAr Clear	60s
26	HD 87901	10 03 03	+12 27 22	03 29 16		4:19 W	+12:01		42s
27	HD 87901	10 03 03	+12 27 22	03 30 31		4:22 W	+12:01		82s
28	Comp			03 30 31		4:22 W		FeAr Clear	60s
29	Comp							y	y
30	HD 93521	10 4242	+38 06	03 40 43					
31	Comp							FeAr Clear	60s
32	HD 93521	10 4242	+38 06	04 04 48		04 42 W			1619
33	Comp								

Spectr. Temp. Dome Temp./Hum. -52°C 68% H Transparency Conditions ... S1 4024 ... 340

Focus 6.88

Spectr. Temp. Dome Temp./Hum.

Companso Filter Exp	Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1166	1570	3.4"	7.04	09.5V	CHSS CCD	1800/1m G 6065	3004 FULL	6604A	14	0 ^x pgm Blk		
603									15c			
1100	1620	3.5"							17		AIR MASS = 1.21	
603									18			
1095	2400 ??								19			
603									21			
									1			
603												
423	4500		1.35	B7V						Telluric		
823	10000		1.35	B7V						Telluric		
603									21			
4									23			
603									26c			
1614	4440	4.6"	7.04	09.5V					26c		AIR MASS 1.558	

pg#5 341

Date 1994 MAR 10/11..... Observers [Bh] H/w/Tg.....

Emulsion Batches:

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[illegible]

Dome Temp./Hum.

All to WORM & Perseus

Pg 1 443 Fri/Sat

Date 1994 Mar. 11/12 Observers H/W E.V. S. Z

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc20350/1	Comp/Stellar	Hartman						FeNe Clear	20/32
52	Bias (sum of 4)								
53	Comp							FeNe Clear	35s
54	AC +63 14097	07 25 17	+63 09 16	21 22 21		+1:16 W	+62:59 16:59	"	1672
55	Comp							"	35
56	Bias x 4								
57	Comp							FeNe Clear	35s
58	HD 95735	10 57 54	+36 38 00	22 05 43		1:55 E	+36:08		1058
59	Comp								
60	Bias x 4								
61-66	Flats x 6							Tung 1/2 Ap	10s
67	Bias x 4								
68	Comp							FeNe Clear	35s
69	HD 119850	13 40 36	+15 27 00	01 10 09		-1:18 E	+14:53		900s
70	Comp							"	35
71	Bias x 4								

Spectr. Temp. -100.0°C Focus 6.95 Spectr. Temp. $\text{again} = 90$ Dome Temp./Hum. $-5.1^{\circ}\text{C}/48.3\%$ Dome Temp./Hum. $-5.9^{\circ}\text{C}/52.1\%$ Transparency Conditions $\dots \text{part} \dots \text{cloudy} \dots \rightarrow \text{clear}$

Fans off

344

480 0 50 1024 4 1 ccdFmt

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 l/mm G=5115	300 μ long	S303A	3/4	Focus Test	good. Much trouble with spectrograph controller. It took me & Se 3 hours to fix.	
								1			
								5			
91	2"	10.48	M0					6	Vys pgm	Observing through clouds....	
								7			
								1			
								8			
333	2"	7.48	M2					9	Vys std	Through thick clouds	
								10			
								1			
								11			
								1			
								12			
630		8.48	M1					13	Vys std.	Clear now	
								14			
								1			

{2 1/2 hour break for clouds

Pg 2345

Date 1994 Mar 11/12 Observers Hlw & Vys 3 Mki = safety backup

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC20372	Comp							FeNe Clear	35s
20373	BD-01 2892	13 55 53	-02 10 09	01 31 53		-1:07 E	-2:36		1200
74	Comp							"	35s
cg40020 -3	4x HD113811	13 01 06	+40 08 00	02 00		0:00	+39:38		.06
cg40024 5	2x HD113811	13 01 06	+40 08 00	02 03		"	"		.133
75	Comp							FeNe Clear	35s
76	AC+56 45927	13 00 34	+56 26 19	02:16:50		+0:43 W	+55:56		1800s
77	Comp							FeNe Clear	35s
78	Bias x 4								
79	Comp							FeNe Clear	35
80	BD+31 2500	13 27 23	+31 38 59	02 58 10		+0:47 W	+31:10		1200s
81	Comp							"	35
82	Comp							"	"
83	HD119850	13 40 36	+15 27 00	03 23 23		+0:53 W	+14:53		800s
84	Comp								
85	Bias x 4								
86-91	6x Flats							Tung 1/2 Ap	10s

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

See

290

78

87

549

Spectr. Temp. -100.0°C Dome Temp./Hum. $-6.0^{\circ}\text{C}/52.9\%$ Transparency Conditions Clear

346

Focus 6.95 Fans OFFSpectr. Temp. $\text{cgain} = 90$

Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
35				Cass CCD	1800 λ/mm	300 μ	5303 R	15			
1200	290	9.73	M0		G = 5115	long		16	Vys pgm		
35								17			
0.067	~2"	7.53	KS III						Seeing Test	Dome SW, no wind.	
0.133		7.53	KS III						Seeing Test		
35								18			
1800	78	10.7	M0					19	Vys pgm		
35								20			
								1			
35								21			
1200	87	10.45	M0					22	Vys pgm		
35								23			
								24			
8	549	8.48	M1					25	Vys std.		
								26			
								27			

All to NORM
 Perseus
 - A/W

Pg 1 347

Sun/Mon

Cindy Kry^{sac}

Date 1994 Mar 13/14

Observers

Hlw Σ Vys3

LCK safety backup

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc20392/3	Comp/stellar	Hartman		19:12		Zenith		FeNe clear	20/35
394	Bias x 4								
395	Comp							FeNe clear	35s
396	HD36395	05 26 18	-03 41 00	19:22:11		+1:09 W	-3:41 S		600s
397	Comp							FeNe clear	35s
398	Bias x 4								
399	Comp							FeNe clear	35s
400	BD+52 911	04 55 18	+53 00 17	19:42:22		+2:15 W	+53°		1300
401	Comp							"	"
402	Comp							"	"
403	AC+67 2334	06 57 38	+67 21 08	20:18:55		+6:54 W	+67°20'		2100
404	Comp							"	35
405	Bias x 4								
406	Comp							"	"
407	Vys 488	07 04 19	+52 26 28	21 01 13		+1:34 W	+52:16'		2200
408	Comp								

Spectr. Temp.

Focus

Spectr. Temp.

Exp. Mtr.

Sec

248

~100

+8

+2

Spectr. Temp. -100.0°CDome Temp./Hum. $0.8^{\circ}\text{C}/71.8\%$ Transparency Conditions... Hazy, some clouds 3.48
Fans OFF

Focus 6.90

Spectr. Temp. ... again = 90

Dome Temp./Hum.

480 0 50 1024 4 1 ccdfmt

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	lambda Emulsion	P.H.	Program	Remarks	Quality
				Cass CCD	1800 l/mm G = 5115	300 μ long	5303 A	3/4	Focus Test	CCD warm upon arrival: T = 0.8 foc = 6.90	5°C good
248		7.97	M1					1/5 6	Vys Std	Increasing clouds.	
								7			
								1			
								8			
~100		9.9	M2					9	Vys Pgm	The Emergency Star	
"								10			
"								11		87% exterior humidity 2030	
48		11.2	M0					12	Vys Pgm		
								13			
								1			
								14		90% exterior humidity 2110	
42		11.3	M0					15	Vys Pgm		

349

Emulsion Batches:

Date Observers

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[illegible]

350

Comparison
Filter Exp

11

