



PARTIAL Index

Eds criteria Echelle 5000Å/6001/1mm Dec 26/27/91

H α Echelle Setup Dec 28/29/91

4500Å Echelle 6001/1mm setups Nov 26/27/91

IR-Red CASS CCD setups

(Grating 18001/1mm) → Far BLUE CASS CCD MAP setups

Nov 18/19/91 = Nov 15/16/91 + next page →

Nov 7/8/91

Flexure Tests

CASS CCD JAN 29/30/92

Echelle CCD Nov 28/29/91

Echelle Focus (w/wo filter) 7600Å x Grating FEB 5/6/92

7200Å
8146Å
7771Å
Srt + OBsearing

CASS 18001/1mm Rm pgn 6450Å

Feb 7/8/92

Echelle 7600Å grating

MAR 21/22 (MAR 19/20) 8807Å central for KK

Oct 27/28/91

CASS KK 5140Å oc

PCS Speckle FF MAR 3-5/92.

3
1
DAVID DUNLAP OBSERVATORY

74" Logbook

Vol. 69

Plate Nos. CC03998 — 6221

October 1991 — April 1992

1790
150
~~1940~~

7870

Spectr. Temp. Dome Temp./Hum. ^{+6°C} Transparency Conditions 4

Focus 6.90

Red Comp mapping

JUST Notes on Red Comps

Spectr. Temp. Nov. 14/15/91. _{Tn}

Dome Temp./Hum.

490 0 20 1024 8 1 CCD FMT

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		FeAr A=1/2		CASS CCD	G=5062 1200/	200μ FULL length			RA065	7720-8020Å	Approaching saturation on 2 lines
		FeNe Clear			5025 1200/			3ci			
		FeAr A=1/2			5025 1200/			4ci			
5 sec		FeAr Clear			G=5035 1200/			6ci	7650-7960Å	poor line dist. 2 very strong lines saturated.	
50 sec		FeNe Clear			n			5ci	n	poor line distribution 8K max on main line @ red end	
5 sec		FeNe Clear			G=5225 1200/			6ci		others @ ~ 2K ADU 1 line @ Red @ 10K ADU	
10 sec		FeAr A=1/2			G=5225 1200/			7ci	8745-8665	3 str lines → saturation	
10 sec		FeAr A=1/2			G=5420 1200/			8ci		one other @ 2K ADU 1 v str → saturation line @ Blue end	
10 sec		FeNe A=1/2			G=5420 1200/			9ci	Very Good	one line 7000 ADU Many Lines 500-7100 ADU	
20 sec		FeNe A=1/2			5435 1200/	(Range 8820-8520 8670 center)		10ci	Very Good	To get rid of str blue line.	
10 sec		FeAr A=1/2						11ci	poor	str line @ Blue ~ 12K, one other	
20 sec		TiNe A=1/2						12ci		@ 6000 ADU SAME as FeNe exp. str same	
10 sec		FeNe Clear			G=5390 1200	8415 -8725Å 8570 center		13ci		Fine.	
10 sec		TiNe Clear			G=5035 1200			14ci	7650	1500 ADU MAX SAME on Red Line sp as FeNe	

slightly stronger

5 Continuation from Last Logbook Pg #3

Emulsion Batches:

Date 1991 Oct 17/18... Observers Pdr. Jr. [Fds.] service

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
CC03998	HD42545	06 06 17	+16 09 11	03 54 27	04 12 31	00 31 E	CC03997 CC03999	F2.4 Clear	60s
CC04001	HD 35149	05 17 35	+03 26 54	04 20 27	04 38 28	00 44 W	CC04000 CC04002	"	"
4004	HD42545	06 06 17	+16 09 11	04 44 34	04 58 20	00 15 W	CC04003 CC04005	"	"
4007	HD83754	09 35 31	-13 52 43	05 05 16	05 45 30	02 26 E	CC04006 CC04008	"	"
CC04009	BIAS (4)					"	-140		
4010	FLATS x6			05 55		01 E	0° dec.	THICK Clear	100s
CC04016	BIAS (4)	not written				"	"		
4017	BIAS (4)	} DARK 30. BAT							
4018	DARK								
19	"								30 min
20	"								"
21	BIAS (4)								"

Transparency Conditions *Hazy - cloudy*

Dome Temp./Hum. $+8.8^{\circ}\text{C}$ 70%
central

510 0 80 1024 21 $\overline{CCDFMT}$
30 CRAIN $CCDT \rightarrow -100^{\circ}C$

[illegible]

Spectr. Temp. Dome Temp./Hum. $+12^{\circ}\text{C}$ 64% Transparency Conditions $sl\ hazy - cloudy$ 8

Focus 6.75

Spectr. Temp. Dome Temp./Hum. $+7.0^{\circ}\text{C}$ 70%

90CGAIN CCDT@ -100°C

central CCD FMT 540 0 20 1024 4 1

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CAISS CCD	G=6048 1800/562		6610A		NGC 457 Trl pyrm	$\bar{x} = 108.870$	
		$\checkmark$ 7.52	KO III			250 μ below slit			seeing test	Dome West	
6300	3"	$\checkmark$ 5.10	FOTc			250 μ mid slit length		4ci	Trl pyrm	clouding in	
1100	3"	$\checkmark$ 9.51	B1 IV					5ci	Trl pyrm	6 cols ≈ 1700 ADU sum of 5 cols above binned	
715	3"	$\checkmark$ 10.18						6ci		+ thin cloud ≈ 1000 ADU sum of 5 cols above binned	
							$\bar{x} = 106.427$	1.010		Dome T = $+8.5^{\circ}\text{C}$	
400	3"	$\checkmark$ 11.04		≈ 600 ADU sum of 5 above Binned.	(dbl lined?)			7ci	NGC 457 3/1	(N-S) NORTH of close pair	
260	3"	$\checkmark$ 11.35						8ci	H α emission	South one cloud at end	
549	2"	$\checkmark$ 9.83						9ci		some cloud CCDT-1000 $\circ$ ≈ 2250	
5300		$\checkmark$					$\bar{x} = 106.800$	1.890	Top up @ 23 30	Dome T = $+7.0^{\circ}\text{C}$	
5300		$\checkmark$ 2.23	KO III			[2nd longest slit]		10ci	Std vel	cloud at end	
								11ci			
								16ci		MAX 11 KADU/pixel	
										Baked up to Persicus & worm To CCD 1045	
										Baked up to Persicus & worm TO 10451	

pg #1

Sat - Sun

Date 1991 Oct 19/20

Observers *T.c.l./T.n.*.....

Leach Tour looked at noon

Emulsion Batches:

Spectr. Temp.

Focus... 6

Spectr. Tem

[illegible]

Spectr. Temp. Dome Temp./Hum. $+5.2^{\circ}\text{C}$ 66% Transparency Conditions *Part. Cloudy* 10
 Focus ... *6.75* ...
 Spectr. Temp. Dome Temp./Hum. $+1.6^{\circ}\text{C}$ 60% λ 90 CGAIN

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
7	Set-6.75				CASS CCD	G=6048 1800/562	250u mid length	6610A		T=+5.0°C	CCD Format 540 0 10 1024 8-1	Right on visually
											540 0 20 1024 4-1	
48	5500	5"	$\checkmark$ 5.7	B F8V			250u width (3rd longest slit)		3ci	Std/vel	CCOT = -100.32	
	5920		$\checkmark$ 5.00	FOTa					4ci	Trl NGC 457 pgm		
	765	5"	$\checkmark$ 9.57	B1 IV					5ci	"		
	260	4"	$\checkmark$ 11.35				250u (2nd longest slit)		7ci	"	slit lengthened 1 stop South of pair H & e	
	368	4-5"	$\checkmark$ 11.04						8ci	"	North one	
	505	4"	$\checkmark$ 10.61						8ci	"		
											$\bar{x} = 104.667$	
45	266	4"	$\checkmark$ 11.21						9ci	Trl pgm		
	913		$\checkmark$ 9.47	B15(V) re shell					10ci	"		
	761		9.48	B0: IV: e					11ci	"	Emitted 24K MAX ADU & H & e	
	6500		3.6	B2 V					12ci	curr. 4.1 Std		
	600	3"	$\checkmark$ 9.85						13ci	Trl pgm		
	635	3"	$\checkmark$ 9.63						14ci	"		

12

Spectr. Temp. Dome Temp./Hum. 0°C 65%

[illegible]

Sun-mon

Date 1991 Oct 20/21 Observers Trl/Tr

Emulsion Batches:

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Spectr. Tem.

Focus....

Spectr. Tem.

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.
CC04109	BIAS(4)			19 50		3 40 E				
4111	HD7927	01 13.8	+57 42	19 5611	20 0015	3 40 E	CC04110	FeA	40s	7350
4113	BD+57.252	01 10.29	+57 29 18	20 1050	20 3200	3 09 E	CC04112	Clap	"	848
4115	NGC457 Pesch3IN			20 3730	21 1355	2 26 E	CC04114	"	"	303
4117	BIAS(4)			21 17		2 22 E	CC04116			
4119	HD3712	00 34.8	+55 59	21 2650	21 2717	1 34 E	4118	FeA	40s	7400
4122	HD3765	00 35.3	+39 40	21 4333	21 5335	01 08 E	4120	Clap	"	1285
Fm000 411.16	HD3765	"	"	21 55		01 07 E	4121	"	"	31x31
4125	HD22484	03 31.8	+00 05	22 1820	22 2327	3 34 E	4123	Int x4	" mode	4844
CC04127	BIAS(4)					3 30 E	4124	FeA	40s	
4128	FLATS x6			22 40		01 E	4126	0° dec		
4133	BIAS(4)					"	+30°	Tune	A=1/4	125x
4134	BIAS(4)					"	"			
CC04135	DARK	during Top up		23 28				1200 sec	20 min	

All

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions

Focus *G.F.S.*

Spectr. Temp.

Dome Temp./Hum.

90 CGH in

Exp.

405

4

265

2

44

1

43.

心

14

8111

Sun - Mon

Date 1991 Oct 27/28 Observers (K.K.) SERVICE Tn (TO)

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.
CC 04136	BIAS(4)			18 53						
CC04138	HD 199305 ✓	20 51.3	+61 50	19 05 09	19 38 09	00 51 W	CC04137	FeNe	60s	2430
4141	BD+45 3310 ✓	20 49.3	+45 44	19 48 00	20 21 25	01 35 W	CC04139	Clear		
4144	HD 215182 BC ✓	22 38.3	+29 42	20 33 33	21 15 33	00 40 W	CC04140	FeNe	40s	2050
4146	HD 215182 A ✓	"	"	21 19 18	21 21 35	00 46 W	CC04142	Clear		
4149	HD 223094 ✓	23 41.23	+28 08 54	21 31 03	21 46 00	00 06 W	CC04143	"	40	700
Fmcc0412.Tn	"	"	"	21 52		00 12 W	4145	"	"	10500
CC04153	BIAS(4)			21 55			CC04147	"	"	2000
4154	BMCos 0.4 ^h ✓	00 48.6	+63 33	22 05 00	22 24 45	00 23 E	CC04148	"	"	55x55 p.p.s.
4156	BIAS(4)						CC04150	FeNe	40s	500
CC04157	FLATS x6			22 48	Aperture = 1/2	0 0 Hr L	CC04152	FeNe	40s	
CC04163	BIAS(4)			22 58			CC04153	FeNe	40s	
4164	BIAS(4)			23 06			CC04154	FeNe	40s	
4165	DARKS x3						CC04155	FeNe	40s	
4167	DARKS x3							FeNe	40s	
4168	BIAS(4)							FeNe	40s	

Spectr. Temp.

Dome Temp./Hum. $+11^{\circ}\text{C}$ 78%

Transparency Conditions... *Clearing... N.W. wind*¹⁶

Focus 6.75

Spectr. Temp.

Dome Temp./Humt $+8.8^{\circ}\text{C}$... 80%

545 015 1024 5' (CCDF_{int})

90 CGAIN CVD $\rightarrow$ -100%

[illegible]

17 pgs

Mon-Tues

Date 1991 Oct 28/29... Observers In..... service. R. [KK]

(Bln checking) / mki phone 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.	Exp. Mir.
4169	BIAS (4)			17 50						
4170	DARK 30	while on	PetaCygA	17 50	(2700 sec) x		CC04171-175	Fenb	1800	
4172	GCRV 12836	20 29.2	+65 05	18 42 40	19 27 40	01 07 W	CC04173	Clear	40s	833
4174	"	"	"	19 34 50	20 19 50	01 59 W	CC04175	"	"	700
4176	BIAS (4)			20 22		"	+65 32			
4178	HD 199305	20 51.3	+61 50	20 29 17	20 59 17	02 16 W	CC04177	Fenb	40s	273
4181	HD 223094	23 41 23	+28 08 54	21 14 03	21 27 03	00 09 E	CC04179	Clear	40s	400
FM 000418.7	"	"	"	21 30		00 06 E	CC04180	"	"	400
CC04184	BPT Cas	00 48 6	+63 33	21 43 33	22 13 33	00 31 E	CC04182	4xInt	45s	3.2
4186	"	"	"	22 20 00	22 35 00	00 09 E	CC04183	Fenb	40s	1700
4188	BIAS (4)			22 37		"	CC04185	Clear	40s	800
4190	HD 222368	23 34.8	+05 05	22 44 33	22 45 40	01 16 W	CC04187	"	9	
4192	DARK 15			22 53 20			+64°			
4194	BD +25 522	03 11.4	+25 57	23 17 00	00 17 00	00 49 E	CC04189	Fenb	40s	4500
4196	BIAS (4)					00 45 E	CC04191	Clear	40s	400
							+26°			

Spectr. Temp. Dome Temp./Hum. $+8^{\circ}\text{C}$... 72%

Focus ... 6.75

Spectr. Temp. Dome Temp./Hum. $+5.7^{\circ}\text{C}$... 70%

Transparency Conditions . Fine 18

FANSON of course tonight EARLY

FORMAT 5+5 0 15 1024 51

90 COHIN CSDT $\rightarrow -100^{\circ}\text{C}$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G=4983 1800/46.7	250 mid length	5140A				
832	2"	$\checkmark$ 10.43	dm3					11ci	Asm Sp-KK	DRN 003 $\Delta\alpha + 0.96^{\circ}$ (DC c w/Fits) in 1/ci c eye	
700	2.3"	"	"					12ci	noted a faint comp	21' SE of object ?	
2736	3"	$\checkmark$ 8.50	N12V					13ci	Asm Sp-KK	Dome T = $+70^{\circ}\text{C}$ $\Delta\text{RA} - 0.05^{\circ}$ $\Delta\alpha + 0.318^{\circ}$ brightest SE of pair [encoder slot]	
4300	2.3"	$\checkmark$ 7.45	H5III					14ci	std vel		
31x31 pixels	"	"	"	Dome SW Light East breeze				15ci	seeing test	(illuminating slit) Bright Aurora Too	
1790	2.4"	$\checkmark$ 8.82-9.83						15ci	ODD Cosmic Ray ? all cols	Used DC ≈ 2000 row above band, for 5 cols	
500	11	"						16ci			
4500		$\checkmark$ 4.68	F7V							CSDT = -10.6°C Dome T = $+6.5^{\circ}\text{C}$	
400	4"	10.1 -12.8	M0					18ci	Asm Sp-KK	Looks like Aurora Lines @ 5200 Å (pair) Dome T 5.8°C	

17 19 pg 12

Mon - Tues

18⁰³₅₀ 2060

Emulsion Batches:

Date 1991 Oct 28/29..... Observers T.H.....

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
CC04198A	DM+53 935	05 33.2	+53 26	00 38 00	01 14 00	2 16 E	CC04198 CC04199	FeNb Clear	40s
4200	" (SWano)			01 18 00	01 24 00	E	CC04201	"	"
4202	BIAS(4)			01 42		0 0	+19°		
4203									
4208	FLATS x 6					"	"	FeNb H=1/2	
4209	BIAS(4)					"	"		
4211	HD 26965 C	04 10.7	-7 49	02 09 00	02 29 00	00 25 W	CC04210 CC04212	FeA Clear	60s
4213			"						
4218	FLATS x 6					00 35 W	-8°	FeNb H=1/4	11s
4219	BIAS(4)								
4220	HD 26965 B	04 10.7	-7 49	02 45	02 58	00 54 W	CC04221	FeA Clear	60s
4223	MWC 560	07 21.01	-7 32.12	03 06	03 15 52	01 58 E	CC04223 CC04224	"	"
4225	MWC 560	"	"	03 21	03 29 50	01 43 E	CC04226	"	"
CC04227	Bias (4)			04 40					
4228									
4230	DARKS 30m x 3								
4231	BIAS(4)								

Spectr. Temp.

Focus... 6.7

Spectr. Temp.

Exp. Mtr. Sec.

1165 3

200 4

440 3

97 4

E.

Spectr. Temp. Dome Temp./Hum. $+5.5^{\circ}$ 7/8

Transparency Conditions .. *Part Cloudy*

Focus ... 6.75 (indeed it is)

Dome Temp./Hum. $+5.0^{\circ}\text{C}$... 76%
center

Strong Aurora Flushing
South of Zenith

Spectr. Temp. 1 checked 14

[illegible]

pg 41 Tues - Wed [Fds] service

Date 1991 Oct 29/30 Observers T. n. mti. planning in / Tol here too
in 24" done

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.
4232	BIAS(4)			20 27					
CC04233	PHARK 30m	DURING Focus on H1	EEV CAM Tests BERIO	20 28					
4234	DIARK 30m			21 35					
Fm000414, In 4236	HD223094			22 06		00 35W	+29°	"N" mode	
CC04236	"	"	"	22 14 30	22 26 30	00 55W	CC04235 CC04237	FeA clear base	
4239	BIAS(4)						+30		
CC04240	HD35149	051735	+032654	22 53 00	23 33 00	03 35E	CC04238 CC04241	FeA clear	60s
4243	HD42545	060617	+160911	23 42 33	00 09 33	03 48E	CC04242 CC04244	"	"
CC04246	HD35149	051735	+032654	00 17 30	00 43 30	02 24E	CC04245 127.7	"	"
CC04248	BIAS(4)				13 20 sec ✓	02 20E	+03 31		
4250	HD42545	060617	+160911	01 02 52	01 24 52	02 32E	CC04249 CC04251	FeA clear	60s
4253	HD35149	051735	+032654	01 30 16	01 54 00	01 14E	CC04252 CC04254	"	"
4256	HD42545	060617	+160911	02 02 30	02 24 30	01 32E	CC04253 CC04257	"	"
4258	BIAS(4)			02 28		01 28E	+16° sec		
4260	HD35149	051735	+032654	02 33 08	02 45 08	00 22E	CC04257 4261	FeA clear	60s

Spectr. Temp.

Focus... 6s

Spectr. Temp.

Exp. Mtr.

3-31

4000

*

3500

3700

4000

3000

4000

4500

1500

22

510 0 80 1074 21 CCDFINT

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Control Emulsion	P.H.	Program	Remarks	Quality
						G = 4578 1800/	250u	4530H			30CGAIN CCDT → -100°	
											str NE wind	
	31x31 ^{pixels}						250u (below slit)				Seeig Test Dome SW	
	4000	3"	7.45	K5III			250u midlength		6ci	std vel		
	*										Dome T = +5.4° $\bar{X} = 161.535$	
	35,200	4" 6"	5.00	B1V					7ci	Fds pgm	Some cloud Tel focus = 2765 ⁺ [more exp toward end of exp]	
	37700	3" 5"	4.95	B5V					8ci	"	(DV hurry during exp)	
	40000	3"	5.00	B1V					9ci	"	DC used start in 9ci	
											CCDT = -100.3° $\bar{X} = 170.342$	
	39000	3" 5"	4.95	B5V					10ci	Fds - pgm	Dome T = +4.0°	
	40000	"	5.00	B1V					8ci	"		
	39800	"	4.95	B5V					11ci	"	some haze/fog	
											$\bar{X} = 174.220$	
	10,500	4"	5.00	B1V					12ci		Dome T = +3.8 cloud	

pg #2

Date 1991 Oct 29/30 Observers Tn For [fds]

Emulsion Batches:

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[illegible]

Spectr. Temp. Dome Temp./Hum. +38°C 79% Transparency Conditions Fogging in 24

Focus . . . 6.7.5

Spectr. Temp. Dome Temp./Hum.

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					CASS CCD	1800/	250 μ	4530A				
165							250 μ Longest Slit	3 ci 8 ci			MAX 9K/pixel	
											CCDT = -100.3° x̄	
											174.929 (on default stats)	
					All to Perseus & WORM							

Wed-Thurs

Shon checking in

Emulsion Batches:

Date 1991 Oct 30/31....

Observers

[Fds]

Tn

EEV Camera used - good slit magnification.....

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.
CC04270	B145(4)			17 52		00 40 W	+28°		
4272	HD187691	19 46.2	+10 10	18 17 11	18 20 11	00 47 W	CC04271 FeA CC04273 Clear	60s	
4274	DARK 20 mins			18 28					
Fm00415 Tn	HD215182 BC			19 10					
CC04276	HD215182 A on 250μ slit			19 16 18			CC04275 FeA CC04277 Clear	60s	
Fm00416 Tn	HD215182 A on 250μ slit			19 14 18	19 18 30	01 06 E			
4278	B145(4)			19 22		"	+30 12		
→ 4279 4284	FLATS x6			19 34		0 0	+01° Dec		
4285	B145(4)			19 58		0 0	01°		
CCF00138/139	Focus Test [comp/stellar hartmann]			23 30		0 0	#4 Comp push	Ti Ne clear	180 180
CC004286	Ti Ne Map			23 49		0 0	#4 Comp posn.	Ti Ne clear	60s
4287	" "					0 0	"	"	"
4288	" "					0 0	"	"	"

Spectr. Temp

Focus... 6

Spectr. Temp

Exp. Mtr.

Spectr. Temp. Dome Temp./Hum. $+9.8^{\circ}\text{C}$ 49% Transparency Conditions ... *clouding in* 26

Focus ... *G.75*

Spectr. Temp. Dome Temp./Hum.

30 CGAIN 510 0 87 1024 2 1 CCDPMT

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				C1455 CCD	1800/43.1	250 μ mid length	4530Å		CCDT = -101.9°	σ 1.299 $\bar{x}$ 169.237 default skts	
6230	2"	B 5.7	F8V						std vel	$\approx$ 1,400 ADU SUM AVG of 1000s above bkgnd.	
						250 μ below slit		4ci	Asm Sp-k	Image on slit of PAIR FUV CAMERA NO Integration Yet	
31x31 pixels						250 μ on slit	(mid length)	5ci			
39x39 pixels	2"										
39000								5ci	Asm Sp-k		
										Dome T = $+9.3^{\circ}\text{C}$	
								6ci 11ci		MAX 11K/pixel	
									σ 0.888 $\bar{x}$ = 169.019	Dome T = $+9.0^{\circ}\text{C}$	
$+6^{\circ}\text{N}$	Dome T =	$+8.4$	Set 675	G4578 1800/43.1	250 μ SHORT SLIT	4530Å		1ci 2ci	Focus Test	TI Ne map exps	
	Stellar	Slightly Blue Sh		F8V	$\approx$ 1 pixel				540 0 10 1024 8 1 CCDPMT		
$+6^{\circ}\text{N}$				G=4700 1800/		4700Å		2ci			
"				G=4770 1800/		4800Å		3ci			
"				G=4578 1800/43.1		4530Å		3ci			
All to Perseus and WORM.											

Gain @ 0 default to
reboot

Thurs - Fri

Date 1.9.91 Oct 31 / Nov. 1 Observers ... R. L. / J. A.

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 4289	BIAS (4)								
4291	HD 188001	19 47.9	+18 25	18 22 27	18 36 50	01 06 W	CC 4290	FeA	60s
4294	HD 186980	19 42.4	+31 52	18 45 50	19 27 44	W	CC 4292	clear	60s
4296							CC 4293	"	"
4301	FLATS x6 for 4200A			19 46		02 20 W	CC 4295	"	"
4302	BIAS (4)			19 55		02 31 W	CC 4295	TUNG	??
4304	HD 186980	19 42.4	+31 52	20 14	20 27 22	03 03 W	CC 4295	clear	40 sec
4306	BIAS (4)						CC 4303	FeA	14c
4307	FLATS x6 for 4620A						CC 4305	clear	60s
4312									
CC 4314	HD 5005	00 47.0	+56 05	21 27 14	22 23 14	00 07 E	4313	FeA	60s
FM 000417	In	"	"	22 19	+ 2 steps to south	3 frames	4315	clear	60s
4316	"	"	"	22 27 00	22 41 00	00 11 W	CC 4317	"	"
4318	BIAS (4)			22 47		00 00	+57°		
4320	HD 108	00 00.9	+63 07	22 53 20	23 18 20	01 35 W	CC 4319	FeA	60s
4323	HD 15137	02 21.2	+52 06	23 32 30	00 03 30	00 03 E	CC 4321	clear	60s
4326	HD 17505	02 43.4	+60 01	00 11 00	00 31 00	00 03 W	CC 4322	"	"
							CC 4324	"	"
							CC 4325	"	"
							CC 4327	"	"

Spectr. Temp.

Focus. 6.1

Spectr. Temp.

Exp. Mtr.

Spectr. Temp. Dome Temp./Hum. $+9^{\circ}\text{C}$ 55% Transparency Conditions ... Fine

Focus .. 6.75 ... should be OK

note we thought we were @ 90CGAIN till 22 EST.

Spectr. Temp. FOR 600/4 gratings Dome Temp./Hum. Central

30 CGAIN CLPT $\rightarrow -100^{\circ}\text{E}$
All night

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	* 600/	250u midlength	4200A	$\bar{x} = 165.490$	~ 0985	* G = 2600 3900-4500 Angstrom Range	
21,000	2-3"	B 6.24	07.5 Ia f					3ci	Ostar-Bln	* 70K elat over 10 cols sum	
21,700	2"	B 7.53	07.5 III (cf)					5ci	"	5200 ADU MAX/pixel	
								7ci			
								12ci		10K max 1/pixel	
										Dome T = $+7.8^{\circ}\text{C}$	
5000	3"	B 7.53	07.5 III (cf)		* 600/	250u	4620A	15ci	Ostar-Bln	* RIGHT ON G = 2687 (H Retain)	
					"		"	17ci			
					"	250u FULL LENGTH		22ci			
										CCDFM 540 0 50 1024 2	
										at FOR 1800th test	
										H alpha ~ 6620A	
10,730	<2"	B 7.85	06.5 V		* B 600/	250u midlength	4250A	22ci	Ostar-Bln	* G = 2610 for 1 del setting	
	1.2"	"	"			250u slit			EEV Camera	nice Slit View	
3000	<2"	"	"					23ci	Ostar-Bln	210K photons desired	
										Dome T = $+6.7^{\circ}\text{C}$	
10,500	1.5"	B 7.58	06.5? pe					24ci	Ostar-Bln		
9000	2"	B 7.7	09.5 II-III (n) Var					25ci	"		
	<2"	B 7.45	06.5 V (cf)					26ci	"		

pg 142

Date .. 1991 Oct 31 / Nov 1 .. Observers .. T. J. for [Bk]

Emulsion Batches:

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[illegible]

Spectr. Temp.

Focus...6'

Spectr. Tem

Exp. Mr.

101

8700

Set 6.

$$\bar{x} = 161$$

Spectr. Temp.

Dome Temp./Hum. $+6.0^{\circ}\text{C}$... 77%

560 0 50 1024 21 CDFMT
30 CGAIN STILL

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	B00/	250μ midlength		27ci	Ostar Pln	σ 1.160 X-161.804 on default slits	
~10K	2-3"	B 7.26	ON8V			4250Å		27ci	Ostar Pln		
8700	2"	B 6.81	07II(f)					28ci	"		
										CCDT = -101.9°	
						250μ longest slit "		6ci 11ci		162.01A ~ 0.835	
										~10K mo. AD4/pixel	
										OVERCAST BY 01:30. very fast,	
Set 6.75				T = 5.8°C		250μ short		7ci 2ci		550 0 12 1024 8, CCD (AI)	
X = 161.342										All Backed up to Persson's WORK TO CCF 00141.fts	
										& To CCF 04343 - Also err. log to CCF 04343	

pg #1 Thurs - Fri

Date 1991 Nov. 7/8... Observers ~~Bh~~/Tn.....

Emulsion Batches:

Note Diffuser in as normal
... for all sources...

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison		Exp. Mtr.
								Type/Filter	Exp.	
CC00142/143	Focus Test			19 13		0 0	+10°	FeNe clear	120/120	
CC04344	FeNe			19 32				FeNe clear	60s	2900
4345	FeAr							FeAr clear	60s	1200
4346	TiNe							TiNe clear	60s	8420
4347	TiNe							TiNe clear	60s	8600
4348	FeAr							FeAr clear	60s	900
4349	FeNe							FeNe clear	60s	2000
4350	FeNe			20 20				h	300s	2000
4351	FeAr							FeAr clear	60s	
4352	TiNe							TiNe clear	60s	
4353	TiNe			20 35				TiNe clear	60s	
4354	FeNe							FeNe clear	200s	2800
4355	FeAr							FeAr clear	60s	
4356	FeAr							FeAr clear	60s	
4357	FeNe							FeNe clear	60s	
4358	TiNe							TiNe clear	180s	

Spectr. Temp. Dome Temp./Hum. 0°C ... 71% Transparency Conditions ... Mostly cloudy ... 32

Focus 6.75 $\rightarrow$ 6.90 after 1st Focus Test

Spectr. Temp. Dome Temp./Hum. Central

90 cgain
550 0 15 1024 61 CCD/FIT
* CCOT $\rightarrow -100^{\circ}\text{C}$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	G Wavelength Range	Remarks	Quality
6000				CHSS CCD	1800/45.5	250a midlength		1ci	Demo T = -00m	4840	stellar shift	
29000				"	"	"	4930	4ci	Comp MAP	4840	Blue 1 pixel	1500
1900					"	"		5ci	"	"		1700
8420					"	"		6ci	"	"		2800
8600					1800/		4750	7ci		4720	4650 - 4855	1500
1900							"	8ci		4720	4650 - 4855	2000
9000	(60 secs too weak)						"	9ci		4720	" "	2000
55000	(note 60s too weak here)				1800/43.3		4570A	10ci		4600	cluttered and too weak	500
							4570A	11ci		4600	4465 - 4670	1300
							4570A	12ci		4600	4465 - 4670	1500
					1800/42.2		4390A	13ci		4480	4290 - 4495	700
38000	(FeNe Fine at this range)						"	14ci		4480	"	7200
							"	15ci		4480	"	700
					1800/41.9		4190	16ci		4350	4095 - 4300	1000
	Blue end weak } for both FeNe and H γ 180 sec needed						"	17ci			4095 - 4300	700
							"	18ci			"	800

pg #2

Date 1991 Nov 7/8 Observers ... 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.	Exp. Mu.	S
CC 6439	FeNe			21 50		0 0	+10°	FeNe clear	60s	8900	
4360	FeAr							FeAr clear	60s	1910	
4361	TiNe							TiNe clear	60s		
4362	TiNe							TiNe clear	120s	1700	
4363	FeNe							FeNe clear	120s		
4364	FeAr							FeAr clear	120s	3700	
4365	FeAr							n	120s	3700	
4366	FeNe							FeNe clear	120s		
4367	TiNe			22 34				TiNe clear	120s		
4368	TiNe							n	n		
4369	FeAr							FeAr clear	n		
4370	FeNe							FeNe clear	60s	9800	
CCF00144/145	Focus Test in Blue			22 52		0 0	+24°	n	60/60		
CCF00146/147	Focus Test @ 4810 Å			23 10		0 0	+24°				

Spectr. Temp
Focus
Spectr. Temp

Spectr. Temp. Dome Temp./Hum. -1.1°C 71% Transparency Conditions 34

Focus 6.90

Spectr. Temp. Dome Temp./Hum. central

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	λ_{G}	Remarks	Quality
8900				HSS CCD	1800/40*	250 μ mid length	3885A	19ci	Comp maps	4225	4105	1300
1910					"		4000A	20ci		4225	- 4105	450
	Red end weak				"			21ci		4225	4105	800
17000	Red end weak				1800/		3815A	22ci		4105	- 3920	700
	good coverage							23ci		4105		8000
3,700	good coverage							24ci		4105		1400
3700	OK				1800/		3630A	25ci		3990		1700
	(many line 1000-2000nm)							26ci		"		8000
	good coverage							27ci	CCDT = -101.8 $^{\circ}$	"		1000
					1800/36.8		3460A	28ci		3880		1200
								29ci				600
9800	good coverage							30ci				1300
	Focus Set = 6.90				1800/36.8		3460A	31/32	Focus Test		T = -1.7 $^{\circ}$	
											Stellar Blue by < .5 pixel	
					1800/43.7		4810A	34			Stellar vs Red T = -2.0 $^{\circ}$	

Pg # 3

Emulsion Batches:

Date 1991 Nov 7/8

Observers [mki] T4

Time within 2 secs of Astro. Clock... - No. W.W.V. 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
C 4371	DARK			23 20		0 0	platform		
4373	HD 22484	03 31.8		23 46 32	23 50 00	00 57 E	CC04372	FeAr	
4375	BIAS(4)	(^{while} on MWC 560)		00 21			CC04374	Clear	60s
4377	MWC 560	07 21 01	-07 32 12	00 28 40	00 48 40	03 47 E	CC04376	FeAr	
4379	"	"	"	00 58 10	01 27 10	03 07 E	CC04378	Clear	60s
4381	"	"	"	01 36 18	02 06 15	02 30 E	CC04380	"	"
	BIAS(4)								
4383	BIAS(4)					0 0		TUNG	10s
CC04384	FLATS x6					0 0	-75°	TUNG	10s
4389								Clear	
4390	BIAS(4)								

pg 41 Fri-Sat

1200
32

Emulsion Batches:

Date Nov. 8/9. 1991... Observers R.G./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.
CCG4391	BIAS(4)			~ 17 50		00 48E	-9 44	FeAr Clear	60s
4393	HD 204848	21 26.2	-10 11	17 57 30 ^{x50}	18 27 30	00 11 E		CC04392 CC04394 CC04395 CC04397	" " " "
4396	HD		Lost tangway	18 42 56 ¹³	18 52 56	01 42.5E		CC04399	"
4398	HD 221170	23 24.6	+29 33	18 01 28	19 23 28	01 12.5E			"
4400	BIAS(4)			(Clock HD Cut and RG's Card)		0 0	+10°		
4401	✓ FLHTS x6					"	"	Tung Clear	33s
4407	✓ FLHTS x6			19 46		00 10W		Tung Clear	40s
4412	✓ BIAS(4)					"	+10°		
4415	HD 204848	21 26.2	-10 11	20 02 00 ^{x50}	20 32 00	01 54W		CC04414 CC04416	FeAr Clear
4418	"	"	"	20 37 38	21 07 38	02 30W		4417 CC04418	" "
4419	HD 204848	21 26.2	-10 11	21 14 00 ^{x60}	21 38 00	03 01W		CC04420	"
4421	BIAS(4)			21 41		"	-9 43.0		
4423	HD 221170	23 24.6	+29 33	21 51 30	22 21 30	01 46W		CC04422 4424	FeAr Clear
4426	HD 26162	04 03.3	+19 21	22 36 20	22 46 20	02 28 E		4425 4427	" "
4428	✓ BIAS(4)			22 50		0 0	+10°		

pg 42

Date 1991 Nov 8/9..... Observers M.H. / 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.
CCO 4429 CCO 4434	Flats x 6			22 59		0 0	+10°	TUNG CLEAR	75s
4435	BIAS (4)			23 13		"	"		
4437	MWC 560	07 21 01	-07 32 12	23 57 50	00 27 50	04 04 E		CCO 4436 CCO 4438 FeA CLEAR	60s
4440	"	"	"	00 50 24	01 20 24	03 11 E		CCO 4439 CCO 4441	"
4442	"	"	"	01 28 26	01 58 26	02 33 E		CCO 4443	"
4444	"	"	"	02 04 00	02 34 20	01 56 E		CCO 4445	"
4446	"	"	"	02 41 46	03 11 46	01 18 E		CCO 4447	"
4448	BIAS (4)	"	"	03 16 33					
4449	MWC 560	"	"	03 16 38	03 46 40	00 44 E		CCO 4450 FeA CLEAR	60s
4451	"	"	"	03 51 51	04 21 51	00 09 E		CCO 4452	"
4453	"	"	"	04 26 24	04 50 24	00 20 W		CCO 4454	"
4455	BIAS (4)			04 54	-	"	-7° 40		
4456	FLATS x 6			05 08		00 20 E	-7 40	TUNG CLEAR	10 sec
4461									
4462	BIAS (4)					"	"		
	DARK 30. BHT loaded			05 42					

Spectr. Tem.

Focus... 6

Spectr. Tem.

Exp. Mtr.

180

215

430

500

480

500

560

360

CCDFMT Aurora still strong
greenish white now

Exp.	Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
75%					CASS CCD	1800/40.7	250u longest	4010-4218	29ci 34ci		G = 4300 = 12 K max/pixel	
								CCDT = -100.0°	X = 90.143		Dome T = -3.6°C	
180	8"					1800/	250u 2nd longest	4010-4218 center	25ci	AURORA streaming on slit Miki pgn	Delta's should be 0.6A - 0.62 VERY faint LDR + 23	
215	3"					1800/	250u 2nd longest	4810A	25ci	"	G = 4760	
430	5"					"	"	"	25ci	"		
~500	4"						"	"	25ci	"		
480	4"						"	"	25ci	"		
						X = 86.667		"	32ci	"	Dome T = -4.1°C	
500	4-6"								32ci	"		
560	"								32ci	"		
360	"								32ci	"	cloud	
									X = 88.875		Dome T = -4.5°C	
									6ci 11ci	90.533	MAX ADU/pixel = 11 K	
					All to Perseus & WORM				X = 90.533		CCDT = -100.3°C	

41

Pg #1

Sat - Sun

Times from operating PC perhaps behind
wuv Time by only

Emulsion Batches:

Date Nov 9/10/91

Observers [Hdy] Ten

1 sec, 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.
CC 04463	BIAS (4)	} Batch started		05 42	AM Nov 9				30 min
04464	DARKS x3								
04466									
04467	BIAS (4)								
CC 04468	DARK 2 mins			17 32					
4469	BIAS (4)			17 46					
4470	Comp							FeA clear	120s
CC 04471	HD 197433	20 38.6	+75 14	18 0133	18 0833				
4472	"			18 0844	18 1544				
4473	"			18 1554	18 2254	00 43W			
4474	"			18 2300	18 3000				
4475	"			18 3010	18 3010			420 OBS	
4476	"			18 3730	18 4440			420 OBS	
4477	"			18 4455	18 5155				
4478	Comp	exp wrong (422) check out again						FeA clear	120s
4479	FLAT			18 58				TUNG Ap = 1/4	18 sec

Spectr. Tem

Focus...

Spectr. Tem

Exp. Mtr.

9600

2400

2400

2560

2800

3100

3150

2900

Spectr. Temp. Dome Temp./Hum. 0°C 62% Transparency Conditions ... Fine ... 42

Focus ... 6.90

Spectr. Temp. Dome Temp./Hum.

90 C GAIN = All Format same as previous night

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					CASS CCD	200 Full Length		1ci			
								3 4 5			
								6ci			
				CASS CCD	CASS CCD	200 Full Length		7ci	ie CCD FMT 550 0 15 1024 61		
					1800/		5875A		CCDT=-101.3C 0°C Dome	*G=5505	
120s	9600 cm							8ci	(Stuart) Run with Tel on East Side		
	2400	3-4"	V 7.3 -7.7		[G5V +K0V +K5V]			9ci	Hdy pgn	5K ADU sum AVG above background for 3 cols.	
	2400							10ci	All central guided below	anslit head	
	2560							11ci			
	2800							12ci			
18s	3100							13ci			
18s	3150							14ci			
	2900							15ci			
120s								16ci			
18s						2000 Full Length		17ci	The old gradation problem with long slits		
									12K MAX in Rel Field		

pg #2

Date 1991 Nov 9/10 Observers [Hdy.] 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.
CC04480	✓ BIAS(4)								
4481	✓ HD 197433			19 0154	✓ 19 0854	01 30W			
4482	✓ "			19 0910	✓ 19 1610				
4483	✓ "			19 1620	* 19 2320				
4484	✓ "			19 2330	✓ 19 3030			420 OBS	
4485	✓ "			19 3100	* 19 3800				
4486	✓ "			19 3830	✓ 19 4530	02 06W		420 OBS	
4487	✓ "			19 4547	✓ 19 5247			"	
4488	✓ Comp						Fe Ar Clear	120 OBS	
4489	✓ BIAS(4)								
4490	✓ FLAT						TUNG A-1/4	18 sec	
4491	✓ HD 197433	20 38.6	+75 14	20 0300	20 1020				
4492	✓ "			20 1040	20 1740				
4493	✓ "			20 18 00	20 25 00			420 OBS	
4494	✓ "			20 2540	20 3240			420 OBS	

Spectr. Tem

Focus

Spectr. Tem

Exp. Mtr.

2300

2500

2700

2500

2580

2750

6800

2400

400

2350

2350

Spectr. Temp. Dome Temp./Hum. -0.5°C 642 Transparency Conditions .. Fine - no. Hurepa Yet ... 44

Focus 6.90

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emission	P.H.	Program	Remarks	Quality
				CASS CCD	G=5505 1800/51.6	200u Full	5875A	48ci			
2300								18ci	Hdy pcpm		
2500								19ci			
2700	4"							20ci			
2500								21ci			
2580								22ci			
2750								23ci			
2800	3"							24ci			
								25ci			
								26ci		Dome T = -00.6°C	
								26ci		10K 404 / pixel max	
2400								27ci			
2400								28ci			
2350	4"							29ci			
2350								30ci			

pg #3

Date 1991 Nov 9/10... Observers Mki... Jn... [Hdy.]

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.
CCO 4495 ✓	HD 197 433	20 38.6	+75 14	20 33 14	20 40 14	03 01 W	^{encoder} 75 27 12	420 OBS	2150
4496 ✓	"			20 40 50	20 47 50			420	
4497 ✓	"			20 48 44	20 55 44			420	1760
4498 ✓	"			20 57 05	21 04 05			420	1960
4499 ✓	Comp							FeAr CLEAR TUNG Ap=1/4	120
4500 ✓	B145 (4)			21 10				205	
4501 ✓	B145 (4)			21 12					
4502 ✓	HD 197 433	20 38.6	+75 14	21 14 22	21 21 22			420	1900
4503 ✓	"			21 22 20	21 29 20			420	2130
4504 ✓				21 29 36	21 36 36			420	2040
4505 ✓				21 36 50	21 43 50			420	2200
4506 ✓				21 44 08	21 51 08			420	2300
4507 ✓				21 51 20	21 58 20			420	2440
4508 ✓				21 58 40	22 05 40			420	2500
4509				22 06 13	22 13 13	04 34 W		420	2550

Spectr. Temp. Dome Temp./Hum. -1.4°C 65.5% Transparency Conditions Fine 46

Focus ... 6.90

Spectr. Temp. Dome Temp./Hum.

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emission	P.H.	Program	Remarks Range	Quality
085	2150	3"-5"	^V 7.3 -7.7	65V +10V 1K5V	CASS CCD	1800/	200μ (Full Length)	5875Å	32ci	Hdg VWcep	5777Å → 5975Å	
120	.	"							18ci			
140	1760	"							19ci			
160	1960	3"							20ci			
180									21ci			
200									22ci		12 Kmax (Looks OK) Done T = -1.4°C	
220	1900	3"							23ci			
240	2130								24ci			
260	2040	3"							25ci			
280	2200								26ci			
300	2300	2"-3"							27ci			
320	2440	3"							28ci			
340	2500	2"-5"							19ci			
360	2550								20ci			

pg 4

Date 1991 Nov 9/10..... Observers [Hdy]... Tn./m.ki.....

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.
CC04510A [✓]	Comp							FeAr Clear	120s
4511 [✓]	BIAS(4)								
4512 [✓]	FLAT							TUNG A=1/4	20s
4513	HD197433	20 38.6	+75 14	22 19 17	22 26 17	04 47W		Obs.	420
4514	"			22 26 40	22 33 40				420
4515				22 33 50	22 40 50				420
16				22 41 00	22 48 00				420
17				22 48 08	22 55 08				420
18				22 55 16	23 02 16				420
CC04519 [✓]	Comp			23 03				FeAr Clear	120
4520	BIAS(4)								
4521	FLAT							TUNG A=1/4	20s
CC04522	HD197433			23 09	23 16 55		420 OBS.		
4523	"			23 17 50	23 24 50				
4524	"			23 25 20	23 32 20				

Spectr. Tem.

Focus...6...

Spectr. Tem.

Exp. Mir.

2700.

2200

2300

2400

2500

2600

2700

2800

2900

3000

3100

3200

Spectr. Temp. Dome Temp./Hum. -1.9°C 68.4% Transparency Conditions Fine 42

Focus ... 6.9.0

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800/	200 μ Full Length	5875	21ci			
								20		Dome T = -1.9°C	
								22ci		12K max Looks OK	
2300.	3 ^h 5 ^m	$\sqrt{7.3}$ 7.7	GSK					23ci	Hdypgm VW Cep	radius = 12290	
2200								24ci			
2300								25			
2340								26			
2300								27			
2230								28			
								29ci			
										Dome T = -2.1°C	
								30ci			
2070								18ci			
								19ci			
1900.								20ci			

49

Pg#5

Emulsion Batches:

Date 1991 Nov. 9/10..... Observers [Hdg]... [K.T.]... [T.K.].....

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 04525	HD 197433			23 3230	23 3930				
CC 04526	"			23 3940	23 4640				
04527	"			23 4649	23 5349				
04528	"			23 5357	00 0057				
04529	"			00 0108	00 0808				
04530	"			00 0816	00 1516				
04531	Comp.							FeAr CLEAR	120s
4532	BIAS. BHT	BIAS(4)						TUNG	
4533	FLAT			00 2405				A=1/4	20s
4534	HD 197433			00 2405	00 3105			420sec	
4535	"			00 3340	00 4040			420sec	
4536	"			00 4114	00 4814	07 09W	old Dec Drum +75 29	"	
4537	"			00 4828	00 5528	07 17W		"	
4538	"	not known OK now		00 5604	01 0304			"	
4539	"			01 04 approx	01 11			"	420s

Spectr. Temp. Dome Temp./Hum. -2.2°C 70% Transparency Conditions OK some SE cloud 50

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2000				CHSS	1800/5.6	200 μ		21ci	Holy pgn	G = 5505 still	
1950				CCD		Full Length		22ci			
1760								23ci			
1500								24ci			
1500								25ci			
								26ci		Last minute cut off.	
								27ci			
								27ci		12k max/pixel	
730										cloudy	
1500								28ci		clear again	
1500	4.5"							29ci			
1550	6.3"							30ci			
1760								31ci			
1900								32ci			

py #6

Date 1991 Nov 9/10 Observers [Hdy]...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 04540	HD 197433	20 38.6	+75 14	01 11 35	01 18 35			420 obs	
4541	Comp							Fe Ar Clear	120s
4542	BIAS(4)								
4543	FLAT							TUNG A=1/4	20s
4544	HD 197433			01 26 08	01 33 08	7 54W		420 obs	1800
4545	"			01 33 28	01 40 28			420 obs	1720
4546	"			01 41 40	01 48 40			420 obs	1800
4547	"			01 48 55	01 55 55			"	1700
4548	"			01 56 10	02 03 10			"	1750
4549	"			02 05 33	02 12 33			"	1800
4550	"			02 12 40	02 19 40	8 41W			1750
4551	Comp			02 20				Fe Ar Clear	120
4552	BIAS(4)								
4553	FLAT							TUNG A=1/4	20s
4554	HD 197433			02 27 02	02 34 02			420 sec	

Spectr. Temp
Focus...6
Spectr. Temp

Exp. Mtr. S

Spectr. Temp. Dome Temp./Hum. -2.3°C 71.5% Transparency Conditions ... *part cloudy* 52
 Focus 6.90
 Spectr. Temp. Dome Temp./Hum. -2.4°C 75% *mostly clear actually now*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1860	3.5"	$\sqrt{7.3}$ -7.7		CHSS CCD	1800/	200 μ Full	5875A	34ci	H γ pgn		
8600											
										CCOT = $-^{\circ}\text{C}$ $P_{\text{max}} T = -2.4^{\circ}\text{C}$	
										12 K max again	
1800								36ci			
1920								37ci	H γ pgn	no cloud here	
1800								38ci		CD @ Na lines (en)?	
1700								39ci			
1750								40ci			
1800								41ci			
1750								42ci			
								43ci			
								44ci			
								45ci			
								46ci			
								47ci			
								48ci			
								49ci			
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								94ci			
								95ci			
								96ci			
								97ci			
								98ci			
								99ci			
								100ci			

CR CR needed CR?
 Command Line (42ci 4200BS "w-fit" 43ci 4200BS "w-fit")

MAX = 11 K

p907

Emulsion Batches:

60 Date 1991 Nov 9/10 Observers [Hdy] Tr

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.
CC04555	VHD197433	(write 4558 ^{OK})		02 35 17	02 42 17			420 OBS	1250
4556	"			02 42 25	02 49 25			420 OBS	1700
4557	"			02 51 02	02 58 02			420 OBS	1700
4558	"			02 58 10	03 05 10			420 OBS	1700
4559	"			03 06 16	03 13 16			420 obs	1600
4560	"			03 14 56	03 21 56			420	1500
4561	"			03 22	03 29	09 51 W		420	1400
4562	Comp							FeA clear	1203
4563	BIAS (4)								
4564	FLAT							TUNG Ap = 1/4	203
4565	VHD197433	(add title)		03 35 16	03 42 16			420 S	1200
4566	"	" "		03 42 25	03 49 25			420 S	1200
4567	"			03 49 55	03 56 55			420	1200
OK too late 4568	"			03 58 00	04 08 24			exp - Roundabout	1100
4569	"			04 09 17	04 16 17			420 obs	1100

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions ... *Fine - sl. haze* ...Focus ... *6.90* ...

Spectr. Temp.

Dome Temp./Hum. ... *-2.5°C 78%* ...*SE wind*

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
185	1750	4"-6"				65505 1800/51.6	300u Full Length		46ci	Hdy-pgm	46ci 4200BS w Fit 47ci 4200BS w Fit	
185	1700								47ci			
185	1700								48ci	(48c 49 with	w. Fits together) <i>works fine</i>	
185	1700								49ci			
185	1600	4"-5"							50ci			
185	1500	3"-4"							51ci			
185	1400								52ci			
185									53ci			
185											Dome T = -2.1°C	
185									54ci			
185	1200								55ci			
185	1200								56ci			
185	1200								57ci			
185	1200	6" (1700 cmts)							58ci		(10.5 min exp)	
185	1160	6"-8"							59ci			

55 pg #8

Date 1991 Nov 9/10..... Observers [Hdy.] T.S.....

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 04570	HD 197433	20 38.6	+75 14	04 16 38	04 23 38	10 45 W		4200PS	1000
4571	Comp							Fe Ar Clear	120s
4572	BIAS (4)								
4573	FLAT							JUNG A=1/4	20s
4574	HD 197433			04 31 23	04 38 23			420	1000
4575	"			04 38 32	04 45 32			420	1230
4576	"			04 45 50	04 52 50			420s	1200
4577	" <i>single den</i>			04 53 00	05 00 00			420s	1200
4578	"			05 00 10	05 07 10			420s	1200
4579	"			05 08 30	05 15 30			420s	370
4580	Comp							Fe Ar Clear	120s
4581	BIAS (4)								
4582	FLAT							JUNG A=1/4	20 sec
4583	HD 197433			05 21 16	05 28 16	11 50 W		420 sec	1370 4
4584	"			05 28 25	05 35 25	11 57 W			1480

Spectr. Temp. Dome Temp./Hum. -2.5° 78% Transparency Conditions SL hazy 56
 Focus 690
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1000	3"-8"			CASS CCD	1800/576	200 μ		60ci	12ly		
								40ci			
										Dome T = -2.4°	
								40ci		11 K max ADU	
1000								40ci			
1230								41ci			
1200								42ci			
1200								43ci			
1200								44ci			
1370								46ci			
								47ci			
										Dome T = -2.5°	
										MAX 10K/pixel	
1370	4"-6"			All backed up to Perseus				47ci			
1480				and w Rm				48ci			

pg#9

Date 1791 Nov. 9/10..... Observers [Hdg.]... Jy.....

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 4585	HO 197433	20 38.6	+75 14	05 35 35	05 42 35	11 56 E		420 obs	1520
4586	Comp		drive off				Fe AR CLEAR	120 sec	
4587	BIAS(4)								
4588	FLAT						TUNG A=1/4	20 sec	
4589	FLAT while on Regulus								
4590	Comp	"	"	06 14			Fe AR CLEAR	120 sec	
4591	BIAS								
4592	Regulus HD 87901	10 03 03	+12 27		06 18			220 sec	18K
4593	"				06 23			200BS	8K
4594	"				06 26			300bs	34K
4595	Comp						Fe AR CLEAR	120 sec	
4596	BIAS(4)								
4597	FLAT						TUNG A=1/4	20 sec	
4598	DARK to dark		7 min					420 sec	
4599	"		7 mins					"	

Spectr. Temp. Dome Temp./Hum. -2.3°C 80% Transparency Conditions ... Fine ... 52

Focus ... 6.90 ...

Spectr. Temp. Dome Temp./Hum. -2.6°C 81%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1520	4.5"				1800/51.6	200 μ		50ci		* encoder says <u>12 09 West</u>	
								52ci			
								53ci		CCDT = -101.9°C still	
										Topup commenced @ 0550	
								55		12 K max ADU/pixel	
								56			
18K		1.36	B7V					57		10 K max ADU/pixel	
18K								58			
34K	trailed more							59ci		<u>12 K MAX</u>	
								20ci			
								21ci		12 K max ADU	
								22ci			
								23ci			
All backed up											

59

#1

Sun / Mon

Emulsion Batches:

Date .. 1991 Nov. 10 / 11 ... Observers ... [H.d.g.] ... T.4

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.
CC04600	BI45(4)								
4601	Comp					Telescope on East side		Felr Clear	120s
4602	HD197433	20 38.6	+75 14	17 50 00 [*]	17 57 00			(Exp. rad)	1056
4603	"			18 01 00	18 08 00			420s	800
4604	"			18 08 10	18 15 10	00 38 W		420s	130
4605	"			18 15 48	18 22 48			420sec	400
4606	"			18 27 00	18 34 00			420s	450
4607	Comp							Felr Clear	120s
4608	BI45(4)								
4609									
4612	✓ FLATS x4								
	HD14923	22 36.5	+10 19	19					
				(400 0	10 1024	40 1 CCD FMT)			
CCF00148/149	Focus Test			Comp / stellar posn		0 0 +10 ⁰		Felr Clear	30/30

Spectr. Temp. Dome Temp./Hum. $+2^{\circ}\text{C}$ 71.6% Transparency Conditions .. PART (copy) ..

Focus 6-90

Spectr. Temp. Dome Temp./Hum.

CCDFMT $\rightarrow$ mostly 50'
510 0 40 1024 4 1
90 CGAIN CDDT $\rightarrow -100^\circ\text{C}$

[illegible]

pg #1

Note Header Times should be < 2 secs
behind WWV Time if anything.....

Emulsion Batches:

Date 1991 Nov 11/12... Observers [Hdy]... Tn.....

Note All Frame Header This page edited with EED FITS pg.

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.
4613 ✓	BIAS(4)								
4614 ✓	Comp								
4615	HD197433	20 38.6	+75 14	17 49 20	17 56 20	00 24 W		420 obs	2150
4616	"			17 56 35	18 03 35			420 obs	2000
4617	"			18 04 44	18 11 44			420 obs	1770
4618	"			18 11 57	18 18 57			420 obs	1900
4619	"			18 19 18	18 26 18			420 obs	2100
4620	"			18 26 36	18 33 36			420 obs	770
4621	"			18 34 46	18 41 46			420	meter dim of 2
4622				18 42 00	18 49 00			420	4300
4623				18 49 15	18 56 15			420	2000
4624 ✓	Comp						Fe Ar Clear	120 obs	3800
4625 ✓	BIAS(4)								
4626	FLAT						TUNG A=1/A	25s	
4627	HD197433			19 05 37	19 12 37	01 41 W		420 sec	500

Tel on East Side

These 2 exps done
by preentered
commands.

Spectr. Temp. Dome Temp./Hum. $+20.6^{\circ}\text{C}$ 70% Transparency Conditions .. Thin cloud 62

Focus 6.90

Spectr. Temp. Dome Temp./Hum.

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

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		.			CASS CCD	G = 600 200m 1800/562 Full Length						
									3			
	2150	2-3	V 7.3 -7.7	G5V +K0V +K5V			H2	A		Hdy pgm	VWcep	
	~2000								5			
	1770	3-4"							6	* 2 exps done together give a gap minimum of readout between!		
	1900								7	exp ends next start of 13secs		
	2100	2-3							8			
	1770	4-5"							9ci		for 6 cols ± 3600 ADU sum? Avg above & below	
	meter sum of 2 4300								10ci			
	2000	4"							11ci			
	9000								12ci			
									13ci			
											Pome T = +2.1 e	
									14ci		14k max	
	2100	2-3"							15ci			

pg #2

Date 1991 Nov. 11/12:.... Observers [Hdy.].....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 04628	HD 197433	20 38.6	+75 14	19 12 50	19 19 50			420	0.5
4629	"			19 20 17	19 27 17			"	
4630	"			19 27 55	19 34 55			420	
4631	"			19 35 10	19 42 10			420	
4632	"			19 42 22	19 49 22	02 18W		420	
4633	"			19 49 43	19 56 43			420	
4634	BIAS(4)								
4635	Comp							FeAr CLEAR	120s
4636	FLAT							TUNG A=1/4	22s
4637	HD 197433	20 38.6	+75 14	20 02 05	20 09 05			420	0.5
4638	"			20 09 20	20 16 20			420	0.5
4639	"			20 16 35	20 23 35			420	0.5
4640	"			20 25 05	20 32 05			420	0.5
4641	BIAS(4)								
4642	FLAT							TUNG A=1/4	22s

Spectr. Tem

Focus....

Spectr. Tem

Exp. Mtr.

2100

1700

1900
Sun 1/2

3420

1600

1430

2100

2050

1270

1270

Spectr. Temp. Dome Temp./Hum. $+2.0^{\circ}\text{C}$ 74% Transparency Conditions *Hazy - clearing in* 64
 Focus *6.50*
 Spectr. Temp. Dome Temp./Hum. $+1.3^{\circ}\text{C}$ 76%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2100	2"			CHSS LCD	1800/56.2	200u Full Length	H/L	16ci	Holy pgm	VW cep	
1900								17ci			
¹⁸⁰⁰ Sum of 2	3"							18			
3420								19			
1600								20			
1430								21ci		* Lost star @ ≈ 195600	
								22ci		Dome T = $+1.6^{\circ}\text{C}$	
								22ci			
								23ci		12K MAX HD4/pixel	
Sum of 2	3"-6"							24ci	Holy pgm	some cloud	
2950	"							25ci			
1270	4"-6"							26ci		more cloud	
625								27ci		" " completely	
								28ci			

65 pg#3

Date 1991 Nov 11/12... Observers {Hdg} TS.....

Emulsion Batches:

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[illegible]

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions

Focus

Spectr. Temp.

Dome Temp./Hum.

arison
Exp

167

Tues - Fri

Emulsion Batches:

Date 1991 NOV 14/15... Observers Hdy... T.Y.....

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.
CC04646	✓ Comp			18 57				Fear clear	120s
4647	✓ HD214923	22 365	+10 19	19 0350	19 0550			TUNG	
4648	✓ FLAT	before exp		19 00	19 05			A=1/4	22sec
4649	✓ BIAS(4)	using regular	BIASBAT						
4650	FLAT							TUNG A=1/4	225s
4651	Comp								
4652	HD214923	22 36.5	+10 19	19 3217	19 3855				
4653	Comp							Fear clear	120s
4654	BIAS(4)	using	HBIAS.BAT (Hdy's)						
CCF00150 00151	Focus Test	(Lost, but got result + basically 400)			0 10 1024 40 1	CCD FMT		Fear clear	40/40
CC04655	FLAT (using Bright dome lights)			20 33 33	20 4300	01 30W	-10°	Bright Lights	6328
4656	FLAT - Regular TUNG source			20 49		"	TUNG A=1/4	24sec	
4657	BIAS(4)	using	HBIAS						

[illegible]

Friset TESTS

Date Nov. 15./16./91..... Observers ..T.N.....

Emulsion Batches:

...P. Fraser... in... for All
 ...f. 18... stop in... too.
 C.S. U.S.A. l...

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.
CCF00150 151	✓ Focus ^{Husterman} Comp posn			22		0 0	+40°	FeNe Clap	4/4s
152 153	✓ " " Comp/stellar			22 30		"	"	FeNe Clap	50/50
CC04658	✓ Comp without ORDER sep filter			(7 & 10)		"	"	FeNe Clap	50 sec
4659	✓ Comp " " " " Different source only					"	"	FeAr Clap	600s
not written 4660	Comp with short slit			23 42				FeNe Clap	20 sec
4660	✓ Comp for MAP	OG560	Filter IN	(16)		0 0	+40°	FeNe Clap	40 sec
4661	✓ Comp for MAP	"	"			"	"	FeNe H=1/2	9 sec
4662	FLAT FOR CC04658 (slit different) [I guess There's a water droplet on CCD window]							TUNG H=1/8	30 sec

Spectr. Tem.

Focus... 6

Spectr. Tem.

Exp. Mir.

Rory

4330 at

71

py#1

SAT-SUN

CSS386 (New Data Acquisition PC) Time
Still agrees with Astro and MHI wuv Times

Emulsion Batches:

Date 1991. Nov. 16/17... Observers [Hdy]. Tn..... within 2 secs. Diffuser 1M.....

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.
CCF00154 V 155	Focus Test comp posn stellar u			17		00 20	+40°	FeAr Clear	20 s 20 s
CC04663	BIAS					Telescope To East side for night			
4664	Comp			17 58				FeAr Clear	60 sec
4665	FLAT							TUNG A=1/4	30s
4666	HD 218537	23 03 43	+63 06	18 11 55	18 19 11				
4667	"	"	"	18 19 15	18 33 15				exp says 60
4667	FLAT							TUNG A=1/4	30s
4668	Comp							FeAr Clear	60 sec
4669	BIAS								
4670	Comp when on wuv Cep							FeAr Clear	120s
4671	BIAS (A)	"	"	18 49					
4672	FLAT							TUNG A=1/4	25 sec
4673	HD 197433	20 38 16	+75 14	18 54 32	19 01 32	01 49 W		expose faint	
4674	"	"	"	19 02 47	19 09 47				exp says 60
4675	"	"	"	19 10 40	19 17 40				420 OBS

Spectr. Temp. 4.6°C.....

Focus .. 6:90

Spectr. Temp.

Dome Temp./Hum. $\pm 4.6^{\circ} 54\%$

Dome Temp./Hum.

Transparency Conditions... Clear... cloudy & very ⁷²

No indication of moisture on LCD window, ^{START} as temp

CCDT $\rightarrow -100^{\circ}\text{C}$ 90 CGAIN (over last night)

[illegible]

73

pg #2

SAT SUN

Date 1991. Nov 16/17..... Observers [Hdy.] 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.
CC04676	HD197433	20 38.6	+75 14	19 17 50	19 24 50			420 obs.	
4677	"			19 25 08	19 32 08			420 obs	
4678	✓ F LAT					Tung H=1/4	25secs	420 obs	
4679	✓ BIAS(4)			19 38					
To Pers. 4680	✓ Comp			≈ 19 40				FeAr CLEAR	120s
4681	✓ HD197433	20 38.6	+75 14	20 00 07	20 07 07	02 55W		420 obs	
4682	✓ Comp			20 09			FeAr CLEAR	120s obs	
4683	✓ HD197433			20 12 55	20 19 55			420 obs	
4684	✓ "			20 22 15	20 29 15			"	
4685	✓ "			20 29 33	20 36 33			"	
4686	✓ "			20 36 42	20 43 42			"	
4687	✓ "			20 44 01	20 51 01			420 obs	
4688	✓ "			20 51 10	20 58 10			420 obs	
4689	Comp			20 58 40			FeAr CLEAR	120 sec	
4690	BIAS(4)								

Spectr. Tem

Focus...6

Spectr. Tem

Exp. Mir.

1675

1675

320 in
1st 3 mins

500

900

980

1150

980

200 A

2000

Spectr. Temp.

Dome Temp./Hum. 61

Transparency Conditions *Cloudy* 74

74

Exp.	Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Obs.	1675	6"			CMS CCD	G=6020 1800/	500 μ Full Length	H L 6568	1675	Hdg pgn	v wcep cloud utend	
Obs.	1675						"		1675			
Obs.							"		1675		11 K ADU MAX/pixel	
Obs.									1675		122.503 T = +2.5°C	
Obs.	320 in 1st 3 mins	4"-8"	V 7.3 -7.7						1675		* another 400cnts in last 2 mins PART cloudy	
Obs.	9500								1675			
Obs.	900								(22)		Had very narrow	
Obs.	980	6"							1675			
Obs.	1150	4"-6"							22			
Obs.	980								23			
Obs.	1000	4"-8"							24			
Obs.	sum of 2 2000								(25)			
Obs.									25			
Obs.									25		Done T = +1.4°C	

Date 1991 Nov 16/17... Observers [Hdy] 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.
CC04691	✓ FLAT			21				TUNG A=1/4	25s
4692	✓ HD 197433	20 38.6	+75 14	21 0407	21 11 07	03 59W		420	obs
4693	✓			21 11 35	21 18 35			"	
4694	✓			21 18 50	21 25 50			"	
4695	✓			21 26 05	21 33 05			"	
4696	✓			21 33 19	21 40 19			"	
4697	✓			21 40 30	21 47 30			✓	
4698	✓			21 49 45	21 56 45			"	
4699	✓			21 57 00	22 04 00			"	
4700	✓ Comp			22 05				FeAr Clear	120s
4701	✓ BIAS(4)								
4702	✓ FLAT							TUNG A=1/4	25s
4703	✓ HD 197433			22 09 20	22 16 20			420	obs
4704	✓ "			22 16 25	22 23 25			420	obs
4705	✓ "			22 23 38	22 30 38	05 19W		420	obs

Spectr. Tem

Focus....6

Spectr. Tem

Exp. Mtr.

1100

1090

1180

1150

1150

1200

1160

1130

960

1000

900

Spectr. Temp. Dome Temp./Hum. $+1.3^{\circ}\text{C}$ 55% Transparency Conditions OK 76
 Focus 6.90
 Spectr. Temp. Dome Temp./Hum.

anson Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
25s					CASS CCD	180/56.2	200 μ Full Length	H α	24ci		MAX ADU/pixel = 12K	
00s	1100		V 7.3- 7.7	= 6 hr period		G=6020			12ci	H α pgn		
	1090								13ci	H α pgn	VW cep all night	
	M 80								14ci			
	1150	4"							15ci			
	1150								16ci			
	1200	4-6"							17ci		H α nicely dbl	
	Sum of 2 = 2130								18ci 18ci			
120s									19ci 19ci			
									20ci			
									21ci	Domo	T = $+00.2^{\circ}\text{C}$	
25s									22ci		12K max ADU	
00s	960								23ci			
00s	1000	5-7"							24ci			
00s	900								25ci 25ci			

pg #4

Emulsion Batches:

Date 1991 Nov 16/17... Observers [Hdy.] T.n. I.M.A.C....

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.
CCO 4706	✓ HD 197433	20 38.6	+75 14	22 30 53	22 37 53				
4707	✓ "			22 38 05	22 45 05				
4708	✓ "			22 45 50	22 52				
4709	✓ "			22 53 10	23 00 10				
4710	✓ FLAT							Fung A=1/4	25s
4711	✓ BIAS							Felt clear	
4712	✓ Comp								
4713	✓ HD 197433			23 06 50	23 13 50			420 obs	
4714	✓ "			23 14 05	23 21 05				
4715	✓ "			23 24 30	23 31 30				
4716	✓ "			23 31 45	23 38 45				
4717	✓ "			23 38 55	23 45 55				
4718	✓			23 46 05	23 53 05				
4719	✓			23 53 15	00 00 15				
4720				00 00 27	00 07 27				

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mr.

900

800

760

700

800

750

Spectr. Temp. *this setting aside* Dome Temp./Hum.

Exp.	Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	900		V7.3 -7.7	G5V +KOV	CAS5 CCD	66020 1800	20µm Full Length	H ₂	22ci	Hdy pgm	VWcep	
	800	4.8"		+K5V					22ci			
	760								22ci			
									(18ci)			
25									17ci			
									30ci			
									22ci			
Ch									22ci		Rade R290	
									22ci			
	700								22ci			
									22ci			
									22ci			
	800-								22ci			
	750-								22ci			
									22ci			

pg # 5

Date 1991 Nov 16/17... Observers [Hdy]..Tn.. / MKi.....

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.
CC04721	Comp BIAS(4)							Fe Ar Clear	120s
4722	✓ BIAS(4)								
4723	✓ FLAT							TUNG A=1/4	25
4724	✓ HD197433			00 15 01	00 22 01			420	Obs
4725	✓ "			00 22 15	00 29 15			420	Obs
4726	✓ "			00 29 25	00 36 25	07 25W		"	
4727	✓ "			00 36 35	00 43 35			"	
4728	✓ "			00 43 48	00 50 48				
4729	✓ "			00 51 00	00 58 00				
4730	✓ "			00 58 13	01 05 13				
4731	✓ "			01 06 11	01 13 11				
4732	✓ BIAS(4)								
4733	✓ FLAT			01 14			22 Obs	TUNG Ap=1/4	22 sec
4734	✓ Comp							Fe Ar Clear	120s
4735	✓ HD197433			01 18 46	01 25 46			420	Obs

Spectr. Tem

Focus....

Spectr. Tem

Exp. Mir.

800?

950

900

940

940

870

900

900

Spectr. Temp. Dome Temp./Hum. -1.5°C 53% Transparency Conditions *Fine* 80

Focus *6-90*

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
										Dome T = -1.6°C	
										14 K MAX ADU	
	8"							(30i)	Hdy pgn	VWCg	
1800?								30i			
950								30i			
900	6-8"							30i			
940								30i			
940								30i			
870								30i			
900								30i			
								10i		Dome T = -2.0°C	
								30i		12 K MAX	
								25i			
900								(27i)			

pg #6

46

Date 1.99.1. Nov 16/17..... Observers (Hdy) Tg.....

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 04736	HD 197433	20 386	+75 14	01 2600	01 3300	W		420 obs	900
4737	✓			01 3314	01 4014			"	850
4738	✓			01 4024	01 4724			"	
4739	✓			01 4752	01 5452			"	
4740	✓			01 5520	02 0210			"	740
4741	✓			02 0230	02 0930			"	730
4742	✓			02 0938	02 1638	09 05W		"	660
4743	✓ BIAS (4)								
4744	✓ Comp							FeAr clear 120s	
4745	✓ Flat							FeAr A=1/4 225s	
4746	✓ HD 197433			02 2155	02 2855			420 obs	
4747	✓ "			02 2930	02 3630			"	650
4748	✓ "			02 3644	02 4344			"	630
4749	✓ "			02 4358	02 5058			"	500
4750	✓ "			02 5108	02 5810				1340

Spectr. Temp. Dome Temp./Hum.

[illegible]

P947

Emulsion Batches:

Date 1991. Nov 16/17. Observers [Hdy] ... Jn

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.
CC04751A5 ✓	HD197433	20 38.6	+75 14	02 58 34	03 05 34			420 obs	
4752 ✓				03 06 39	03 13 39			γ	
4753 ✓				03 13 51	03 20 51	10 10 W		γ	
4754 ✓	BIAS(4)								
4755 ✓	FLAT								
4756 ✓	Comp								
4757 ✓	HD197433			03 26 17	03 33 17			420 obs	
4758 ✓	α			03 33 30	03 40 30			γ	
4759 ✓	"			03 40 40	03 47 40			h	
4760 ✓	"			03 47 53	03 54 53			γ	
4761 ✓	"			03 55 04	04 02 04	10 51 W			
4762 ✓	BIAS(4)								
4763 ✓	Comp							Fe Ar C/ear	120s
4764 ✓	FLAT								
4765 ✓	HD197433			04 08 06	04 15 06			420s	

Spectr. Temp. Dome Temp./Hum. *-2.8°C 57%* Transparency Conditions *Fine* 84

Focus *6.90*

Spectr. Temp. Dome Temp./Hum. *All Inst parameters the same*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	<i>8"</i>					<i>200u</i>					
						<i>Long Full length</i>		<i>28ci</i>	<i>Hd single here</i>	<i>11, 12 18, 26, 27, 30 same</i>	
<i>700</i>	<i>6-10</i>							<i>29ci</i>		<i>28.27</i>	
<i>800</i>								<i>31ci</i>			
								<i>32ci</i>		<i>Pdme T = -3.2°C</i>	
								<i>33ci</i>			
<i>740</i>								<i>34ci</i>			
<i>730</i>								<i>35ci</i>			
<i>750</i>	<i>5-10</i>							<i>36ci</i>			
<i>790</i>								<i>37ci</i>			
<i>825</i>								<i>38ci</i>			
								<i>39ci</i>			
								<i>40ci</i>			
								<i>41ci</i>			
								<i>42ci</i>			
								<i>43ci</i>			
								<i>44ci</i>			
								<i>45ci</i>			
								<i>46ci</i>			
								<i>47ci</i>			
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								<i>93ci</i>			
								<i>94ci</i>			
								<i>95ci</i>			
								<i>96ci</i>			
								<i>97ci</i>			
								<i>98ci</i>			
								<i>99ci</i>			
								<i>100ci</i>			

85

61

pg 18

Date 1991 Nov 16/17 Observers [Hdy] : J. T. M.

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.
CC04766	HD 197433	20 38.6	+75 14	04 15 38	04 22 32			420 65	
4767	"			04 22 48	04 29 48			"	
4768	"			04 30 00	04 37 00			"	
4769	check redo w. fits			04 37 55	04 44 55			"	
4770	"			04 45 10	04 52 10			"	
4771	"			04 52 22	04 59 22	11 49W		"	
4772	"			04 59 30	05 06 30	11 56W		"	
4773	BIAS(4) "			05 06 42	05 13 42	11 57E			
4774	BIAS(4)		(drive off)			"			
4775	FLAT		"			"		FLAT A=1/4	225
4776	Comp					"		FLAT CLEAR	1205
4777	Comp while on Regulus								
4778	BIAS(4)								
4779	FLAT								
4780	HD 87901	10 03 03	+12 27	05 30 30					

Spectr. Tem.

Focus....

Spectr. Tem.

Exp. Mir.

875

870

910

950

870

920

870

790

Spectr. Temp. Dome Temp./Hum. -3.2°C 58% Transparency Conditions *Fine* 86
 Focus 6.90
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
875	6"				G=6020			13ci	Hely pgn	vucop	
870								14ci			
910	4-6"							16ci		HL dbl	
950								17ci			
870	8"							19ci			
920								20ci			
870								22ci			
790								23ci			
								ici		Dome T = -3.8°C	
								37ci			
								28ci			
								30ci			
								31ci			
								32ci			
								33ci			
								34ci			
								35ci			
								36ci			
								37ci			
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								94ci			
								95ci			
								96ci			
								97ci			
								98ci			
								99ci			
								100ci			

✓
1.37 B

sci telluric std

87

75

pg # 9

Date Nov. 16/17/19... Observers [Hdy.] 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.
CC04781	HD 87901	10 0303	+12 27	05 34				30 obs	
82	"			05 35				40 OBS	
83	FLAT								
84	BIAS(4)	while on Regulus							
85	comp	"							
86	Comp	while on W Cep						FoAr Clear	120s
87	BIAS(4)							funo	
alloh to here ↓ 88	FLAT							A=1/4	22sec
89	HD 197433	20 38.6	+75 14	05 5320	06 0020	11 11 E			
CC04790	"			06 0032	06 0732				
4791	"			06 0823	06 1523				
4792	"			06 1535	06 2235				
4793	"			06 2250	06 2950				
4794	"			06 3005	06 3705				
4795	BIAS(4)								

Spectr. Ten

Focus...4

Spectr. Ten

Exp. Mtr.

780

800

820

840

860

880

900

920

Spectr. Temp. Dome Temp./Hum. Transparency Conditions *Fine to the end* 88

Focus *6.90*

Spectr. Temp. Dome Temp./Hum. *-4.2°C 61%*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>Obs</i>				CASS	G = 6020	200 μ					
				CCD	1800/	Full Length	H α still		telluric still		
<i>Obs</i>	30 K									MAX = 5 K ADU/pixel	
										CCDT OK @ -101.9°C	
								8ci			
										Dome T = -4°C	
<i>22st</i>	780	6" $\checkmark$ 7.3 7.7						9ci	H α pgrn		
	800	4" 6"						11ci	n	sharp single H α	
	800	"						10ci	n		
	810	"						12ci			
	980							13ci		sky coming	
	1450	3"-4"						16ci		sky here	
								1ci		Dome T = -4.2°C	

89

pg #10

Date 1991 Nov 16/17 Observers Hdy. Jn

Emulsion Batches:

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[illegible]

Spectr. Tem

Focus 1

Spectr. Tem

Exp. Mur.

Spectr. Temp. Dome Temp./Hum. Transparency Conditions *Fine sunrise*

Focus 6-90

Spectr. Temp.

Dome Temp./Hum. -44°C 62%

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2232					LHSS CCD	G 6020 1800/562 Full Length	200μ	H ₂	17ci		CCD T OK @ -100.0°C	
23									19ci	Full slit	Illuminator test	
33K							n	n	22ci	SKY	during tape up	
									23ci			
											Backed up to Persens using while in DV doing dark	
											START 07 09	
											~ 3secs/file	
											(Start worm backup @ 07 17 11 out of DV - straight copy as	
											about the same rate 3sec/cle) in the case of Persens backup	
											endcopy 07 25 30	
											Ex byte to 4799 next night.	

91

pg#1

Sun Mon

on 19/24" (photometry of some) Emulsion Batches:

Date 1991 Nov 7/18

Observers

[Hdg] T.G.

CSS 386 PC Time Right on 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.
CCO 4800 ✓	BIAS(4)							FeAr	
01 ✓	Comp							Clear	120s
02 ✓	Flat							TUNG	
03 ✓	HD 218537	23 03 43	+63 06	17 47 00	17 55 18	01 44 E	+63 30	on Dec 1991 H=1/4	30sec
04 ✓	FLAT						Approx	TUNG	
05 ✓	Comp							H=1/4	30s
06 ✓	BIAS(4)							FeAr	120
07 ✓	Comp when							Clear	
08 ✓	HD 197433	20 38 46	+75 14	18 10 42	18 17 42	01 09 W		FeAr	120
CCO 4809 ✓	"			18 18 39	18 25 39			Comp Band	
4810 ✓	"			18 25 50	18 32 50			420 OBS	
4811 ✓	"			18 33 05	18 40 05			"	
4812 ✓	"			18 40 15	18 47 15			"	
4813 ✓	"			18 52 25	18 59 25			420 OBS	
4814 ✓	"			18 59 38	19 06 38	01 58 W		420 OBS	

Spectr. Temp. Dome Temp./Hum. *+0.5°C 70.2* Transparency Conditions *Fine thin cloud* ⁹²
 Focus *6.90*
 Spectr. Temp. Dome Temp./Hum.
510 0 40 1024 4 1 CCD FINT
90 CGAIN T - -100°C

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					CASS CCD	G=5505 1800/51.6	200µ Full Length		7ci	Holy pyrm	^{range} 5777 - 5975A	
120s									3			
30s									4		11 K max ADU/pixel	
	6300	3"	✓ 6.26	B3V	(It could maybe be HO 218560 no, probably right star after all. A KO sp type?)				5ci	* Telluric Std	≈ 11 K SUM AVG ADU 8 columns * nice narrow Na lines??	
30s									6ci		11 K MAX	
20												
											Pemo T = -100.4°C	
80												
	21900	3"	✓ 7.3-7.7	G5V + KO V + K5 V					6ci	Holy pyrm	VW Cep	
	1750	2.3"							7ci		(skipped 8 & 9 ci)	
	2000	"							8ci			
	1650	"							11ci			
									12ci			
	1600								13ci			
	1400	2"-4"							14ci			

93

pg#2

Emulsion Batches:

Date 1991 Nov 17/18..... Observers [Hdg.] T.n.....

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.
CC04815	✓ BIAS(4)								
4816	✓ Comp							FeAr Clear	120s
4817	✓ FLAT							TUNG A=1/4	30s
4818	✓ HD197433	20 386	+75 14	19 12 06	19 19 06			420	65s
4819	✓ "			19 19 20	19 26 20			420	
4820	✓ "			19 26 30	19 33 30			420	
4821	✓ "			19 33 44	19 40 44			420	
4822	✓ "			19 40 56	19 47 56			420	
4823	✓ "			19 48 00	19 55 00			420	
4824	✓ "			19 55 15	20 02 15			420	
4825	✓ "			20 02 28	20 09 28			420	
4826	✓ "			20 09 40	20 16 40			420	
4827	✓ BIAS(4)								
4828	✓ FLAT Redone after crash			CCD can't reset here before this exp				TUNG A=1/4	33s
4829	✓ BIAS(4) after restart								

Spectr. Temp. Dome Temp./Hum. 7.00 ± 1 74.70 Transparency Conditions ... *thin cloud* 94

Focus ... 6.90

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G=5505 1800/51.8	209 μ Full Length	5875Å	1ci			
								16ci			
								18ci		17 10K MAX	
1500		$\sqrt{7.3}$ ~ 7.7						18ci	VW Cep		
1500								19ci			
1500	2"							20ci			
sun d 2	2-3"							21ci			
<u>3000</u>								22ci			
1740	2							23ci			
2090	<2"							24ci			
2250								25ci			
2060								26ci			
										P.D. T = 0.3°C	
								27ci		MAX = 11 K	

pg #3

Date . 1991. NOV. 17/18. Observers ... M.K. [1 day] T.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.
CC04830	✓ HD 197433	20 38 6	+75 14	20 28 00	20 35 00				
4831	✓ Comp							FeAr Clear	120s
4832	✓ HD 197433			20 39 28	20 46 28			420	obs
4833	✓ "			20 47 21	20 54 21			420	obs
4834	✓ "		20 02 01	20 54 48	21 01 48			420	obs
4835	✓ "			21 02 01	21 09 01			420	obs.
4836	✓ "			21 09 14	21 16 14			420	obs.
4837	✓ "			21 16 25	21 23 25			420	obs.
4838	✓ "			21 23 34	21 30 34			420	obs.
4839	✓ BIAS (4)							FeAr Clear	120s
4840	✓ Comp							JUNG	33s
4841	✓ F-L A1							A-1/4	33s
4842	✓ HD 197433	H ✓		21 37 00	21 44 00			420	obs
4843	✓ "	H ✓		21 44 13	21 51 13			420	obs
4844	✓ "	H ✓		21 51 25	21 58 25	04 50W		420	

Spectr. Tem.

Focus ... 6

Spectr. Tem.

Exp. Mtr.

1900

2000

2100

2200

2300

2400

2500

2600

2700

2800

2900

3000

3100

3200

3300

3400

3500

3600

3700

3800

3900

4000

Spectr. Temp. Dome Temp./Hum. $77.6^{\circ}H \div 00.3^{\circ}C$ Transparency Conditions *thin cloud* 96

Focus *6.80*

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800	209 μ	5875A	3i			
								4ci			
								5ci			
1900								6ci			
2300								7ci			
1450								8ci			
2200								9ci			
2300								10ci			
2300								11ci			
2400								12ci			
1900								13ci			
								14ci		Dome T = $-00.2^{\circ}C$	
								15ci			
								16ci		11 May	
Sum of 2	$2^{\circ}4''$							17ci	VW Cep		
2980								18ci		thin cloud here	
1500								19ci			

p 84

Emulsion Batches:

Date 1991 Nov 17/18..... Observers [Hdy.] M.I.T. / T.G.....

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.
CC04845	^{Hdy. ✓} HD197433	20 38.6	+75 14	21 59 20	22 06 20				1650
4846 ✓				22 06 30	22 13 30				1500
4847 ✓				22 13 42	22 20 42				1400
4848 ✓				22 20 56	22 27 56	—			1320
4849 ✓				22 28 10	22 35 10				970
4850 ✓	BIASC4)								
4851 ✓	FLAT							TUNG A=1/4	335
4852 ✓	Comp not written check							Fe Ar CLEAR	1205
check 4853 ✓	HD197433	20 38.6	+75 14	22 41 44	22 48 44			420 obs	150
^{dy to Hdy.} 4854 ✓				22 48 58	22 55 58			420 obs	1050
4855 ✓	renamed to HS ✓			22 56 10	23 03 10			420	1030
4856 ✓				23 03 28	23 10 28			420	230
4857 ✓				23 10 42	23 17 42			420	100
4858 check	may be 4848 with 1/25 But delect			23 18 50	23 25 50	I lost it after 211		420	cur & 2
4859				23 26 05	23 33 05			420	2700

Spectr. Temp. Dome Temp./Hum. -00.6°C 762 Transparency Conditions . *hazy...thinly cloudy* 98
 Focus 6.90
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1650				CHSS CCD	1800/516	200 μ	.	15ci	VWcep Holypym		
1500	2"							16ci			
1400	3'-4"							17ci			
1320								18ci			
970								19ci			
								.		Dome T = -10°C	
								20ci		12K MAX ADU/pixel	
								21ci		20 not used. bias Regular	
1150	42"							22ci	VWcep		
1050								24ci			
1030								25ci			
1230	42"							26ci			
1400								27ci			
sup of 2								28ci	Too Late getting back to it to write		
<u>3200</u>								29ci			

95

Date 1991. Nov. 17/18....

Observers [Hdy.] Mki./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.
CC 04860 ✓	BIAS(4)								
4861 ✓	Comp							FeAr clear	20s
4862 ✓	FLAT							ring Hp=1/4	33s
4863 ✓	HD197433	20 38.6	+75 14	23 38 38	23 45 38				420.
4864 ✓	"			23 46 20	23 53 20				420
4865 ✓	"			23 53 33	00 00 33				410
4866 ✓	"			00 00 45	00 07 45	7 00W			420.
4867 ✓	"			00 07 56	00 14 56				420.
4868 ✓	"			00 15 08	00 22 08				420.
4869 ✓	"			00 22 20	00 29 20				420.
4870 ✓	"			00 29 30	00 36 30				420
4871 ✓	done			00 36 45	00 43 45				420
4872 ✓	BIAS(4)								
4873 ✓	FLAT							ring A=1/4	33s
4874 ✓	Comp							FeAr clear	

Spectr. Temp. Dome Temp./Hum. -1.0°C 77% Transparency Conditions ... thin cloud ...

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
								16i			
								17i			
								12i		MAX ADU = 11.5 / pixel	
1700								13i			
1700								14i			
1700								15i			
1500								16i			
1550								17i			
1600								18i			
1500								14i			
1500	3"							20i			
	3-4"							21i			
								10i			
								13i		11.5 K ADU MAX	
								22i			

p#6

Emulsion Batches:

Date 1991. Nov. 17/18. Observers [Hdy] T.

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.
CC04875	HD197433	20 38.6	+75 14	00 50 44	00 57 44	07 50W		420 obs	
4876	✓			00 58 00	01 05 00				
4877	✓			01 05 13	01 12 13				
4878	✓			01 12 27	01 19 27				
4879	✓			01 19 40	01 26 40				
4880	✓			01 26 50	01 33 50				
4881	✓			01 34 00	01 41 00				
4882	✓ BIASC4)								
4883	✓ Comp							FeA- C1000 TUNG A=1/4	120s 33s
4884	✓ FLAT								
4885	✓ HD197433	20 38.6	+75 14	01 47 00	01 54 00			420 obs	
4886	✓ "			01 54 12	02 01 12			420 "	
4887	✓ "			02 01 24	02 08 24			420 "	
4888	✓ "			02 08 37	02 15 37			420 obs	
4889	✓ not written OK now			02 15 50	02 22 50			420	

Spectr. Temp. Dome Temp./Hum. -1.5°C 80% Transparency Conditions *hozy* 102

Focus 6:9.0

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1250	2.3"	^v 7.3 7.7	.	CASS CCO	65505 18001	200u	5875A	23ci			
1200								26ci			
1410								27ci			
1350								28ci			
sum of 2								29ci			
<u>2500</u>								30ci			
1200								31ci			
										Dome T = -1.3°C	
								3ci			
								4ci		11.6 K ADU / pixel MAX	
1100	2.8"							5ci			
780 ^x	3.4"							6ci		eclipse? dble sharp	
960	3.4"							7ci			
960								8ci			
1000								9ci			

pg #7

Date 1991 Nov 17/18..... Observers [Hdy.]... Jh.....

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.
CC04890	HD197433			02 23 00	02 30 00				
4891	h			02 30 28	02 37 28	09 30W			
4892	BIAS(4)							TUNG A=1/4	33s
4893	FLAT							FeAr clear	120s
4894	Comp								
4895	HD197433	20 38 6	+75 14	02 43 24	02 50 24			420 obs	
4896				02 50 40	02 57 40			420 obs	
4897				02 57 55	03 04 55			420	
4898				03 05 8	03 12 8			420	
4899				03 12 18	03 19 18			420	
4900				03 19 26	03 26 26			420	
4901				03 27 20	03 34 20			420	
4902	BIAS(4)								
4903	Comp							FeAr clear	120s
4904	FLAT							TUNG A=1/4	33s

Spectr. Ten

Focus... 6

Spectr. Ten

Exp. Mir.

870

1000

Sun 2

1050

100

930

900

840

780

Spectr. Temp. Dome Temp./Hum. -1.5°C 83% Transparency Conditions ... *hazy* 104

Focus ... *6-90*

Spectr. Temp. Dome Temp./Hum.

* *Note* IF one set $G=5490$ then str line near blue end would be better without compromising NaD lines

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
870	2.5"			CASS CCD	G 5505 1800			18i	v w Cep still		
1000	"							18i			
								1ci		Dome T = -1.4°C	
								18i		11.6 K MAX ADU	
								18i			
sum of 2								18i			
2000	2.3"							18i			
1000								18i			
930	2.6"							18i			
900	"							19ci			
940								18i			
780								18i			
								1ci		T = -1.4°C	
								18i			
								18i		MAX ADU = 12 K	

pg #8

Date 1991 Nov 17/18..... Observers [H. dy.]... 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.
CC04905	✓ HD197433	20 38.6	+75 14	03 39 20	03 46 20	10 39W		420s	
4906	✓ " "			03 46 32	03 53 32			420s	
4907	✓ " "			03 53 04 00 44	04 00 44			420s	
4908	✓ " "			04 01 04	04 08 04			"	
4909	✓			04 08 26	04 15 26			"	
4910	✓			04 15 36	04 22 36				
4911	✓ BIHS(4)							JUNG	
4912	✓ FLAT							A=1/4	33s
4913	✓ Comp							Fe Ar CLEAR	120s
4914	✓ HD197433			04 27 50	04 34 50			42001s	
4915	✓ " "			04 35 06	04 42 06			"	
4916	✓ check write for type OK			04 42 15	04 49 15	11 42W		"	
4917	✓			04 49 30	04 56 30			"	
4918	✓			04 56 42	05 03 42	11 57W			
4919	✓ BIHS(4)		(drive off now)						

Spectr. Tem.

Focus....6

Spectr. Tem.

Exp. Mir.

600

Sun of 2

1320

690

730

750

740

700

600

Sun of 2

1250

Spectr. Temp. Dome Temp./Hum. -1.3°C ... 85.5% Transparency Conditions . some cloud & haze 106

Focus 6.90

Spectr. Temp. Dome Temp./Hum. -1.2°C ... 9.0%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
600	4"-8"			CASS CCD	1800		5875A	25ci			
Sum of 2								26ci			
1320	4"-10"							27ci			
690								28ci			
730	4"-6"							29ci		triple NoD	
750								30ci			
								1ci		Dome T = -1.4°C	
								12ci		10 K ADU max	
								13ci		no water drops seen in FLAT plots.	
740	3"-5"							14ci		VW Cep again	
700	.							15ci			
800	4"-10"							16ci			
Sum of 2								17ci			
1250								18ci			
								21ci			

107 pg#9

Date 1991 Nov 17/18.... Observers [Hdy]... 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.
CC04920 ✓	FLAT Comp							TUNG A=1/4	335
4920 ✓	Comp							Felt Clear	120s
4922 ✓	FLAT when on Regulat							TUNG A=1/4	33
4923 ✓	Comp							Felt Clear	120s
4924 ✓	BIAS(4)								
4925 ✓	HD 87901	10 03 03	+12 27	05 23 50		01 10 E		40 obs	
4926 ✓	"			05 27 00				40 obs	
4927 ✓	BIAS(4)								
4928 ✓	Comp							Felt Clear	120s
4929 ✓	FLAT							TUNG A=1/4	33
4930 ✓	Comp for HD 89449							Felt Clear	120s
4931 ✓	HD 89449	10 14 3	+19 59	05 49 20	05 53 20	00 56 E (orig readout)			
4932 ✓	Comp							Felt Clear	120s

Spectr. Ten

Focus... 6

Spectr. Ten

Exp. Mtr.

AOK

OK

8:00

Spectr. Temp. Dome Temp./Hum. -1.2°C 90.27 Transparency Conditions OK 108

Focus ... 6.90

Spectr. Temp. Dome Temp./Hum. -00.5°C 94.7

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
33		1		CASS CCD	1800	200μ Full length	5875A	21ci			
1205								20ci			
37								22ci		10K max	
20								23ci		CCDT still -101.8°C	
								1ci		Dome T = -00.8°C	
65	40K	✓ 1.37	B7IV					24ci		12K max	
65	34K							26ci		13K max	
								1ci		$\bar{x} = 117.125 \text{ or } .845$	
124								28ci			
37								29ci			
120								10ci			
	8600	✓ 4.79	F6IV					11ci	std vel		
1205								12ci			
										All to Perseus and Worm	

Date 1991 Nov 18/19 Observers Tn..... Tests.....

Diffuser 1/11. f.a. 11/

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination Filter	Comparison Type/Filter	Exp.
CC04933	✓ Comp MAP	FeNe	(31) ✓				OG560 ORANGE	FeNe Comp A=1/2	20sec
CCF00156	✓ Focus Test	Comp pos'n		23 30			"	FeNe A=1/2	20sec
CCF00157	✓ " "	Stellar pos'n					"	"	"
CC04934	✓ FLAT at	7920 Å	39 yr				"	TUNG A=1/16	20sec
4935	✓ Comp MAP	FeAr	(47) ✓	15secs	A=1/8 (Remember 15:1 burning) G strong lines @ ~ 6000 Å			FeAr A=1/8	15sec
4936	✓ Comp MAP	FeAr	(55) ✓					FeAr A=1/8	15sec
4937	✓ " "	FeNe	63 ✓					FeNe A=1/2	10sec
4938	✓ FLAT @	7500 Å		(A=1/16 20sec exp at Ap wheel burning)				TUNG A=1/16	20sec
4939	✓ " "	7100 Å		"	"	"		"	20sec
4940	✓ Comp FeNe	7100 Å	(87) ✓					FeNe A=1/8	10sec
4941	Comp FeAr	7100 Å	(95) ✓					FeAr A=1/8	20sec
4942	Comp FeNe	8570 Å	8570 Å (103) - 132 F	In this Area FeAr not worthwhile				FeNe 1/8	20sec
4943	FLAT @	8570 Å	111 (700)				TUNG H=1/16		20sec
4944	BIAS also (Regular x1)		119 411						
44 Not backed up yet									

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pg#1 Thurs - Fri

Date 1991 Nov 21/22. Observers H. dy. / 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.
4945	BIAS(4)	using	HBIAS						
4946	FLAT								
4947	Comp			-				FeAr Clear	120s
4948	HD 177724	19 00 49	+13 42 53	17 32 13	17 35 50	2 15W			
4949	Comp							FeAr Clear	120s
4950	FLAT			17 43 44				TUNG A=1/4	25s
4951	BIAS(4)	using	HBIAS						
4952	FLAT	at	VW cap posn					TUNG A=1/4	22s
4953	Comp							FeAr Clear	120s
4954	BIAS(4)								
4955	HD 197433	20 38.6	+75 14	18 00 30	18 07 30	01 15 W		420 obs	
4956	"			18 07 52	18 14 52			420 obs	
4957	"			18 15 08	18 22 08			420 obs	
4958	"			18 24 20	18 31 20			420 obs	
4959	"			18 31 34	18 38 34			420 obs	

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mtr.

3 628

Sum of 2

2000

1020

270

960

Spectr. Temp. *P* Dome Temp./Hum. *+60°C 66%* Transparency Conditions *PART Cloudy* *112*
 Focus *6.90*
 Spectr. Temp. Dome Temp./Hum.
90 CG4in CCD T → -100°C

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion λ	P.H.	Program	Remarks	Quality
				C/455 CCD	G=6020 1800/56.2	200 μ	H α	$\approx$	510 0	40 1024 A 1 CCD/FWH	
								3		12.5 K max	
								4c			
3628	$\checkmark$ 2.99		40Vn					5ci	Telluric std	<i>looks OK</i> 13 K max/pixel	
								6i			
								7ci		136 K max/pixel	
								12i			
								8ci		11 K max/pixel	
								7ci			
sum of 2	$\checkmark$ 7.3 -7.7							9ci	Hdg p9m	some cloud	
<u>2000</u>	3-4							10c	"		
1020								11ci	"		
870								12ci	"		
960								13ci	"		

pg 2

Emulsion Batches:

Date 1991 Nov 21/22 Observers Hdy... T...

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 04960	H ^H HD197433	20 38'6	+75 14	18 39 17	18 46 17			420	
4961	H ^H ✓			18 46	18 53			"	
4962	H ^H ✓			18 53 30	19 00 30	02 08 W		"	
4963	✓ BIAS(4) HBHSIBAT							FeAr	
4964	✓ comp							Clear 120s	
4965	✓ FLAT							TUNG A=1/4 23s	
4966	H ^H HD197433	20 38'6	+75 14	19 07 10	19 14 10			420	
4967	H ^H " "			19 14	19 21			"	
4968	H ^H " "			19 21 25	19 28 25			"	
4969	✓ " "			19 29 18	19 36 18			"	
4970	✓ " "			19 37 00	19 44 00			420	
4971	✓ " "			19 44	19 51			120	
4972	✓ " "			19 51	19 58			420	
4973	✓ BIAS(4)							TUNG	
4974	✓ FLAT							A=1/4 23s	
4975	✓ Comp							FeAr Clear 120s	

Spectr. Tem

Focus

Spectr. Tem

Exp. Mir.

Sum of 3

3000

2m

Sum of 3

3080

1000

Sum of 3

3

2900

Spectr. Temp. Dome Temp./Hum. $+5.1^{\circ}\text{C}$ 68.5% Transparency Conditions ... OK, some thin clouds

Focus G.9.0 ... should have set for ≈ 6.75 I think but Hdy didn't watch height star of night.

Full Moon

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
sum of 3				CASS CCD	1800/563	200u Full length	H2	14ci	} on one line (14ci + 200u, 15 920 16 + 20)		
	3'-4"							15ci			
<u>3000</u>								16ci			
301								17ci		Dome T = $+4.8^{\circ}\text{C}$	
								17ci			
								18ci		12 h max ADU/pixel	
sum of 3								19ci	}		
								20ci			
<u>3080</u>								21ci			
1000								22ci			
sum of								23	}	some bad again	
3								24			
2900								25 25ci			
								26			
								1ci			
								26			

11/15

P⁴ 3

Thurs - Fri

Date 1991 Nov 21/22... Observers [Hdy]... 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.
CC04976 ✓	HD197433	20 38.6	+75 14	20 04 20	20 11 20	W		420 obs	
4977 ✓	"			20 11 30	20 18 30			"	
4978 ✓	"			20 18 44	20 25 44			"	
4979 ✓	"			20 26 20	20 33 20			"	
4980	"			20 33 38	20 40 38			"	
4981	"			20 40 50	20 47 50			"	
4982	B1A B(C4)								
4983 ✓	Comp							Fair clear	120s
4984 ✓	FLAT			20 53				TUNG A=1/4	23s
4985 ✓	HD197433	20 38.6	+75 14	20 54 38	21 01 38	04 09.5 W		420 obs	
4986	"			21 01 50	21 08 50			420 obs	
4987	"			21 09 11	21 16 11			420 obs	
4988 ✓	"			21 16 48	21 23 48				
4989 ✓				21 24 17	21 31 17				
4990 ✓				21 31 31	21 38 31				
4991 ✓				21 38 44	21 45 44				

Spectr. Temp

Focus.. 6.9

Spectr. Temp

Exp. Mtr.

S

800 2

920

=1000

1000

1000 2

400 3

sum of
2 exp

1500

1130 3

170

200

Spectr. Temp. Dome Temp./Hum. $+1.0^{\circ}\text{C}$ 71.5% Transparency Conditions ... part c/candy 116
 Focus .. 6:90
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
800	2 ³ "	^V 7.3 -7.7		CHSS CCD	1800/56.2	200 μ	H ₂	26ci	VW Cep - H ₂		
920								27ci			
~1000								28ci		probably lost	
1000								29ci			
1000	2 ⁴ "							30ci			
900	3 ⁴ "							31ci		some cloud, lots of cloud	
								31ci		Dome T = +3.6°C	
								32ci			
								32ci		11.5 K _{max} A04	
sun of 2 exp	3 ⁴ "							33ci			
1500								34ci			
1130	3 ⁴ "							35ci		clear stretch	
								36ci			
1170								37ci			
1200								38ci			
								39ci		some cloud	

"7 pg #4

Date 1991 Nov 21/22 Observers Hdy. / 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.
CC04992	✓ BIAS (4)			21 46					
4993	✓ FLAT			21 47 50				TUNG A=1/4	23s
4994	✓ FeAr			21:49 30				FeAr clear	120s
4995	✓ Comp for HD 5394							FeAr clear	120s
4996	✓ FLAT							TUNG A=1/4	23s
4997	✓ HD 5394	00 50 40	+60 10 31	22 07 32	22 29 14	01 18 W			
4998	Comp n.			22 32 37				FeAr clear	120s
4999	Comp (for moon)			22 45 02				FeAr clear	120s
5000	FLAT							TUNG A=1/4	23s
5001	BIAS (4) MOON (South 60°)			23 12 45	23 15 05				
5002	MOON (South 60°)			23 05 00	23 06 55				
	S 60°			23 12 45	23 15 05				
5003	MOON S 80°			23 22 00	23 28 30				
5004	MOON S 80° 80°			23 36 50	23 39 00				
5005	MOON S 80°			23 42 50	23 46 45				

Spectr. Tem

Focus... 6.2

Spectr. Tem

Exp. Mir.

8300

25000

9.000

Spectr. Temp. Dome Temp./Hum. $+3.5^{\circ}\text{C}$ 75% Transparency Conditions ... *Cloudy* 118

Focus *6-90*

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800/562	<i>200</i>	<i>Hα</i>	1c;			
23s								40c;		11.2 K	
120s								41c;			
								42c 5c;			
23s								6			
2500s		<i>V</i> 2.47	BOV					7c;		300 km/sec <i>V sin i</i> Telluric Std inc out of cloud	
								7.8 8c;		<i>Hα</i> strong emission <u>saturated</u>	
								9c;			
								10c 10c;			
								11c 1c;			
								11c;		TRAILED IN RA ACROSS MOON <i>by my cloud</i>	
								12c;			
90000								13c;		Then East to west	
								14c;		East-West trail (W$\rightarrow$E)	

[*A1* to Perseus & WORM
TO & inc/CCO 4999.5 Hz]

*W $\rightarrow$ East Trail/across
TO E*

119

pg #5

Date 1991 Nov 21/22... Observers ...Hdy...-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.
cc05005	MOON			23 56 47	00 01 40	00 15 E			
5006	BIAS (4) ↑			00 04 21					
5007	FLAT ↑			5 49				TUNG A=1/4	23 sec
5008	FeAr comp ↑			7 10				FeAr Clear	120 sec
5009 ✓	BIAS (4) ↓								
5010 ✓	FeAr comp ↓			00 51 50				FeAr Clear	120 sec
5011 ✓	FLAT			54 19				TUNG A=1/4	23
5012 ✓	HD 197433	20 38.6	+75 14	00 57 28	01 04 28	08 14 W		420 obs	500
5013 ✓	"			01 04 50	01 11 50			420 obs	540
5014 ✓				01 12 06	01 19 06				586
5015 ✓				01 19 25	01 26 25				556
5016 ✓				01 26 38	01 33 38				582
5017 ✓				01 34 05	01 41 05				583
5018 ✓				01 41 18	01 48 18				800
5019 ✓				01 48 30	01 54 30	09 04 W			500
					55				

Spectr. Tem

Focus

Spectr. Tem

Exp. Mtr.

82000

500

540

586

556

582

583

800

500

Spectr. Temp. Dome Temp./Hum. $+3.8^{\circ}\text{C}$ 74.8% Transparency Conditions ... *cloudy - poor body* ¹²⁰
 Focus *6.90*
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
82000				CASS CCD	66020 1800/562	200u Full width	H ₂	14c	7 K ADU	W → East Trail, E → W	
								1c			
								15c			
								16c			
								17c 1c			
								19c			
								20c		12.0 K ADU max	
600	3"-6"	^V 7.3 7.7						22c			
540								23c			
586								24c			
556								25c		VERY Hazy	
580	4"-6"							26c			
580								27c			
800	2"-4"							28c			
700								29c		some cloud	

pg #6

Date 1991 Nov. 21/22 Observers [Hdy]...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.
cc05020	✓ BIAS(4)	HBIAS.BAT							
5021	✓ FLAT							TUNG A=1/4	25s
5022	✓ Comp							FeAr clear	120s
5023	✓ HD197433	20 38.6	+75 14	02 01 02	02 08 02				
5024	✓ m			02 08 15	02 15 15				
5025	✓ not started			02 15 29	02 22 29				
5026	✓			02 22 41	02 29 41				
5027	✓			02 30 03	02 37 03				
5028	✓			02 37 15	02 44 15				
5029	✓			02 44 28	02 51 28				
5030	✓			02 51 40	02 58 40				
5031	✓ BIAS(4)	HBIAS.BAT							
5032	✓ Comp			59 50				FeAr clear	120s
5033	✓ FLAT			03 02 20				TUNG A=1/4	25sec
5034	✓ HD197433			03 04 24	03 11 24				
5035	✓ n			03 11 40	03 18 40				

Spectr. Tem.

Focus...6

Spectr. Tem.

Exp. Mtr.

500

605

640

530

700

740

780

1960

408

5

Spectr. Temp. Dome Temp./Hum. $+3.2^{\circ}$ 74% Transparency Conditions .. *part cloudy - hazy* 122
 Focus ... *6.90*
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD		300 μ Full Length	Hd	1ci			
								31ci		13k MAX ADU/pixel	
								32ci		MAX line @ 480 ADU	
600	4"-8"	$\frac{7.3}{7.7}$						33ci	Heli pgn Vw/cep		
605								34ci			
640								35ci			
530								36ci			
700	3"-6"							37ci		semi clear again	
54mcf 3 exps								38ci			
1960	3"-8"							39ci			
								40ci		v sharp single head plotted <u>min light</u>	
								1ci			
								12ci			
								13ci			
408								14ci			
511								15ci			

Emulsion Batches:

Date 1991 Nov 21/22... Observers Hdg. L. T. n.....

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.
CC05036	HD 197433	20 38.6	+75 14	03 18.59	03 2559			4200bs	800
5037	"			03 26 ¹² 14	03 3312			4200bs	760
5038	"			03 3324	03 4024			4200bs	560
5039	"			03 4036	03 4736			4200bs	320
5040	"			03 4900	03 5600			4200bs	170
5041	BIAS(4)			03 5630					
5042	Comp TUNG						TUNG	FeAr 25s	
5043	Comp						A=1/4	FeAr 120s	
5044	BIAS(4)						FeAr	120s	
5045	Comp white on Regulus						FeAr	120s	
5046	FLAT						FeAr	120s	
5047	HD 37901	10 03 03	+12 27	04 1924	04 2424			FeAr	120s
5048	"			04 2533	04 3127			FeAr	120s
5049	"			04 3230	04 4000			FeAr	120s
5050	FLAT			04 43			TUNG	FeAr 1/4 25s	

Spectr. Temp. Dome Temp./Hum. + 28°C 70%

Full moon too

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
800				C455 CCD			H ₂	16ci			
760	4"10"							17ci			
760								18ci		cloud	
320								19ci		hole, closed	
170*								20ci		* v cloudy	
										Perna T = +3.2°	
								22ci		12.6 K ADU/pixel	
								23ci			
								24ci			
								25ci 24ci			
								26ci 25ci			
50000								27ci	telluric Std	cloudy 9 K MAX ADU/pixel	
50700								28ci	"	7400 MAX ADU	
80250								29ci	"		
								30ci			

125 py #28

Date 1991 Nov 21/22 Observers Hdy. T. 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.
CCO 5051	Comp at end of Ray exps							FeAr Clear	120s
CCO 5052	BIAS(4)								
5053	Comp for HD 89449							FeAr Clear	120s
5054	FLAT							Tung A=1/4	25s
5055	HD 89449	10 14.3	+19 59	05 00 58	5 09 40	1 24 E			
5056	Comp for HD 89449							FeAr Clear	120s
5057	Comp for v w Cep							FeAr Clear	120s
5058	BIAS(4)								
5059	Flat							Tung A=1/4	25s
5060	HD 197433	20 38.6	+75 14	05 25 29	05 32 29	E			
5061	"			32 43	39 43				
5062				05 39 56	05 46 56				
5063				05 47 08	05 54 08				
5064				05 54 21	06 01 21				
5065				06 01 33	06 08 33				
5066				06 10 07	06 17 07				

Spectr. Ten
Focus....
Spectr. Ten

Exp. Mr.

7000

4500

685

650

740

810

~500

238

105

Spectr. Temp. Dome Temp./Hum. $+2.7^{\circ}$ 70%

Focus 6.90

Transparency Conditions .. Mostly cloudy 126
CIRRUS

Spectr. Temp. Dome Temp./Hum.

manison
e Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
9000						200 μ	H α	31ci			
								1ci			
								33ci			
								34ci, 34ci			
4500	4"	$\sqrt{4.79}$	F6 IV					34ci, 35ci	std vel		
								36ci			
								37ci			
										P ₂₀ T = $+2.8^{\circ}$	
								19ci		Dk 12.9x	
685	3"	$\sqrt{7.3}$ 7.7						20ci	H α pgn	VWCop	
650								21ci			
740								22ci			
810								23ci			
~500								24ci		cloud	
238								25ci		cloud	
105								26ci			

Pg # 9

Emulsion Batches:

Date ... 1991 Nov 21, 12A Observers ... Hdg ... Tg

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.
CCO 5067	✓ BIAS (4)			6 19 50					
CCO 5068	✓ FLAT							TUNG A=1/4	25s
5069	✓ Comp ↑							FeAr clear	120s
5070	✓ Comp ↓			6 31				FeAr clear	120s
5071	✓ HD 11 2028	12 48.4	+83 57.24	6 37 44	6 47 32	2 17 E			
5072	✓ Comp			6 49 49				FeAr clear	120s
5073	✓ BIAS (4)	H Bias, BAT							
5074	✓ FLAT			6 54				TUNG A=1/4	25s
5075	✓ DARK			6 55 07	7 02 07				420s
CCO 5076	FeNe			1425				FeNe clear	200s
5077	FeA			1435				FeA clear	60s

Spectr. Ten

Focus ...

Spectr. Ten

Exp. Mtr.

4700

Spectr. Temp. Dome Temp./Hum. Transparency Conditions *cloudy* 128

Focus *6-90*

Spectr. Temp. Dome Temp./Hum. *12.5°C ... 69.5%*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				<i>CHSS</i>		<i>209u</i>	<i>#2</i>				
				<i>CCD</i>	<i>1800/56.2</i>		<i>Hd</i>	<i>1ci</i>			
								<i>27ci</i>		<i>12.0A AD4 MAX</i>	
								<i>28ci</i>			
								<i>29ci</i>			
<i>4700</i>		<i>5.28</i>	<i>A1 III</i>	<i>Shell</i>				<i>30ci</i>	<i>shell star</i>	<i>SE & brighter of pair</i>	
								<i>31ci</i>			
								<i>32ci</i>	<i>ki</i>		
								<i>33ci</i>			
<i>All 40 worn / PORSeus & up to date to exabyte</i>											
					<i>1800/42.2</i>	<i>250u</i>	<i>4390A</i>			<i>G-4480</i>	
					<i>1800/42.2</i>	<i>250u</i>	<i>"</i>			<i>G-4480</i>	

Emulsion Batches:

Date 1991. NOV 26 & 27/29 Observers .. KK.....afternoon.....T.Y.

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[illegible]

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions

130

Focus

Spectr. Temp.

Dome Temp./Hum.

CCDT at bottom $\approx -125^{\circ}\text{C}$

0 0 128 1024 8 1 CCDPMT

Exp. Mtr.	Seeing	Ptg. Mag.	Sp. Shift	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Set 236	T = +0.6°	+1.86	Echelle CCD	600 ^{x grating} _{h/min}						New Collimator	
200	T = +0.6°	+0.30	"							Mounting in	
										X grating = .4550	
					17.00		4478 Å	10ci	500 PROW-	1440 1st $\rightarrow$ 1214 3700	
							4478 Å	9ci	4474 Å of 1022 Å	Blaze max Rot center	
					19.30		4479 Å	11ci	4474 Å 1000 Å	5th complete order from Top	
					19.30		"	12ci	500 PROW- 1800 1st $\rightarrow$ 5760 Å	5th complete order from Top	
					19.30				4i	blaze max Left & center	
					19.30		4341 Å	10ci	neutral	4th order up from 4479 Å	
							4588 Å			in 1st complete order from Top	
							4588 Å			in 2nd complete from Bottom	
							4552 Å			in 3rd complete from Bottom	
							4374 Å			in 2nd complete from top	
					19.00		4484 Å	13ci		4468 Å at Blue end included	
							4555 Å			in 4th complete order from Top	
										6th compl from Top	
										Ideal for Fdg setup	
										5th complete from Top	

(Note 4383 well in from LH edge)

X grating = .4500

19.00

X grating .4530

Echelle + 1/4

18.96

pg #1

Thurs - Fri

Echelle Flexure Tests after

Emulsion Batches:

recent Collimator changes

Date 1991 Nov 28/29.

Observers

Tn

refer to 1991

Enclosed Posn. Record

Feb 11/12 too Hr. L. Circle

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.
ce04074v	BIAS(4)			18 58					
4075v	0° 0, 6E Ech Flexure			19 00		05 57	0°	ThA	20sec
4076v	0° 0, 5E			19 11		05	"		
4077v	4E					04	"		
4078v	3E					03	"		
4079v	2E					02	"		
4080v	1E					01	"		
4081v	00 meridian					00	"		
4082v	01 W					01 W	"		
4083v	02 W					02 W	"		
4084v	03 W					3 W	"		
4085v	03 53					3 53 W	"		
4086v	09 hrs East					9 E	+45°		
4087v	8 E					8 E	"		
4088v	7 E					7 E	"		
4089	6 E					6 E	"		

Spectr. Temp. Dome Temp./Hum. $\pm 2.6^{\circ}\text{C}$ 65% ^{RH} Transparency Conditions ... *Cloudy* 132
 Focus *200*
 Spectr. Temp. Dome Temp./Hum. *CCDT left at bottom (0 CGAIN) (noticed date, unit button and date)*
32 0 64 1024 8 1 CCD INT

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	X Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD	600 $\frac{1}{4}$ / mm .4530	.281 width $\leq 60\mu$.225 Height = <u>900μ</u>		1ci		⁴¹¹⁴ Echelle grating 1890	
								3ci		Stepped into m. aror cell before exp to recover primary	
								4ci			
								5ci			
								6ci			
								7ci			
								8ci			
								9ci		Extensive dome $\rightarrow$ west before this exp	
								10ci		<u>CCDT = -128.5°C</u>	
								11ci			
								12ci			
								13ci		more dome $\rightarrow$ west before exp	
								14ci		AFTER UNSHOOTING CURVES on dome upper platform	
								15ci			
								16ci			
								17ci			

Moved dome before exp from NW $\rightarrow$ N $\rightarrow$ ~~NE~~

Continued Echelle CCD Flexure Tests.

Emulsion Batches:

Date 1991 Nov 28/29... Observers L.T......

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.
ce04090	✓ 5 hrs East					5 E	+45°	T4A 20s	
4091	✓ 4 E						"		
4092	✓ 3 E						"		
4093	✓ 2 E						"		
4094	✓ 1 E						"		
4095	✓ 0 0 meridian (zenith)						"		
4096	✓ 1 hr west						"		
4097	✓ 2 W						"		
4098	✓ 3 W						"		
4099	✓ 4 W			21 10			"		
ce04100	✓ 5 W						"		
4101	✓ 5 55 W					05 55 W	Limit almost +45°		
4102	✓ BIAS(4)								
4103	✓ FLAT					02 30 W	+24°	TUNG	50s
						(spots 4 8 pixels wide)			

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions *Snow* *134*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
-20s				eclat CCD		L 60μ H=900μ		18ci		Moved Done N→NNE before exp.	
								19ci			
								20			
								21ci			
								22ci			
								23ci		Done To NW before exp	
								24ci			
								25ci			
								26			
								27ci			
								28ci			
								29ci			
								1ci		Done T = +2.3°C	
50s						L 60μ ± .28/90° H=600μ ± .25		30ci		10K mov/pixel	
* 2)										Note - as seen in Flat, @ 48-49 pixels - @ pixel #s 210-269 or 4494-4493 H	
										Definitely flaws absorbing light (water) no change since noted March early 2002	

SAT - SUN pg 1

Emulsion Batches:

Date 1991 Nov 30 / Dec 1... Observers [H.K.]... T.N.....

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.
ce04104	✓ Comp (done after 1st exp. No beginning Comp)							ThAr	10s
ce04105	✓ HD 34029	05 09 18	+45 54	20 34 10	20 39 17	4 17E			307s
4106	✓ Comp another after doing 4104 for Luck							ThAr	10s
4107	✓ BIAS(4) done much earlier								
4108	✓ BIAS(4)			20 49					
4109	✓ FLAT			20 56 40		04 00E	+46°	TUNG	10s
4110	✓ FLAT(6) made up batch FLAT 6.7s average of 6 flats					04 13E	+46° each of 6 exps	TUNG	7s
4111	✓ Comp			22 27				ThAr	10s
4112	✓ HD 34029	05 09 18	+45 54	22 28 57	22 43 47				890
4113	✓ Comp							ThAr	10s
4114	✓ HD 34029	05 09 18	+45 54	22 49 56	23 03 56			840	14 mins
4115	✓ Comp							ThAr	10s
4116	✓ BIAS(4)								
4117	✓ Comp								
4118	✓ HD 34029	05 09 18	+45 54	23 24 10	23 39 10	01 17E			900s

Spectr. Temp. Dome Temp./Hum. $+6^{\circ}$ 66% $+20.30^{\circ}\text{EST}$ Transparency Conditions ... Cloudy ... with holes ... 136

Focus ... 200

0 0 256 1024 4 1 CCD FMT

Spectr. Temp. Dome Temp./Hum.

5000 Å Blaze 2 Regions

90 C Gain T: CCD $\rightarrow -100^{\circ}$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	X Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
900		B = 0.89	G811? + F	Echelle CCD	600 l/m -45.30	90u 600u length $\rightarrow 2.4600\text{Å}$	4340 Å (Fds criteria)		3ci Capella	Echelle Tilt = 1890 sum 3000 Å u above band (10 cols 4u)	
						90u 500u length		4ci		12 K max/pixel	
						u		1-3ci		9 K max/pixel	
1600		Prob .13 v good 0.89				90u 600u length again		7ci			
						u		8ci	rtt pgr	Some cloud max 1700 Å u/pixel at bottom left	
								9ci			
5000						90u = .265 600 Length		4ci		5800 MAX Å u/pixel	
						u		5ci			
								1ci		Dome T = +4.9°C	
						60u = .277 600 Length		5ci	Slit width changed		
6650						60u slit width		5ci	rtt pgr	good hole: no clouds	

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.
ce04119.fts	Comp for Capella							Th Ar	10s
4120✓	FLAT(6)	'using	FLAT6.7s			2 57W	+46° 06'	TUNG	7sec
4121✓	BIAS(4)					6 x 7secs.	(avg).		
4122✓	FLAT(6)	using	FLAT6.10s			04 00 E	+46 06	TLMB	10sec
4123✓	DARK 15min	after Topup		² 00 28		2 51W	+ 9°		900s
WORM Copy test	4104. thru 4109 (6 files)			00 40 50	00 42 08	(DARK running in Echelle CCD)			
				00 46 30	00 47 33				
				00 56 14	00 58 40				
	(Copy ce041*.fts Topobias as a check			{ (146secs 14 files) Echelle CCD window and					
	ce04110-4123 to WORM			01 35 05	01 37 30	(approx end) + 20sec maybe 01 37 10			
				<u>14 files x 10secs per.</u>					

Spectr. Temp. Dome Temp./Hum. $+4.4^{\circ}$ 67.7% Transparency Conditions ... Real, cloudy 138
 Focus
 Spectr. Temp. Dome Temp./Hum.
 No chance for a std vel or anything else.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
10				Echelle CCD		60u 600 length = .205 60u width 800u length = .185				CCDT = -101.9° MAX ADU/pixel = 6000 Dome T = $+4.4^{\circ}$	
7se						60u 800 length			Aug 6 10 sec flats	MAX ADU = 9000	
0										1st one seemed very slow? (138 sec) average 78 sec for 6 (527, 168) $\frac{1}{2}$ & 0.6	
900										1st one took 15 sec	
										Econ window up too, Copying star, DC from BIGDOS - warm	
										All backed up on Persaus now.	
										Econ window still up ceo 4110 $\rightarrow$ 4123 $\rightarrow$ Persaus from Bigdos window.	
										Using Dos services (marking method) ECON & Ech/leccc windows brought up again.	
										$\therefore$ 3 windows in all.	
										All now on <u>WARM</u> TOO	

139 pg #1 wed Thurs

Date 1991 Dec 4/5... Observers [r.g.]... Tn.../Sc.....

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.
105078	Comp						06560	FeAr clear	10s
105079	Comp						06560	FeAr A=1/4	10s
5080	H0204848			180500	182500		06560		
5082	"			183500	184518	783	06560		51850
5081	don BIHSCA	before exp 5082 and at 1st CCD FMT							
5083	H0204848	no good.			184712	1850			
5083	HP204848			185435	190157				
5084	H 204848			190822	192757		06560		117550
5085	Comp						"	FeNe clear	10s
5086	Comp						"	FeAr A=1/4	10s
5087	BIAS (one)								
5088	Comp						06560	FeAr A=1/4	10s
5089	Comp						"	FeNe clear	10s
5090	HP221170	2324.6	+2953	194624	202124	012841	06560		2100
5091	Comp							FeNe clear	10s

Spectr. Ten

Focus 6.20

Spectr. Ten

Exp. Mtr.

1140

480

340

1030

506

Spectr. Temp. Dome Temp./Hum. $\sim 5.8^{\circ}\dots 60\%$ Transparency Conditions 140

Focus 6.90. changed to 7.05. Format No good - spectrum stellar @
 $\rightarrow 360 \ 0 \ 30 \ 1024 \ 4 \ 1$

Spectr. Temp. Dome Temp./Hum. 90 C GAIN VERY poor seeing

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G=3970 831/377	200 μ F ₁₁ Length RANGE					
						7544-7980A					
1140	8"							3c	rg ppm	nothing	
480								4c		300 0 60 1024 4 1	CCD
								5c			
340								5c		image of bottom of view	
1030	8"	7.41	K3V Fe-4	G/H+1	SUM AVG cont of 10 pixels above center 9KADU			7c	(88-98 columns)	200 0 120 1024 4 1 (SDEFM) 300 0 160 1024 4 1	
								8		Note* Spectrum of Star displaced	
								9		on chip below comp spectrum	
								7c		by ± 40 actual pixels	
								9c		That must be the refraction Rel to TV view	
								10	70-90 cols		
2150	6-8"	7.66	K0 II Fe-3					11	rg std	(84-94 cols)	

141 pg #2

Emulsion Batches:

Date 1991 Dec 4/5... Observers [E.G.]... T.G.

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..... F.R.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination OKRI = R Sep	Comparison Type/Filter	Exp.
CC05092	Comp	at + 30° Dec				01 32W	06566	FeAr A=1/4	10s
5093	BIAS(1)								
5094	BIAS(1)								
5095	FLAT	at + 30°				01 40W	06566	TUNG A=1/4	20s
5096	FLAT	+ 30°				"	06560	"	28s
5097	Comp when @ HD 33328					03 45E	-8° 53	FeNe clear	20s
							06560	FeNe clear	
	Focus Tests	Comp / stellar partner posns respectively				0 0	+4°	FeNe clear	10s
	(Note written test shows a uv slight blue shift of stellar posn)								
CC05095v	Focus tests			21 57		0 0	+4°	FeNe A=1/4	10/10
5099v									
CC05100v	BIAS(4) after resetting CCD computer			300	0 160 1074 4 1	CCD FMT			
5101v	Comp						06560	FeNe clear	10s
5102v	HD 33328	05 0422	-08 5256	23 320	23 3700	00 55E	06560		300s
5103v	"	"	"	23 4031	23 5012	00 41E	"		

Spectr. Temp. Dome Temp./Hum. -9.8°C 64% Transparency Conditions ... *cloudy in* 142

Focus 7.05

Spectr. Temp. Dome Temp./Hum.

300 0 160 1024 4 1 CCD FMT

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD						CCD T = -101.8°C	
									70-108 columns	8400 ADU MAX/pixel	
									"	12,300 " " "	
								14ci		* Comp between 16-36 columns	
										Comp at $+30^{\circ}$ and 1hr west	
										was between 68-88 columns	
										That is a 200 intrinsic column shift!	
										not much shift of rows though	
										Right on!!	
										Had to reset, as r image on last	
										cache hung me up	
										telluric std	
										guided	
										Lower	
										Left of	
										3rd center	
										guided	
										V SHI = 336 km/sec	

($\approx 45\text{K ADU SUM}$) AVG of 10 Columns

143 pg #3

Date 1991 Dec 4/5..... Observers {RG} T.

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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 05104	✓ Comp			23 55			06 560	FeNe Clear	10s
5105	✓ FLAT			23 58		00 33E	"	TUNG H=1/8	
5106	✓ FLAT					00 30E	"		
5107	✓ BIAS(4)			00 20					
5108	DARK 10m			00 22	00 32				10min
Dec 6/7 Just focus Test Tn									
cc 05109/10	Focus Test + Comp/Stellaropsis			00 EST		1 35 W	+14°	FeAr Clear	40/40
1st setup comp A range visual.									
Comp Test								FeNe Clear	60s

144

7.05

Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G=3960 83/37.7	200 μ Full Length		5ci			
								6ci	15-50cols	MAX ADU/pixel = 14K	
								6ci		14 K imx @ 36 columns	
								1ci		Dome T = -8.6°C	
								7ci			
										All to warm Persens --	
				CASS CCD	G=6048 180/56.3	200 μ Full Length	Hx	5 $\frac{1}{2}$ ci	Focus Test	T = -3.0°C set 7.05	
										should be set @ 6.85 for -3°C will do depending on when obs next.	
					G=2550 600/24.8		2 central			To Persens & warm TOO	
					G=2580 600/25.2		3700A	"		12.333 A/G unit.	
					G=2566 600/25.0		4070A	1ci			
							4000A				
							"	3ci/4ci	T = +3°C	Stellar Red < 1 pixel	
					G=2566 600/25.0		4020A			set 7.05	

145

Mon - Tues

Date 1991 Dec 9/10 Observers Fich./Tn

Emulsion Batches:

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[illegible]

Spectr. Temp.

Focus...7.

Spectr. Terr

Exp. Mtr.

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions ... *Cloudy mostly* 146Focus ... *7.05*Spectr. Temp. *Dome T. = 12.5°C* Dome Temp./Hum.Comparison
Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CHSS CCD	G=2545 600/24.8 ^{200u}		3920A ⁶	6ci		ie going blue after reducing G from previous set	
					4			1ci		510 0 60 1024 4 1	
					17			2cs		$\rightarrow$ = 2.3 mm slit 120 intrinsic columns	
	400	0	10	1024 to 1	G=2545 ^{200u} 600/24.8 Full length		3900	1ci	after honing	Grating first	
										stellar H α from slit 120 $\approx$ 5 pixel	Comp center @ $\approx$ 600 H column
										FENE source gives comp on col #13-35	Comp from col #13-45 sharp edge

147

pg #1 Tues. wed

Date 1991 Dec. 10/11.... Observers Fick, J. Th... / Shan..

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.
CC05113	BIAS(4)	Average of 4							
05114	Comp							FeNe clear	40s
05115	S128	21 30 36	+55 38 41	18 23 36	18 45 36	02 12 W	+55 57 06		
05116	SKY	21 31 53	+56 07 39	18 49 10	19 12 00	02 40 W		1370 sec	
05117	S128	21 30 36	+55 38 41	19 14 10	20 01 10	03 28 W			
05118	SKY	21 31 53	+56 07 27	20 03 34	20 48 34	04 16 W			
05119	Comp							FeNe clear	40s
5120	BIAS(4)	Average of 4 bias when on S128							
5121	Comp for S212							FeNe clear	40s
5122	S212	04 36 50	+50 21 35	21 05 30	21 25 30	02 15 E			
5123	SKY 10 min	South of S212		21 28 07	21 48 07				
5124	Comp			21 28 07				FeNe clear	40s
5125	S212	04 36 50	+50 21 35	22 02 30	22 09 30	01 31 E			420s
5126	FLATS x 3	CC05126 - CC05128				01 24 E		FeNe H-clear	20s
5129	BIAS(4)								

Spectr. Temp

Focus...6"

Spectr. Temp

Exp. Mtr.

S

2

250

30

80

80

44

Spectr. Temp. Dome Temp./Hum. $+28^{\circ}\text{C}$ 71% Transparency Conditions ... Hazy... part cloudy... 148
 Focus ... 6.95
 Spectr. Temp. Dome Temp./Hum. [90CGAIN CCD $\rightarrow +100^{\circ}$] RA - 0 0 4 offset on 1st. star
 ADU 0 7 36

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G=2545 600/24.8	250 Full length		1ci	510 0	60 10 24 41 CCD FWHM	
40s							3900 Å	3ci		MAX 3640 ADU one line	
50				(36-39 w/stop)			"	4ci	H II pym	5 sec int skewing objects in field	
370 sec								5ci	sky	10 sec NORTH of previous exp	
80								6ci	H II pym	55 30 exp zero	
80								7ci	sky		
40s											
										Dome T = $+20.2^{\circ}\text{C}$	
40s								8ci			
74								9ci	H II Region	guided relative to (but field star 12 is main North)	
								10ci			
								H II			
								11ci	H II Region		
								12-14ci	Flats	MAX ADU = 10K/area	

149

pg#2 Tues - Wed

Emulsion Batches:

Date 1991 Dec 10/11... Observers Frch./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.
CC05130	✓ Comp							FcAr CLEAR	80s
5131	✓ S212	04 36 50 ¹⁹⁵⁰	+50 21 35	22 29 15	22 38 15				
5132	✓ SKY with cloud	10mm	South of S212	22 48	23 09	00 31E			1260sec
				22 48	23 09	00 31E			
5133	✓ S212	04 36 50	+50 21 35	23 13 40	23 25 40	00 15E			720 SE
5134	✓ Comp							FcAr CLEAR	80s
5135	✓ FLATS		at S212 pos'n					TUNG A=1/4	20s
5137	✓ Comp							FcAr CLEAR	50s
5139	✓ S212			23 41 25	23 51 25	00 11W			600secs
5140	✓ " SKY			23 53 15	00 43 15	01 03W			3000secs
5141	✓ Comp	10min ^{HAC} south of S212		00 46 00	01 08 00	01 28W	(1320sec)	FcAr CLEAR	50s
5142	✓ Comp							FcAr CLEAR	50s
5143	✓ BIAS(4)								
5144	✓ FLATS							TUNG CLEAR	15s
5146	✓ FLATS								
5147	✓ Comp							FcAr CLEAR	40s

Spectr. Temp. Dome Temp./Hum. $+2.2^{\circ}\text{C}$ 80% Transparency Conditions *Cloudy* 150

Focus 6.95

Spectr. Temp. Dome Temp./Hum.

FORMAT for 1800/1 grating 460 0 60 1024 41

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G=6020 1800/	25 μ full length	H α	15c		460 0 60 1024 41 CCD FWH	
								16c	H II Region	447 555 H α	
								17c	SKY		
								18c	H II region		
					G=6050		H α	18 μ 19 20		12 K max/pixel	
				CASS CCD	G=4850 1800/		4940A	21	HE Region		
13								22c	H II Region		
37								23c	"	Some cloud	
13								24c	SKY	Some cloud	
								25c			
					4460					Dome T = $+2.3^{\circ}\text{C}$	
								26c		12 K MAX ADU/pixel	
					G=4460 1800/		4360A	27c			

Date ... 1991 Dec 10/11 .. Observers ... Fish / Ty

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.
CC05148 ✓	S212	04 36 50	¹⁹⁵⁰ +50 21 35	01 26	02 07 00	2 27 W		2460s	41 min
5149 ✓	SKY 10 arc min South			02 13 22	02 30 22	2 51 W			17 min
5150 ✓	Comp							FeNe clear	40s
5151 ✓	Comp (near Trapezium)							"	"
5152 ✓	Orion Nebula	05 32 5	¹⁹⁵⁰ -5 28	02 50 30	03 00 30	2 26 W		Tung clear	?
5153 ✓	FLAT							FeNe clear	40s
5154 ✓	Comp								
5155	Orion Nebula [240 sec NORTH of TRAP]			03 15 50	03 35 50	3 02 W			20 min
5156	Comp							FeNe clear	40s
5157	BHS (4)								
5158	SKY	06 18 09	^{Enclosed Posn.} 15 25 21	03 48 15	03 59 20				11 min
5159	"	"	"	04 03	04 23	3 06 W		1200s	20s
5160	FLAT	"	"	04 26					5 min

Spectr. Temp. Dome Temp./Hum. $+2.3^{\circ}\text{C}$ 81% Transparency Conditions ... *part cloudy* 152
 Focus 6.95
 Spectr. Temp. Dome Temp./Hum. $+2.0^{\circ}\text{C}$ 81% Row # 144 gives a false reading ??

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	CASS CCD	250u FULL	4360A	28i	4340 should be 30i 60012u	G= 4460 (range 1800 - 4465A)	
								29i			
								30i		CCDT = -99°C	
							4360A	30		2 40 arc sec NORTH of Triangulum	
								31			
					G 4100 1800/	250u FULL	3800A	32			
							"	32		H II region from	
							"	33			
							"	34		Dome T = $+2.2^{\circ}\text{C}$	
							"	34		Nothing seen	
							"	35		Partly clear	
							"	36		10 K ADU MAX	
										All to warm & Pease's after extensive SED fits ending	

153

py #1 Wed - Thurs

Date 1991 Dec 11/12 Observers [i.g.] 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.
CC05161	B145(4)								
5162	Comp						OG560	Felt A=1/4	20s
5163	HD 204848	21 262	-10 11	17 21 47	17 25 47	00 57.5W	OG560		450
5164	HD "			17 27 10	17 47 10	01 19W	"		400
5165	Comp						"	Felt A=1/4	20s
5166	Comp for						"	"	"
5167	HD 221170	23 24.6	+29 53	17 57 44	18 11 44	00 14E	OG560		500
5168	Comp						OG560	Felt A=1/4	
5169							OG560	Felt A=1/4	
5171	FLATS (3) (+10° Dec)			18 20		01 13W	OG560	TUNG A=1/8	800
5172	Comp						OG560	Felt A=1/2	20s
5173	HD 204848	21 262	-10 11	18 30 40	19 00 40	02 33W	OG560		510
5174	MOON region			19 06 40	19 12 40	02 42W	"	Felt A=1/4	20s
5175	Comp							Felt A=1/2	20s
5176	HD 221170	23 24.6	+29 53	19 23 53	19 43 53		CC05176	Comp	20s
5178	Comp							"	20s

Spectr. Temp. Dome Temp./Hum.

90C Gain T.C.D $\rightarrow -100\%$

[illegible]

155

pg 2

Date 1991 Dec 11/12. 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.	Exp. Mir.
cc05179	✓ FLATS 3				06560	01 35W	+10°	TUNG A=1/8	20s	
5181	✓									
5182	✓ Comp							OG560 FeNe A=1/2	20s	
5183	✓ HD 33328	050422	-085256	20 1400	20 2400	03 41 E		OG560 OH/EA Sep	10min	4500
5184	✓ Comp						n	FeNe A=1/2	20s	
5185	✓ Comp						"	FeNe A=1/4	20s	
5186	✓ HD 33328			20 3325	20 4725	03 18 E	"			7000
5187	✓ Comp						"	FeNe A=1/4	20s	
5188	✓									
5190	✓ FLATS									
5191	✓ BIAS(4)									
5192	✓ " "			21 34						
5193	✓ HD 33328 Comp							FeNe Clear	90s	
5194	✓ HD 33328	050422	-085256	21 5010	21 5710	2 08 E	none			
5195	✓ Comp							FeNe Clear	90	
5196	✓ Comp							"	"	
5197	✓ V471 Tau	034443	4/6 57	22 10	22 3000	00 16 E				

Spectr. Temp. Dome Temp./Hum. $+3.0^{\circ}\text{C}$ 70% Transparency Conditions Fine 156

Focus 6.95 $\rightarrow$ 6.80 for 1800 lines/mm grating

Spectr. Temp. Dome Temp./Hum.

- clouding in

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	831	2000 Full	7900A	19 ci 21 ci		MAX 10k ADU/pixel	
					G= 3990			22 ci			
4500	5"	V 4.27	B2IVne					22 ci	Telluric Std	7000 MAX ADU/pixel asini = 336 kms	
								22 ci			
					G 4200 831/39.8		8570A	23 ci			
7000								23 ci	Telluric Std	FOR 8576 Å	
								24 ci 26 ci			
								24 25 26			
spct	Focus changed to 6.80				G 6020 1800/562		H+	27 ci		Pure T = $+1.6^{\circ}\text{C}$ CCD FMT change 460 0 60 1024 4 1	
8200	5.8"	V 4.27	B2IVne					27 ci	Telluric Std	MAX 2000 ADU/pixel Some Cloud	
								29 ci			
		V 4.27									
550	3.5"							29 ci	V471 py m	1000 H α Sun. H α above background 5 cols.	

15799 H3

Emulsion Batches:

Date 1991. April 12..... Observers M.K. / J.....

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. Mr.
CC05198	V471 Tau	03 44 43	+16 57	22 30 53	22 50 53				1200s	500
5199	"			22 51 47	23 13 00	00 27 W				591
5200	Comp							FeAr Clear	90s	
5201	V471 Tau			23 17 48	23 37 48	00 52 W		1200 0.85		75
5202	V471 Tau			23 39 00	23 59 00	01 13 W				630
5203	"			00 00 05	00 20 05	W				750
5204	Comp							FeAr Clear	90s	
5205	Bias (4)									
5206	V471 Tau			00 24 00	00 44 00				1200 0.85	750
5207	"			00 44 20	01 04 20					700
5208	"			01 05 10	01 25 10	2 39 W				700
5209	Comp									
5210	Bias (4)									
5211	FLATS x3							FLATS A-14	20500	
5214	V471 Tau			01 34 26	01 54 26			1200 500s		628

Spectr. Temp. Dome Temp./Hum. $+1.5^{\circ}\text{C}$ 66% RH Transparency Conditions ... mostly clear 158

Focus ... 6-80

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
608	3"-4"			CASS CCD	1800/58.2	200 μ Full Length	H ₂	29ci		SUN 1000 ADU above blend for 5 cols	
591								30ci			
								31ci			
475								31ci			
630								32ci			
750								64ci			
								7ci			
								1ci		Dome T = $+1.6^{\circ}\text{C}$	
750								7ci			
700								8ci			
740								9ci			
								10ci			
										10 K in 4x	
628								14ci			

Date 1991 Dec 11/12 Observers M.Ki./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.
CC05215	✓ V471 Tau	03 44 43	+16 57	01 54 50*	02 14 50				
5216	✓			02 15 00*	02 35 00	3 49W			
5217	✓ Comp							Fair CLEAR	90s
5218	✓ BIAS (4)								
5219	✓ V471 Tau			02 39 20	02 59 20			1200 obs	425
5220	"			02 59 44*	03 19 44			exp read 1200s	250
5221	✓ BIAS (4)			03 20 07	03 23				
5222	✓ B Comp							Fair CLEAR	90s
5223								TUNG	
5225	✓ FLATS x3							H=1/4	20s
5226	✓ Comp FOR MWC 560							Fair CLEAR	90
5227	✓ MWC 560	07 21 01	-07 32 12	03 51 30*	04 11 40	0151W			25 min 333
5228	✓ Comp							Fair CLEAR	90s
5229	✓ Comp							Fair CLEAR	20
5230	✓ MWC 560			04 20 14*	04 50 14	0229W		1800	secs 220
5231	✓ Comp							Fair C/2400	20

Spectr. Temp. Dome Temp./Hum. $+1.3^{\circ}\text{C}$ 576% Transparency Conditions ... Fine ... sl. hazy ... 160

Focus 6.80 (still ideal)

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
720				CASS CCD	G=6020 1800/56.2	200	H ₂	15			
								16			
								17		CCDT = -103.6°C	
								1c:		Perro T = $+1.2^{\circ}\text{C}$	
425	3 ^u							19c:		Some cloud 12 hrs since last CCDT = -102°C Topup	
250								20c:			
								21c:			
								22c:		CCDT = -102.8°C	
								23-24 ci			
										Topup done by 0330	
333							H ₂	26ci	17ki pgn	3800 max A04 H ₂	
								27ci		3i	
					G4760 1800		H ₂ B region	28ci			
320							4845 A	30	max: pgn	500 A04 max	
							central				

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pg#5

Emulsion Batches:

Date 1991 Dec 11/12 Observers MKI./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.
CC05232 ✓	BIAS(4)								
5235 ✓	FLATS x 3	-				02 36 W	-7 41	JUNG Clear	25 sec
5236 ✓	BIAS(4)								
5237 ✓	Comp							Fehr Clear	20s
FM 005418.1 ✓	HD 90861	10 24 17	+29 05 35	05 14	4 frames	00 07 E	"Log" mode	*	
5238 ✓	"	"	"	05 15 52	05 25 52				10 min
FM 419.1 ✓	"	"	"			00 06 W	"N" mode		
5239 ✓	Comp							Fehr Clear	20 sec
5240 ✓	BIAS(4)								
5241 ✓	DARK 3ci								30 min
5242 ✓	" 4								30
5243 ✓	" 5								30
5244 ✓	BIAS(4) 6								

0611 AM
PARBOBAT started

Spectr. Temp. Dome Temp./Hum. -0.2°C 70% Transparency Conditions .. PART cloudy 182
 Focus 6.80
 Spectr. Temp. Dome Temp./Hum. -0.4°C 68% - Hazy

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G4760 180	200u full length	4845A				
										MAX = 1/K ADU/pixel	
								7ci			
55x55 pixels	6.9	K2 III	67msec	Int	(1/15 sec)	Slit open Right to 200u slit			Seeing Test	Light SE breeze	
2050	4"	"	"	"	"	"	4845A	8ci	Std Vel		
55x55	"	"	"	"	"	"			Seeing Test	Dome facing SW	
								9ci			
Backed up to Perseus Worm To								CC	05239.Fts		
									5161-5199	not edited to Perseus	
									but all edited To	Worm. (ie exp times)	
All to								CC	05244	Dec 12 To	

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Pg #1 Wed-Thurs

Date .1991. Dec 18/19.... Observers .H.G. / J.M.S. / 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
1C05245	✓ Comp			² 17 50				FeAr Clear	90s
5246	✓ BIAS(4)								
5247	✓ CV Cyg (H α)	¹⁹⁹² 19 44 8	¹⁹⁹² +38 01 57	18 13 30	18 28 30				
5248	✓ FLAT							TUNG H=1/4	30s
5249	✓ CV Cyg (H α)	¹⁹⁰⁰ 19 ^h 50 ^m 45 ^s	+37°47.1	18 39 28	18 49 33				600
5250	✓ CV Cyg (H α)			18 50 00	19 10 00				1200 1200
5251	✓ BIAS(4)			19 11 31					
5252	✓ FLAT			19 13 50					
5253	✓ COMP(H α)			19 15 25					
5254	✓ COMP(H β)							FeAr Clear	40s
5255	✓ FLAT(H β)							TUNG Clear	
5256	✓ BIAS(4)			19 26 20					
5257	✓ CV Cyg (H α)			19 26 20	19 46 34				1200
5258	✓ CV Cyg (H α)			19 46 57	20 02 47				950
5259	✓ FLAT								
5260	✓ COMP (H α)								

Spectr. Temp

Focus... 7.2

Spectr. Temp

Exp. Mtr.

S

158

113

234

6034

243

201

Spectr. Temp. Dome Temp./Hum. Transparency Conditions

Focus ... 7.20

Spectr. Temp. Dome Temp./Hum.

CCDT set to -100°C

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>90</i>					<i>G=6000 1800/</i>	<i>500μ Full Length</i>			<i>FORMIFT</i>	<i>460 0 60 1024 9 1</i>	
						<i>14x</i>					
<i>158</i>					<i>G=6000</i>			<i>3ci</i>		<i>STREAK AT ROW 144 FIRST DIGITAL SPECTRUM OF THIS STAR EVER!</i>	
								<i>4ci</i>		<i>MAX 14,800 ADU/pixel</i>	
<i>113</i>								<i>5ci</i>			
<i>234</i>								<i>6ci</i>			
								<i>7ci</i>			
<i>6934</i>								<i>7ci</i>			
<i>45</i>					<i>G=4760</i>		<i>4845A</i>	<i>8ci</i>			
								<i>9ci</i>			
<i>243</i>								<i>10ci</i>		<i>240-300 → HB</i>	
<i>201</i>								<i>11ci</i>			
								<i>12ci</i>			
								<i>13ci</i>			

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pg #2

Emulsion Batches:

Date 1991 Dec 18/19

Observers

Hdy / mki / Tq + (Kamran
mentor student)

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.
cc05261Hs	BIAS (4)								
5262	COMP (HS-COH)			20 28 41					
5263	CC05261Hs BIAS (4)							1000s	
5264 ✓	CV Cyg			20 35 20	20 52 20			17 min	222
5265 ✓	CV Cyg			20 53 11	21 13 11			120s	269
5266 ✓	FLAT								
5267 ✓	FLAT			21 17 52					
5268 ✓	BIAS (4)			21 25					
5269 ✓	Comp	for HD 220657						Felt Clear	60s
5270 ✓	HD 220657	23 20 23	22 51 00	21 38 57	21 44 57	3 51 W			
5271 ✓	Comp							Felt Clear	60s
5272 ✓	Comp HD							Felt Clear	40s
5274 ✓	HD 220657			21 57 30	22 03 30	4 10 W			6 min
5273 ✓	BIAS (4)	(done before 5273)		21 54					
5275 ✓	Comp							Felt Clear	40s

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Spectr. Temp. Dome Temp./Hum.

[illegible]

167 pg # 3

Date ... 1991 Dec. 18/19 Observers Hdg. / mti. / 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.
CC05276	✓ FLAT							Tung Clear	26
5277	✓ BHS(4)								
5278	✓ Comp							FeAr Clear	90
5279	✓ HD 220 657	23 20 23	+22 51 00	22 16 56	22 22 56	4 29 W			
5280	✓ Comp							FeAr Clear	90
5281	✓ FLAT							Tung H=1/4	28
5282	✓ BHS(4)			22 28					
5283	✓ Comp FOR	V 471 Tau		22 52 04				FeAr Clear	90
5284	✓ V 471 Tau	03 44 43	+16 57 06	22 52 04	23 12 04	0 54 W			1200
5285	✓ "			23 13 00	23 33 00				1200
5286	✓ "			23 33 40	23 53 40				1200
5287	✓ Comp							FeAr Clear	90
5288	✓ BHS(4)								
5289	✓ FLAT			00 05 20	00 25 20				
5290	✓ V 471 Tau.			00 05 20	00 25 20				1200

Spectr. Tem.

Focus

Spectr. Tem.

Exp. Mir.

9163

386

783

388

350

380

Spectr. Temp. Dome Temp./Hum. -14°C 53% RH Transparency Conditions ... Hazy ... 168

Focus ... 8.20

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G 4760 1800 nm/mm	200	4845A			14 K max	
					G 6000 1800		H2				
9163	✓ 4.5	F8IV					"	20 ci	Star Star	3500 ADY MAX ADG/pixel	
							"	20			
							H2	21ci		<u>14 K max</u>	
886								21ci		Significant moon light nearby	
783								22ci			
888	6"							23ci			
								24ci			
950											
950								24ci			

Emulsion Batches:

Date 1991 Dec 18/19... Observers ...mki./Th.....

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.
CC05291 ✓	V 471 Tan			00 27 00	00 47 00				1200
5292 ✓	"			00 48 15	01 08 19				120
5293 ✓	Flat							Tung A=1/4	255
5294 ✓	BIAS(4)								
5295 ✓	Comp							FoAr Clear	90s
5296 ✓	Comp				01 24				
5297 ✓	MWC 560	07 21 01	-07 32 12	01 40 00	02 10 00				1800s
5298 ✓	"			02 10 40	02 40 40				1800s
5299 ✓	Comp							FoAr Clear	90s
5300 ✓	Flat							Tung A=1/4	255
5301 ✓	BIAS(4)			02 42					
5302 ✓	Comp H&R							FoAr Clear	40s
5303 ✓	MWC 560			02 52 20	03 22 20	W			1800
5304 ✓	"			03 23 10	03 53 10	02 00 W			1800
5305 ✓	Comp							FoAr Clear	40s

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mtr.

Exp. Mtr.

Exp. Mtr.

Exp. Mtr.

Exp. Mtr.

Exp. Mtr.

Exp. Mtr.

Exp. Mtr.

Exp. Mtr.

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Exp. Mtr.

Exp. Mtr.

Exp. Mtr.

Exp. Mtr.

Exp. Mtr.

Exp. Mtr.

Exp. Mtr.

Exp. Mtr.

Exp. Mtr.

Spectr. Temp. Dome Temp./Hum. -14.2°C 54% Transparency Conditions Hazy 170

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
120 900.				CAS LCD	G 6000 1800/	200 μ Full length	H α	—		Strong moonlight.	
120								25c			
255								3c		11K max	
70								3c			
350	6"-10"							6c		1300 ADU MAX @ H α	
420	4"-10"							7c	MT: pgn	West of Pair - Sep 3 2 urcmia	
								8c	"	*OR much worse at times	
								9c			
								12c			
420					G-4760		H β	13c		center @ 4845- $\text{\AA}$	
440								13c			
								14c			
								15c			

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Emulsion Batches:

Date 1991 Feb 18/19..... Observers Mti./Ty.....

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.
CC05306	✓ FLAT							Tung Clear	25s
5307	✓ BIAS(4)								
5308	✓ MWC 560			04 02 40	* 04 32 40	2 40 W			1800
5309	✓ FLAT							Tung Clear	25s
5310	✓ Comp							FeAr Clear	90s
5311	✓ Comp @ H ₂							"	90s
5312	✓ BIAS(4)								
5313	✓ MWC 560			04 42 14	✓ 05 02 14	03 09 W			1200s
5314	✓ Comp							FeAr Clear	90s
5315	✓ BIAS(4) FLAT at MWC 560 pos'n							Tung A-1/4	25s
5316	✓ BIAS(4)								
5317	✓ Comp							FeAr Clear	90s
5318	✓ HD 87901	10 03 03	H2 27	05 20	✓ 05 21	00 46 W			
CC05319	Focus Test							FeAr Clear	40
CC05320	Comp / Stellar pos'n							n	40

Spectr. Tem

Focus

Spectr. Tem

Exp. Mtr.

460

39000

400

H

Spectr. Temp. Dome Temp./Hum. -15.5°C 56% Transparency Conditions Hazy 172

Focus 7.20

Spectr. Temp. Dome Temp./Hum. -16°C 57%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G 4760 1800	200 μ Full	4845A	15c;		12,400 MAX	
460	4.8"							18c;			
								19c		13 K max / pixel	
								19c			
					G-6000 1800/56.1		H2	Act	b140 of H2 actually		
										Dome T = -16.1°C	
	3.6"							19c;			
								20c;			
								20c;			
								20c;			
39008	1.36			BTV				20c;	Telluric Std	guided 9 K MAX	
					G-6000 1800/56.1		H2	1		T = -16.0°C	
							"	2		Set 7.20	
									stellar cal by	1.5 pixels	

(400 0 10 1024 40 1)
(All to Perseus and WORM)

173

Pg#1 Thurs Fri

Emulsion Batches:

Date ... 1991 Dec 19 / 20 ... Observers ... mki - Tm ...

Data acquisition PC set to WWV time / mt III

Note Logbook times taken from mki - Tm ... 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.
CO 5321.83	Bias (x4)			19:51					
5322	Comp							20 sec	FelNe Clear
5323	CV Cyg			20 00 00	20 20 00				1200
5324	"			20 20 30	20 40 00				
5325	"			20 42 40	21 02 40				
5326	Comp FeNe								20
5327	flat							A 1/2	20
5328	bias (x4)								
5329	FLAT							A 1/2	20
5330	Comp							FeNe Clear	20
5331	HD 220657	23 20 23	+22 51 00	21 33 48	21 39 15	3 50 W			
5332	"	"	"	21 41 10	21 46 15				
5333	Comp at	HD 222368	posn.						
5334	HD 222368	23 34 48	+05 05	22 01	22 05 20	4 01 W			
5335	"	"	"	22 07	22 09				

Spectr. Ten

Focus ...

Spectr. Ten

Exp. Mtr.

315

335

380

1100

1400

1100

7000

Spectr. Temp. Dome Temp./Hum. -7.6°C 74% Transparency Conditions *Hazy* 174

Focus 7.05

Spectr. Temp. Dome Temp./Hum.

90CGAIN CCDT-7 -100°C

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G2596 600/	200 μ Full	4120A		FORMAT	1024 8 1	CCDFMT
315	2.7"	11							Hdy pgm	Tel on East side Field drawn	
335								3ci			
380								4ci		High background	
								5ci			
11000		$\sqrt{4.5}$	F8IV					6ci	Std Star	MAX $\approx 8\text{K/pixel}$	
11,700								7ci	"		
11000	3"-5"	$\sqrt{4.13}$	F7IV					8	Comparison Star, formerly a Std vel star		
17000								809			

pg #2

Date .. 1991 Dec 19/20... Observers .. Mti. - Jy

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.
CC05336	HD 222368			22 11	22 23	4 19 W			
5337	Comp							FeNe Clear	20
5338	FLAT							TUNG A=1/2	20
5339	BIAS (4)							FeNe Clear	20
5340	Comp for V471 Tau								
5341	V471 Tau	03 44 43	+16 57 06	22 34 50	22 54 50	00 41 W			1200s
5342	"	"	"	22 56 00	23 16 00	01 02 W			1200
5343	Comp							FeNe Clear	20s
5344	FLAT							TUNG A=1/2	20s
5345	Bias (4)								
OK ↓ 5346	Comp							FeNe Clear	20s
5347	MWC 560	07 21 01	-07 32 12	22 27	23 57 27	E			1200
5348	Comp							FeNe Clear	20
5349	BIAS								
5350	FLAT							TUNG A=1/2	20
5351	FLAT FLAT							TUNG A=1/2	20s

Kept actually

Spectr. Ten

Focus.....

Spectr. Ten

Exp. Mir.

21000

1200

1030

590

270

Spectr. Temp. Dome Temp./Hum.

Exp.	Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
21000	5"				CASS CCD	G2596 600/	200 μ Full Length	4120Å	10c:	std star	8K MAX	
1200	2-3"								11	mk. pgm	Moon To East (fairly close)	
1030									12			
									13		11 K MAX 40u - 5 μ - 8u side	
590									13c:			
[470	0	30	1024	8	1]	G2596 600		4120Å	14c:			
						1800/		H β	15		G = 4760	

pg 43

Emulsion Batches:

Date 1.9.91 Dec 19/20... Observers M.Ki. - T.h.

5 20

50

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.
CC05352 ✓	Comp							FeAr Clear	20s
CC05353 ✓	MWC 560	07 21 01	-07 32 12	01 46 10	* 02 16 10	00 27 W			1800
5354 ✓	"	"	"	02 17 40	* 02 47 40				1800
5355 ✓	Comp							FeAr Clear	20
5356 ✓	FLat							TUNG A=1/2	24
5357 ✓	BIAS(4)								
5358 ✓	Comp @ Hd			03 21	03 52 00			FeAr Clear	70s
5359 ✓	MWC 560			02 57 20	03 12 43	02 03 W			14/3s
5360 ✓	Comp							FeAr Clear	70s
5361 ✓	Flat							TUNG A=1/4	13
5362 ✓	BIAS(4)								
5363 ✓	Comp for	Regulus						FeAr Clear	70s
5364 ✓	HD 87901	10 03 03	+12 27	04 15	04 15 30	00 15 E			
5365 ✓	"	"	"	04 19	04 19 40				
5366	Comp							FeAr Clear	70s

Spectr. Tem.

Focus.....

Spectr. Tem.

Exp. Mtr.

600

660

41s

590

320

3200

2000

Spectr. Temp. Dome Temp./Hum. -9.5°C : 765% Transparency Conditions ... Hazy... cloudy... 178
 Focus 7.05
 Spectr. Temp. Dome Temp./Hum. -9.8°C : 77%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
203				CASS CCD	G-4760 1800/	2002 Full	HP	16c		470 0 30 1024 8 1 (COFMT)	
1800	600	3-2						17c	17K1 fgr		
1800	660							18c		part cloudy	
20											
203	26 sec							19c		13 K max	
703	670				G 6000 1800/		HL	19c		All failed same time CCD, MK1, TV garden, Histo clock	
703	320							3c	1st after Reboot	Started over after reset	
703								4c			
13								5c		11 K MAX	
703											
32000								6c	Telluric std	10 K MAX	
20000								7c		9 K MAX	
703								8c			

pg #4

Date ... 1991 Dec 19/20 Observers ... T. M. K.

Emulsion Batches:

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[illegible]

180

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					1800/		H ₂	9d		max 12K	
					All to work on & perseus.						
					G6000 1800	200 _h Full	H ₂	1c1	360 0 10 1024 40 1 CCD Full		
								2c1	stellar shift blue < 1 pixel		

pg#1 Sun-Mon

Date 1991 Dec 22/23 Observers Hdg./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.
CC05371	✓ Comp							Felle clear	40s
5372	L BIAS(4)			~ 18 15 start					
5373	✓ CV Cyg	19 50 45	+37 47.1	18 22 50	18 30 50			~ 900 sec	130
5374	"			18 33 10	* 18 58 10			1500	25s
5375	✓ Comp							Felle clear	40s
5376	✓ FLAT	} 4110A					Clear	TUNG	20
5377	✓ FLAT						"	TUNG	28
5378	✓ BIAS(4)			19 06 45					
5379	✓ Comp for Hox			fe .				Felle clear	90s
5380	✓ CV Cyg	19 50 45	+37 47.1	19 18 28	* 19 39 28			1260	
5381	✓ "			19 40 10	* 20 00 10			1200s	
5382	✓ "			20 00 45	20 30 45				
5383	✓ Comp							Felle clear	90s
5384	✓ BIAS(4)								
5385	✓ FLAT							TUNG	
5386/87	✓ Focus Test Comp / Stellar pos					0 0	+8°	A = 1/4 Felle clear	28s 40/40

Spectr. Temp. Dome Temp./Hum. ... 0°C 75.6% Transparency Conditions ... He. 2.4 182
 Focus 7.05
 Spectr. Temp. Dome Temp./Hum.
 90 CGAIN T → 100°C
 Format 500 0 40 1034 4 1

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS LCD	G2546 600/	200μ Full height	410Å	3ci			
130	3-4"	11						4ci	Hdg pgm		
260								5ci	"		
								6ci		10 K max	
								7ci		15 K max	
					G=6020 1800/		H2	8ci		Format 480 0 45 1029 4 1	
260	4"							9ci	Hdg pgm		
422								10ci			
438								11ci			
										CCDT = -102.0°	
					G=6020 1800					12 K max	
T = -1°C - Set					6.80		H2	14/15	Stellar vs Right on	Red of Red end and Blue end	

183

pg #1

Mon - Tues

Date 1991 Dec 23/24 Observers Hely.../TD...[r.G.]...

Emulsion Batches:

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(using MKII or 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.
cc05388✓	Comp							FeAr Clear	90s
5389✓	HD 204848	21 26.2	-10 11	17 2900	17 3900	01 59W	x		600s 10 min
5390✓	HD 204848	"	"	17 3919	18 0919	02 29W	x		1800s
5391✓	Comp							FeAr Clear	90s
5392✓	BIAS(A)								
5393✓	FLAT	same posn.						TUNG A=1/4	28s
5394✓	Comp for HD 221170							FeAr Clear	90s
5395✓	HD 221170	23 24.6	+29 53	18 2024	18 3524	00 56W			2000
5396✓	Comp							FeAr Clear	90s
5397✓	BIAS(A)								
5398✓	FLAT at posn of HD 221170							TUNG A=1/4	28s
5399✓	FLAT at posn of HD 214923					01 57W	+10 51	TUNG A=1/4	28s
5400	Comp	"	"						
5401	HD 214923	22 36.5	+10 19	18 5235	18 55	2 05 W	x		3 200s
5402	"	"	"	18 5800	19 0300	2 12W	✓		2000

Spectr. Temp. * Dome Temp./Hum. -0.0°C ... 71%

Transparency Conditions ... ~~Hazy~~ ... clearing ... 184

Focus ... 6.80 ... changed from 7.05 @ 20:45 previous night

Spectr. Temp. Dome Temp./Hum.

FORMAT
90CGAIN T $\rightarrow$ -100 μ - 480 0501029 41

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CHSS CCD	G=6020 1800 μ	200 μ Full	H ₂	3ci		Focus change	
1640	3"-5"	V 7.41	Fe-4 CH+1		2300 ADU SUM AVE over 5 cols above back end.			4ci	+G ppm	maybe some twilight extreme W L stop cloud	
3100	4"-7"							5ci	"	CCDT = -100.5 μ Some cloud	
								6ci			
								1ci		Dome T = -00.4 $^{\circ}\text{C}$	
								7ci		13k max ADU	
								8ci			
2000	3"-4"	V 7.66	KO II Fe-3					8ci	+G std	2000 ADU SUM AVE above some cloud 6 k max	
								9ci			
										Dome T = -0.7	
										13k max ADU/prod	
										13k " "	
								10ci			
18300		V 3.40	B8V					11ci	Telluric std	guided some cloud 3k max	
33140		" 4	"					12ci	"	6.5k MAX	

Emulsion Batches:

Date 1991 Dec 23/24... Observers ... J.N.

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.
CC05403 ✓	Comp							FoAr CLEAR	90s
5404	BIAS(4)								
5405 ✓	Comp at	BMCass	posn.					FoAr CLEAR	90s
5406 ✓	BMCass	00 48.6	+63 33	19 26 00	19 46 00	00 42 W	✓		120s
5407 ✓	"	"	"	19 47 00	20 08 00	01 05 W	✓		1260s
5408 ✓	Comp							FoAr CLEAR	90s
5409 ✓								TUNG A-1/4	28s
5410 ✓	FLATS							FoAr CLEAR	40s
5411 ✓	Comp @ H Beta								
5412 ✓	BMCass	00 48.6	+63 33	20 18 00	20 30 00	01 27 W	✓		AS4
5413 ✓	Comp							FoAr CLEAR	40s
5414 ✓	BIAS(4)								
5415 ✓								TUNG CLEAR	28s
→ 5417 ✓	FLATS @ H Beta for BMCASS							FoAr CLEAR	40s
5418 ✓	Comp								
5419	HD 36485 C	05 26 54	-00 22	20 53 10	20 59 10	2 41 E	✓		
5420	Comp							FoAr CLEAR	40s

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Spectr. Temp. Dome Temp./Hum.

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
90 _s					CASS CCD	G-6020 1800/	200μ Full	Hα				
											$\bar{x} = 126.375 \approx 1,000$	
9 _s												
120 _s	610	3"-9"	V 8.82 -9.33						13ci	Mk, pgm.	2700 ADU MAX Hα / panel fairly cloudy	
120 _s	980								14ci	"		
9 _s									15ci	"		
20 _s									16ci		13 k MAX ADU	
5 _s						G 4760 1800/	* Hβ		16ci		* centered actually on 4845 Å	
	484								17ci	Mk, pgm.		
40 _s												
6 _s												
8 _s									18ci - 20ci		13 k max ADU	
4 _s												
40 _s	1277	3"-4"	V 6.87	B2V					18ci	A _n pgm	SCAIC	

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pg #3

Date 1991 Dec. 23/24... Observers J.L. ... for "Bla".....

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.
CC05421	Comp e HL							FeAr Clear	90s
CC05422	HD 36485 C	05 26 54	-00 22 00	21 04 20	21 34 20	2 06 E	✓		1800
5423	Comp							FeAr Clear	90s
5424								TUNG	
5425	FLATS x2							A=1/4	28s
5426	Comp at 50x Refl Porro							FeAr Clear	90s
5427	HD 36485 C	05 26 54	-00 22 00	21 50 10	22 30 10	1 09 E	✓		2400s
5428	BIAS(4)								
5429	Comp							FeAr Clear	90s
OK 5430								TUNG	
5432	FLATS x3							A=1/4	28s
5433	HD 36485 C	05 26 54	-00 22	22 38 50	23 18 50	00 20 E	x		2400s
5434	Comp							FeAr Clear	90s
5435	BIAS(4)								
5436	Comp							FeAr Clear	90s
5437	HD 37479	05 33 44	-02 39	23 26 50	23 56 50	00 10 W	✓		1800
5438	Comp							FeAr Clear	90s

Spectr. Tem

Focus

Spectr. Tem

Exp. Mtr.

0070

260

206

Spectr. Temp. Dome Temp./Hum. -2.2°C 61% Transparency Conditions ... *part. cloudy* 168

Focus 6.80

Spectr. Temp. Dome Temp./Hum.

variable seeing

Comparison
Exp.

9/1

9/2

9/3

9/4

9/5

9/6

9/7

9/8

9/9

9/10

9/11

9/12

9/13

Exp. Mir.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G 6020 1800	200u Full	H/L				
6550	3"-8"	6.87	B2V					21ci	Blk pgn	<i>above background!</i> 5K ADUSUM AVG over 10 cels some cloud 5 ori c	
								22ci			
					G 6020 1800			23			
					G 6050 1800		Rel of H/L *	24ci		* CONTAIN 2 6600 Å	
10,070	3"-8"	6.87	B2V					25ci	Blk pgn	To include 6678 Å H α 5K ADUSUM <u>line</u> <i>over 10 cels</i> Pave T = -3.6°C	35K photo?
								1ci			
								26ci			
								27			
								28			
9660	3"-5"							29ci	Blk pgn		
								24ci			
								1ci			
								16ci			
8316	4"-8"	6.53	B3					17ci	Blk pgn	<i>over 10 cels</i> 5K ADUSUM 900 2nd der. grand H - 0.5 5 ori E 50 1 12	
										<i>night sky emission @ 720</i>	
										<i>center of Hα absorption</i>	

no doubt from nebulosity

pg 84

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.
CC05439 ✓	Comp							FeAr Clear	90s
5440 ✓	HD 36485 C	05 26 54	-00 22	00 04 10	00 44 10	01 04 W	✓		2400s
5441 ✓	Comp							FeAr Clear	90s
5442 ✓	BIAS (A)								
5443 ✓	DARK	white on black			01 10				1200
5444 ✓	Comp							FeAr Clear	90s
OH ✓ 5445 ✓	HD 36485 C	05 26 54	-00 22	01 16 00	01 46 00	02 06 W	✓		1800
5446 ✓	Comp							FeAr Clear	90s
5447 5447/8	FLATS × 2							TUNG H=1/4	20s
5449	BIAS (A)								

NOTE: 5449 is a comparison spectrum

NOTE: 5449 is A Comparison SPECTRA

TV

Spectr. Temp. Dome Temp./Hum. ~7.3°C 55%

Transparency Conditions *Fine* 190

Spectr. Temp. Dome Temp./Hum. 7.3C 55%

MERRY X-MASS ALL, OR MOST of '64!

[illegible]

191

pg #1 Thurs - Fri

Emulsion Batches:

Date 1991 Dec 26/27 Observers T.S.

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.
CE04124.Fts ✓	B145(4)			21 34		05 50 E	+00 05 39		
4125.Fts ✓	Flexaic tests	4125-	4135	after Both Camera,		05 50 E	+00 05 39	THA	10 sec
4126.Fts ✓	OR Collimator clamps			tightened to what		05 00 E			
4127.Fts ✓	Jim T calls tight. (probably too tight)					04 00 E			
4128 ✓						03 00 E			
4129 ✓						02 00 E			
4130 ✓						01 00 E			
4131 ✓						00 00			
4132 ✓						01 00 W			
4133 ✓						02 00 W			
4134 ✓						03 00 W			
4135 ✓						04 00 W			
4136 ✓	(still at 4 hrs west) Collimator			Clamps loosened off and		04 00 W	but after re tightening		
4137 ✓	redtightened to			"Wimp" tight, ie medium		05 50 E	to lefts tight on clamps		
4138 ✓				tightness.		05 00 E			

192

$$CCl_4 \rightarrow -100^\circ$$

148,566 or 1.70 Stats of Bias 90 CGain 4-1 bin

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
format for tests	32	0		Echelle CCD 64 1024 8 1	600 l/mm .4530 x tilt			131.190 - 2.0	echelle grating to 18.90	4483 central 5th complete ORDER from Top #127 4469 A well in on Right Field's criteria	
								3c:		4378 A central 2nd complete ORDER from Top #130 ORDER 4387 @ left pixel #250	
								4c:			
								5c:		4347 center on Top	
								6c:	L 2.5 pixels rel to 5E	Complete ORDER #131	
								7c:		Hx 4340 = pixel 4650 just right of center	
								8c:	Big dome turn west before exp.		
								9c:	Typical gradual E-W wheel setting of H-R L between exps. ~ 30 sec to set.		
								10c:	Shift Left 95 pixels rel to 5E		
								11c:	Now 4483 is 4th complete order from top		
								12	No drift rel to 0550E		
								13			

193

Pg #2

Date 1991 Dec 26/27... Observers 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.
ce04139 ✓	Flexure test cont					04 00E		ThA	105R
4140 ✓						03 00E			
4141 ✓						02 00E			
4142 ✓						01 00E			
4143 ✓						meridian			
4144 ✓						01 00W			
4145 ✓						02 00W			
4146 ✓						03 00W			
4147 ✓						04 00W			
ce04148	Focus - in board					04 00W	0°	ThA	105
4149	" outboard					"	"	"	105
4150	Focus - in board					"	"	"	"
4151	" outboard					"	"	"	"

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mtr.

Set 0

Set 0

Shaw

Cross Grating Echelle Tilt = 18.90
~~Echelle Grating~~ Tilt = .4530 changed to .4540 after tightening

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	X Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
10Sec				Echelle CCD	.4530 600ln/mm						
								14ci	Floxxare Tests	n shift	
								15ci		s/shift Left <.3 pixel	
								16ci		v s/shift further Left	
								17ci		another s/shift Left	
								18ci		v s/ further shift Left	
								19ci		5/ " " "	
								20ci		larger shift Left	
								21ci		no shift from previous	
								22ci		v v v s/shift Left of previous	
										Total disp Left rel to 0550E $\approx$ 1 pixel	
10s					.4540 600ln/mm						
								24ci			
								25ci		v .02 pixel shift v s/ Left or Red	
"								26			
"								27		outboard shift Left 2 pixels	
										All TO PERSEUS WORM	

195 pg #1

Fri - Sat

Date 1991 Dec 27/28 Observers K.K. / T.R. / K.B. ...

Kamran

mentorship student

Emulsion Batches:

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..... 1850

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.
CE04152	✓ BH HARTMAN in board		} Focus Pair			04 W	0°	ThAr	10s
4153	✓ HURTMAN out board							ThAr	10s
4154	✓ BIAS(4)		stats	150.239	~.697				
4155	✓ Comp				1920sec x 32 min				20s
4156	✓ HD 3712	00 34.08	+55 59.00	17 52 10	18 24 10	00 10 E		ThAr	5sec
4159	✓ HD 34029	05 09 18	+45 54	18 42 00	18 52 00	CE04157 Comp		"	5sec
4160	✓ "	"	"	18 58 45	19 18 45	CE04158	04 18 E	"	5sec
4162	✓ Comp after moving auxiliary source across Tube (it had been largely blocking)					CE04160		"	5sec
4163	✓ HD 34029	05 09 18	+45 54	19 38 15	19 45 15	3 25 E		ThAr	5sec
4164	✓ Comp							ThAr	5sec
4165	✓ BIAS				340s				
4166	✓ HD 34029	05 09 18	+45 54	19 51 30	19 58 00	3 12 E	x		
4167	✓ Comp							ThAr	5sec
4168	✓ Comp				600s			"	5sec
4169	✓ HD 3712	00 34.08	+55 59	20 08 50	20 18 50	1 45 W	x		10min
4170	✓ Comp							ThAr	5sec

Spectr. Temp.

Focus...?

Spectr. Temp.

Exp. Mtr.

Set

No Cont

Cont

magi

11500

2500

70

Spectr. Temp. Dome Temp./Hum. $+00.7^{\circ}\text{C}$ 72.7 Transparency Conditions *Fine* 196

Focus 0.200

Spectr. Temp. Dome Temp./Hum.

Echelle Tilt = 18.90
90CGAIN CCDT $\rightarrow$ -100%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Set	.200	$T = +00.7^{\circ}\text{C}$		Echelle CCD	.4540 600 lines/mm	.277 width = 600 μ .205 Height = 600 μ					
							4471-4481	(Fds criteria)			
							48618.4662	1ci	new format	0 0 256 1024 4 1	
							20000	2ci	Some comp lines saturated		
110 counts clap to partial image Bio. large	3"	2.23	KO IIa		-17.6369 17.6369		4962 6220	5ci	std vel	DAA+0 0 13 @ 0.20E A DCD 3 39	
		0.08	G6 III + G2 III		-6.5141 6.5141		.5342	6ci	KK pym		
					-6.6109			7ci	n	exp motor 2000 cpts/min w. 1h T. 4 on	
11,500		0.08	G6 III + G2 III		20000		6220	7ci	Source access tube moved out of the way now,	12,400 MAX/pixel	
					-6.6237 6.6237		.5432	3ci			
12,500											
3370	3"	2.23	KO IIa		-17.7530		.5536	4ci	std vel	3000 MAX MAX	

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pg 42

Emulsion Batches:

Date 1991 Dec 27/28.... Observers K.K. / T.K. / K.B.....

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.
CE04171 ✓	BIAS(4)								
4172 ✓	FLAT	[needs more than on Dec 1 obs]				02 E	+22°	TUNG	60 sec
4173 ✓	FLAT 6.30s	Average of 6		30 sec	Flats	201 50E	+22°		30 sec
4174 ✓	BIAS(4)								
4175 ✓	Comp							T ₁ Ar	5s
4176 ✓	VHD 47105	06 31.9	+16 29	20 57 10	21 27 10				30 min
4177 ✓	Comp							T ₁ Ar	5 sec
4178 ✓	VHD 47105			21 31 45	22 01 45	2 29 E			30 min
4179 ✓	Comp							T ₁ A	5
4180 ✓	Comp								
4181 ✓	VHD 209790	22 00.9	+64 08	22 16 10	22 56 10	7 00 W			
4182 ✓	comp							T ₁ A	5s
4183 ✓	n							"	"
4184 ✓	VHD 8890	01 22.6	+88 46	23 08 20	23 28 20	3 23 W			2400 sec
4185 ✓	Comp							T ₁ A	5s

198

Spectr. Temp. Dome Temp./Hum.

[illegible]

Spectr. Temp. Dome Temp./Hum.

Exp.	Mtr.	Seeing	Pig. Mag.	Sp.	Inst.	X Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					E help CCD	600/h/mm 600L		$\bar{X} = 149.332$		J 0.810		
	5200		1.9	FJ		-1.6203 (-1.6204) -1.62		.7009	5ci			
	7700		0.34	FSII		9.9087		.7208	1ci	STD star	8200 MAX	
	6700		1/4	KOIII		8.9231		.7326	3ci	RV std		
									5ci		Dense T = -3.0 $\circ$	
											Note earlier flats were asymmetrically illuminated Kti fixed problem MAX all k/pixel	
											13 sec/copies to Perseus / file AN to Perseus and worm. Start 0147 50 files To worm, Reg Dos copy out of DV End 0154 7mins 420 $\approx$ 8 sec/file	

Date 1491 Dec 28/29 Observers Ty Tests

Emulsion Batches:

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[illegible]

Spectr. Temp.

Focus . . . 47

Spectr. Tem

Exp. Mtr.

• 2nd Lcs

$$= 1.2 \text{ g/s}$$

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Spectr. Temp. Dome Temp./Hum. $+1.0^{\circ}\text{C}$ 80% Transparency Conditions *Cloudy* 202

Focus $\dots 200 \dots$

Spectr. Temp. Dome Temp./Hum. *Control* 90c gain $T_{\text{air}} - 130^{\circ}\text{C}$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	X Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD Echelle 17.00	.2850 600	60u 800u	6535A	8ci			
				Echelle 17.00	"	"	"	7ci			
				19.00			666A	9ci		6565A control	
							666A	10ci		10 K MAX blaze sl Left of center	
							6645 6721	11ci			
20 = 2.0 secs				19.20	.2810 600		6562 Center	7ci	Bottom order 6692 $\rightarrow$ 6744 6711 str $\leftarrow$ 670104		
2 = 0.2 secs								8ci		500 520 grows MAX near center 9000	
				16.40	.2813 600 ln/mm			10ci	6711 str = 320004	6707 ca. long bottom	
								11ci		500 520 grows ORDER MAX near center 4700104	
$T = -00.8^{\circ}\text{C} - \text{set } 200$				19.20	.2810 600 ln/mm		6562A	7ci		6707 R of center	
								8ci		60 Horn ORDER	
										OUTBOARD Center sl Red = 0.3 pixels	

Mon - Tues

Emulsion Batches:

Date 1991 Dec 30/31. Observers T. for [KK] (KB) note Times in Book are from MKRT: WWV
 *100 TSCALE 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.
CE04204 ✓	BIAS(4)			17 37		Data PC 2.5 sec	Time ahead		
→ 4205 ✓	FLATS x 3					of WWV	Time	TUNG	* 6.82
4208 ✓	Comp							ThAr	5.02
4209 ✓	HD 209790	22 00.9	+64 08	17 5440	18 3440	2 49 W			2400 sec
4210 ✓	Comp							ThAr	5.02
4211 ✓	Comp							ThAr	5.02
4212 ✓	HD 3712	00 34.8	+55 59	18 4548	18 5248	0 31 W		ThAr	5.02
4214 ✓	BIAS(4)								
4215 ✓	Comp for Capella							ThAr	10.02
4216 ✓	BIAS(4)	at 0 gain							
4217 ✓	HD 34029	05 09.18	+45 54	19 12 10	19 19 10	03 34 E		ThAr	10.02
4218	"	"	"	19 23 30	19 29 30	03 18 E			
4220	FLATS x 3					meridian	+20°		20.5 sec
4222	HD 47105	06 31.9	+16 29	19 52 30	20 22 30	3 56 E		ThAr	10.02
4226	BIAS(4)								

Spectr. Temp. Dome Temp./Hum. -2.6°C 60% Transparency Conditions Fine 204

Focus $\cdot 200$ 0 0 256 1024 4 1 CCDFMT

Spectr. Temp. Dome Temp./Hum. -4.7°C 54%
control CCOT $= 100^{\circ}\text{C}$ 90 Cgain at First

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	X Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Trit							
				echelle	$\cdot 2830$		H ₂	1ci	6707A	$\bar{x}$ 146.957 μ 1.120	
				CCD	600 μ /mm				control in		
				19.40					bottom ORDER	≈ 10 K max/pixel	
						60 μ width $\cdot 277$					
						800 μ length $\cdot 185$					
						60 μ					
						600 μ length $\cdot 206$					
1735	3"	B 4.63	A3m					32ci	Asm Sp-KK	encoder 15.0 0.3 0.243 W	
								30ci	Asm Sp-KK	4000 ADU MAX/pixel	
										faint comp to west seen in TV	
										guide star	
2500		V 2.23	HO IIIa					30ci	Std vel	9 K MAX/pixel	
										Dome T $= -4.2^{\circ}\text{C}$	
—	probably	1 sec	due to t scale setting.							Gain changed to 0 Cgain	
14,000		V 0.08	G6 III + G III					30ci	Asm Sp-KK	13 K MAX/pixel	
12,500								6ci			
using 25 OBS @ 100 t scale						60 μ					
						800 μ height					
8,900	3"	B 1.9	A0 IV			60 μ		30ci	Asm Sp-KK	11 K MAX/pixel	
						600 μ height		30ci		6 K ADU MAX/pixel	
										Dome T $= -4.7^{\circ}\text{C}$	

Pg #2

Date 1991 Dec. 30/31... Observers [K.S.]... T. & R. Kainan

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.
CEO 4227	HD 47105	06 31.9	+16 29	20 28 10	20 58 10	3 21 E	CEO 4228	ThAr	10 sec	1000
CEO 4230	HD 62509	07 39.2	+28 16	21 06 00	21 15 00	✓	CEO 4229 CEO 4231	"	"	352
CEO 4233	HD 95689	10 57.6	+62 17	21 22 20	21 44 20	✓	CEO 4232 CEO 4234	"	"	7345
OK 4235	BIAS (4)	3 whole still								
4236	DARK 15 min	at HD 95589			21 57	30 min ✓				
4238	HD 87901	10 03 03	+12 27	22 22 40	22 52 40	4 56 E	CEO 4237 CEO 4239	ThAr	10 sec	200
4240 4242	FLATS x 3					0 10 W	+16 18			
4243	BIAS (4)	still @ 0 CGAIN					"			
4244 4246	FLATS x 3 (Blue)	90 CGAIN				00 40 W	"			
4247	BIAS (4)				21 min					
OK 4249	HD 47105	06 31.9	+16 29	23 34 24	23 55 24	x	CEO 4248 CEO 4250	ThAr	5 sec	7450
4251	"	"	"	00 02 30	00 32 30	00 14 W	CEO 4252	"	"	1000
4254	HD 34029	05 09 18	+45 54	00 45 10	00 52 10	✓	CEO 4253 CEO 4255	"	"	1000
4257	HD 31421	07 34 04	+05 29	01 03 50	01 13 50		CEO 4256 CEO 4258			
4259	BIAS (4)									

Spectr. Temp. Dome Temp./Hum. -48°C 54.8 Transparency Conditions ... Fine v sl hazy ... 206

Focus ... 200

Spectr. Temp. Dome Temp./Hum.

OCCAM Still CCDT=-101.52

Exp. Mtr.	Seeing	Pig. Mag.	Sp.	Inst.	X Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
11000	2-3"	B 1.9	A0IV	19.40 Echelle CCD	17.45 600 μ /mm	600 μ 600 μ height	H α	4ci	Asm Sp-KK	50K SUM AVG @ 6700A OVER 10 COLS. 800K photons	
8525		V 1.4	KOMb		.2830 x tilt			(5ci comp)		10K MAX ADU/PIXEL	
7340	4-5"	V 1.79	KOMb					5ci	Asm Sp-KK	* Combined V mag 10K MAX ADU/PIXEL	
6200	8"	V 1.36	B7V				H α H α	4ci	Telluric Std	4000 ADU MAX/pixel MAX 11K ADU/PIXEL	
				1890	1890 600 μ /mm x tilt = .1540	800 μ Height	Fds Region 4471-4481		90CCM	13K MAX ADU/PIXEL	
7400	2-3"	B 1.9	A0IV			600 μ width 600 μ height		6ci	Asm Sp-KK	8K MAX ADU/PIXEL	
13000								7ci		230K SUM AVG of 7 COLS ~ 120K photons	
12800		V 0.08	G6III + G2II					3ci		6K MAX ADU/PIXEL	
11300		0.34	F5II					1ci	(Std Vel use)	10K MAX ADU/PIXEL	

pg 53

Emulsion Batches:

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[illegible]

Spectr. Temp.

Focus

Spectr. Terr

Exp. Mtr.

4300

258

200

-6°C : 51%

[illegible]

209

pg #1

Fri Sat

Date 1992 JAN 10/11... Observers B.K. / T.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.
CC05452	HD 6456	01 00 ^{19.1} 20	+20 56 16	18 17	^x 18 50	00 46 W	CC05451 ^x CC05453	FeAr	90 sec
CC05454	BIAS(4)								
CC05455	HD 6457	01 00 19	+20 55 48	19 09	[✓] 19 49	01 45 W			
CC05456	Comp							FeAr	90 sec
CC05457	HD 14055	02 11 22	+33 23 05					FeAr	90 sec
CC05458	HD 14055	02 11 22	+33 23 05	20 01	[✓] 20 07	00 51 W	CC054		
CC05459	Comp							FeAr	90s
CC05460	Comp							FeAr	90s
CC05461	HD 18411	02 52 22	+39 15 45	20 20	[✓] 20 27	00 30 W			
5462	Comp							FeAr	90s
5463	Comp							n	4
5464	HD 19832	03 06 17	+26 52 48	20 36	[✓] 21 06	00 55 W			
5465	Comp							FeAr	90s
5466	BIAS(4)								
5467-5475	FLATS X(9)							TUNE A=1/2	7 sec

Spectr. Tem

Focus....

Spectr. Tem

Exp. Mir.

0000

10000

26000

1,400

1,000

210

Dome Temp./Hum. 62% - 30

CGAIN = 90 FORMAT A40 050 1024 4 1

Exp.	Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
90sec	10000	3-5*	B 5.31	A1V _n	CASS CCD	*G 6050 1800'	200um Full Length	H&L		telluric std	* G=6050 NW of pit cloudy at end	
										1ci		
	10000		5.49	A0V _n	CASS CCD					4ci	TELL. STD.	
90sec										5ci		
90sec										6ci		
	26000		B 4.03	A1V _n						6ci	Tell Std	
90s												
90s			B 4.76	A2V_n						7ci	Telluric Std	
	11,400		B 4.76	A2V _n						7ci	Telluric STD	
90s												
y	14000		5.70	B8(Si)						8ci	Telluric Std then cloudy	
90s												
7s												

All too far east and warm.

211

SAT/SYN

Date 1992 JAN 18/19

Observers [Bk] T₄

Emulsion Batches:

* Times from MMT: 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
CC05476	FLATS Comp			18 14				FeAr CLEAR	90s
5477	BIAS(4)			18 17					
5478	HD21686	03 24 56	+10 59 37	18 19 20	18 39 20	01 18 E			1200sec
5479	Comp							FeAr CLEAR	90sec
5480	Comp							"	90sec
5481	HD36485	05 26 54	-00 21 30	18 51 20	19 11 20	02 47 E			
5482	Comp							FeAr CLEAR	90sec
5483	BIAS(4)								
5484	FLATS(9)			20 EST		0 0	-16°	TUNG A=1/2	7sec
5492				20 05					
5493	BIAS(4)								
CC05494	Edgerton focus test			JAN 19 @ next night T ₄				FeAr CLEAR	40
5495	"	"	"	(comp posn)	19 20 EST	Marsden	+20°	"	40
				stellar posn.		0 0	"	"	40

Spectr. Temp

Focus 6.9...

Spectr. Temp

Exp. Mtr.

S

1630

1700

6

Come T

Spectr. Temp. Dome Temp./Hum. -11°C 54% Transparency Conditions *thin cloud* Q12

Focus 6.80 *Stellar Red < .3 pixels JAN 12 T = -21.5°C*

Spectr. Temp. *Set 7.00 for 14th 18/19* Dome Temp./Hum. RANGE

CCD T $\rightarrow -100^{\circ}\text{C}$
90CGAIN/FORMAT 480 0 50 1024 41

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G=6050 1800/56.3	200 μ Full Length	6500A -6700A				
1/630	8"	B 5.11	A0V ₂						3ci	Dome T = -13°C <i>thin cloud</i> Telluric Std [Blg] $v \sin i = 236 \text{ km s}^{-1}$	3300 ADU max
1700	6"	B 6.69	B2V _{sm} (He Str)						4ci 5ci	(N 53° from primary) cloudy S Ori C $\approx 250 \text{ ADU Sun HUG of 5 cols above bkgrnd}$	
									5- 13ci	Dome T = -13.7°C 13K max ADU/pixel	
				CASS CCD	G=6050 1800/56.3	200 μ Full	6500 -6700A		14ci	360 0 10 1024 to 1 CCD Fmt	
									15ci	Dome T = -11.0°C Set 7.00 Stellar Red by = .5 pixels	
					All to		WORM			- PERSEUS	

213
py #1

FRIDAY

Date _____

JAN 24/1992

Observers

Bln / Fbr

Emulsion Batches:

→ Time From MK III.

[illegible]

Spectr. Temp. Dome Temp./Hum. $-10.7^{\circ}\text{C}/+52.2$ Transparency Conditions Clear 214
 Focus ... 6.9
 Spectr. Temp. Dome Temp./Hum.
 90 CGAIN TSCALE = 1000 CCO Temp = -100.4
 FORMAT. 480 0 50 1024 4 1

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CSS CCD	$\alpha = 6050$ $1800/56.3^{\circ}$	200 μ		1ci			
9820	5"	B 6.69	B2VSn	(Hes)		200 μ		2ci	Bln Prgm(H α)	H = 53.19% Dome T = -11.3°C	
								3ci		[CC05496 - CC05498 to WORM + PERSEUS]	
					$\alpha = 6050$ $1800/56.3^{\circ}$	200 μ		3ci			
11,000	"?" (FOOZ)	B 6.32	B2Vpe	(Hes)		200 μ		4ci	Bln H α	Hum = 53.69% Dome T = -11.8°C	
					$\alpha = 6050$ $1800/56.3$	200 μ		5ci		Terminated abnormally due to CSS crash. Exact length of exposure and exposure counts uncertain.	
SEE REMARKS		B 6.32	B2Vpe	(Hes)		200 μ		6ci	Bln H α	Hum = 59.7% Dome T = -13.0°C	
					$\alpha = 6050$ $1800/56.3^{\circ}$	200 μ		7ci		[CC05499 to CC05504 to WIP.]	
UNKNOWN		B 6.32	B2Vpe	(Hes)		200 μ		8ci	Bln H α	Hum = 63.9% Dome T = -14.6	
					$\alpha = 6050$ $1800/56.3^{\circ}$	200 μ		9ci			
								10ci			
						200 μ		10ci			
		B 3.52	093V			200 μ		11ci	SB - Bln	Hum = 63.79% Dome T = -15.2	
								12ci		COMPARISON TAKEN AFTER SCORING ON PLATE - COMP READ AFTER SCORING TAKEN BACK UP.	

215 pg 42 FR1/SNT

$$F_{21}/S_{NT}$$

Date Jan 24/25 1992 Observers BIn / Fbr

Observers BIn / Fbr

Emulsion Batches:

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[illegible]

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions ... CLEAR 216

Focus 6.9

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	$\lambda = 6050$ 1800	200 μ		13ci			
20,000		B 5.18	B8 III pMn					14ci	B1n H α	Hum: 62.19% DOME T: -12.1°C	
					$\lambda = 6050$ 1800	200 μ		15ci			
					$\lambda = 6050$ 1800	200 μ		16ci			
30,000		B 1.25	B7X			200 μ		17ci	TELLURIC STD. (B1n).		
					$\lambda = 6050$ 1800	200 μ		18ci			
								19ci			
								20ci			
								21ci			
								22ci			
								23ci			
								24ci			
								25ci			
								26ci			
								27ci		* ALL TO PERE'LOREN	

a17

Wed/Thurs

CCD FLEXURE
TESTS

Emulsion Batches:

Date ... JAN. 29/30/92 Observers Fbr./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.
CC05527	focus test	Comp position			21 26				10/16
5528	focus test	Stellar position							
CC05529	BIAS(4)	using BIAS.BAT		23 45		09 E	+45°		
5530	Flexure Test			23 48		09 E	-	Felle clear	6.8
5531						08 E			
5532						07 E			
5533						06 E			
5534						05 E			
5535						04 E			
5536						03 E			
5537						02 E			
5538						01 E			
5539						00			
5540						01 W			
5541 5541						02 W			
5542				00 20		03 W			

Spectr. Temp. Dome Temp./Hum. ... -0.9°C / +79.8% Transparency Conditions Cloudy 218

Focus . 6.85 ... changed tonight from 6.90

Spectr. Temp. Dome Temp./Hum.

CCDFMT 578 0 18 1024 1 1

Comparison
ter. Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1/8				CASS CCD	G=6090 1400/	200µ PINHOLE	HL	2ci	Focus test	Set 6.85 stellar	
					"	"		3ci		1	VV5/Red
								1ci			
6				"	"	200µ Pinhole	HL	3ci	Flare Test	[Tin moved Telap	
								4ci		gradually while for	
								5ci		wrote photos]	
								6ci			
								7ci		Some pure water before exp.	
								8ci			
								9ci			
								10ci			
								11ci		T=-1.2°C H=80.6% Done West before exposure.	
								12ci		More done West before exp.	
								13ci			
								14ci			
								15ci			

Date Jan 29/30/92 Observers Tn / Fbr

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.
5543						04 W	+45	Fene	6se
5544						05 W	"		
5545						05.50' W	+45°		
5546	Flexure @ 0° Dec					05 50 E	0° dec		6
5547						05 E			
5548						04 E			
5549						03 E			
5550						02 E			
5551						01 E			
5552						00			
5553						01 00 W			
5554						02 W			
5555						03 W			
5556						03 45 W			

Transparency Conditions cloudy 220

Spectr. Temp. Dome Temp./Hum.

[illegible]

221

SAT SUN

Pg#1

Emulsion Batches:

Date 1992 Feb 1/2... Observers Mti... Tu... Mak...

PC clock set to match 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.
CC05557	BIAS (4)				460 sec's				
CC05559	V471 Tau	03 47 26	+17 02	18 32	18 40		CC05558	FeAr Clear	90 sec
CC05561	V471 Tau	03 44 43	+16 57.1	18 57	19 17		CC05560	FeAr Clear	90 sec
CC05562	"			19 19	19 39				
CC05563	"			19 40	20 02				
CC05565	"			20 07	20 27		CC05564	FeAr Clear	90 sec
5566	"			20 27	20 47				
5567	"			20 48	21 08				
5568	Comp						CC05568	FeAr Clear	90 sec
5569	V471 Tau			21 13	21 33				
5570	"			21 34	21 54				
5571	"			21 55	22 15				
5573	"			22 20	22 40		CC05572	FeAr Clear	90 sec
5574	"			22 40	23 00				
5575	"			23 01	23 21				
5576	Comp						CC05576	FeAr Clear	90 sec

Spectr. Temp. Dome Temp./Hum. $-8^{\circ}\text{C} - 65\%$ Transparency Conditions $sl. hazy$ 222

Focus $TD 6.90$

Spectr. Temp.

Dome Temp./Hum. *in vacuo length*

480 0 50 1024 41 CCD FWHM

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

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G-5000 1800	200c FWHM Length	Hx				
90e 3000	8"	B 6.3	DF1					4ci	Identified latter	only 50 stars 4000c Star	
90e 350	6"	9.8	KOV +ud					6ci			
350								7ci		on 5 columns 2600 ADU SUM AVG above branch	
380	4"							8ci			
90e 430								10ci			
412								11ci			
373								12ci			
350	8"							13ci			
355	VERY POOR							14ci			
345	VERY POOR							15ci			
307	"							16ci			
266	"							17ci			
265	"							18ci			

223
pg #2

Date 1992 Feb 1/2... Observers Mki... In... Mak...

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.
CC05577✓	BIAS (4)								
5578✓	FLAT					0400W	+17°	TUNG A=1/4	30sec
5579✓	FLAT					0030W	-7°43	"	25sec
5581✓	MWC 560	072101	-073212	23 3730	00 0730	W	CC05580✓	FeAr CC05582✓	40sec
5584✓	HD 87901	10 0303	+12 27	00 1600	00 18	E	CC05583✓ CC05585✓	"	"
5587*	MWC 560	072101	-073212	00 26	00 56	W	CC05586✓	"	30sec
5588✓	"	"	"	00 5630	01 2630	W	CC05589✓	"	30sec
5590✓	BIAS (4)								
5591✓	MWC 560	072101	-073212	01 31	02 01	W	CC05592	FeAr Clear	30sec
5593✓	FLAT							TUNG A clear	25s
5594	BIAS (4)								
5595	Comp. FeNe.							FeNe pp. cl.	60
5596	FLAT							TUNG Clear	5min
5597	HD 197433	20 386	+7514	02 2920	02 3920	E			12min
5598	Comp. "			02 5020					60s

Spectr. Temp

Focus....6

Spectr. Temp

Exp. Mtr.

974

95000

927

933

90

F60

Spectr. Temp. Dome Temp./Hum. -10°C 61% Transparency Conditions *Fine* 224

Focus 6.90

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CHSS CCD	G=6000 1800	200 μ Full Length	H α				
										MAX < 15K ADU	
224	$6.5/10^{\circ}$							19ci	mki pgn	(west one) Rtl stop on pin in 1st position	
25000								20ci	Telluric Std	Regulus (guide orbit)	
227	ν pool				G=4760 1800	200 μ FULL	4845A HP	21ci	mki pgn	Reference to 224500	
233	ν							22ci	ν		
										Porno T = -11°C	
250								23ci	mki pgn		
							HP			12K MAX	
					G=4190 (1800)	200 μ FULL	3940A			CaII H+K region	
520	5°	ν 73-77		G5V +K0V + K5V				25ci	mki pgn		

Date 1992 Feb. 1/2 Observers MKi/Tn/Mak

Emulsion Batches:

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[illegible]

Spectr. Temp. Dome Temp./Hum.

[illegible]

227

Emulsion Batches:

Date Feb 4/5 (92) Observers Srt / Fbr

FANS ON

Plate No.	Object	R.A. 1900 2000	Declination 1900 2000	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CE04266	BIAS (4)	04 41 35.6	23 10 37.9	23 12 00					
4267	BIAS (4)								
4268	Comp							ThAr	5sec
4269	HD 48329			23:26:00	23:33:37	1:30:42W			
4270	HD 48329			23:35:14	23:45:50	1:42:54W			
4271	Comp							ThAr	5sec
4272	Comp							ThAr	5sec
4273	HD 58367			00:00:55	00:10:50	1:26:32W			
4274	Comp								5sec
4275	HD 58367			00:14:40	00:24:40				
4276	Comp								5sec
4277	FLAT					1:26W		TuDa	0.5s
4278	FLAT					1:26W		TuDa	0.5s
4279	FLAT					1:26W		TuDa	0.5s
4280	FLAT					1:26W		TuDa	0.5s
4281	BIAS (4)								

Spectr. Temp. Dome Temp./Hum. $-5.2^{\circ}\text{C}/65.5\%$ Transparency Conditions CLEAR..... 228

Focus 200

Spectr. Temp. Dome Temp./Hum.

1000 TSCALE

90 CGAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD		450 μ x 100 μ		1ci		7600 $\text{\AA}$ x Grating	
								1ci			
13	$\approx 5''$	B 4.38	G8 Ib		0.580 17.00 (Ech)			2ci	SURFACE GRAVITY		
56	$\approx 5''$	B 4.38	G8 Ib					3ci	— " —		
								1ci			
		B 6.00	G6 II					2ci			
								3ci			
		B 6.00	G6 II					4ci			
								5ci			
						600 μ					
						600 μ					
						600 μ					
						600 μ					

229

Emulsion Batches:

Date Feb 4/5 Observers Srt/Fbr
PAGE 2

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[illegible]

230

200

Spectr. Temp. Dome Temp./Hum.

[illegible]

Emulsion Batches:

Date ... FEB 5/6 1992 Observers ... Srt [Fbr] *FANS OFF

Plate No.	Object	R.A. 1900 2000	Declination 1900 2000	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
ce04285	BINS (4)								
ce04286	BINS (4) DARK (15min)								900s
4287	DARK (15min)			17:32:45	17:47:45	-0:49:00E	27 13 N		900s
4288	Comp							ThAr	5sec
4289	HD 20630	03 19 22	03 22 13	18:49:50	18:59:50	0 24 47W	3 23 45N		
4290	Comp							ThAr	5sec
4291	Comp							ThAr	5sec
4292	HD 20630	03 19 22	03 22 13	19:54:40	20:04:35				
4293	Comp							ThAr	.5 sec
4294	Comp							ThAr	.5 sec
4295	HD 20630 ($\lambda = 7111$)	03 19 22	03 22 13	20:13:30	20:23:30				
4296	Comp							ThAr	45sec
4297	Comp HD 20630	03 19 22	03 22 13	20:13:30	20:47:00			ThAr	45sec
4298	Comp HD 20630	03 19 22	03 22 13	20:35:10	20:47:00			ThAr	1/5sec
4299	Comp							ThAr	

Spectr. Tem

Focus...

Spectr. Tem

Exp. Mir.

NOT ON

NOT ON

NOT ON

NOT ON

NOT ON

NOT ON

NOT ON

NOT ON

NOT ON

NOT ON

NOT ON

NOT ON

NOT ON

NOT ON

232

Spectr. Temp.

Dome Temp./Hum.

1000 TSCALE 90 CAIN

[illegible]

Date Feb 5/6-92 Observers Srl [Pbr]
Pu2

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.
CE04299	Comp							Th Ar	1/5 sec	NOT ON
4300	Comp									NOT ON
4301	HD 48329 ($\lambda = 8446\text{\AA}$)	06 43 56	25 07 52	21:01:30	21:07:30					NOT ON
4302	Comp							Th Ar	1/5 sec	NOT ON
4303	HD Comp							Th Ar	1/2 sec	NOT ON
4304	HD 48329 ($\lambda = 7771$)	06 43 56	25 07 52	21:18:06	21:27:46	-0 32 05E		Th Ar	0.5 sec	NOT ON
4305	Comp							Th Ar	.5 sec	NOT ON
4306	Comp							Th Ar	.5 sec	NOT ON
4307	HD 48329 ($\lambda = 7200\text{\AA}$)	06 43 56	25 07 52	21:34:47	21:43:47	-0 16 51E				NOT ON
4308	Comp							Th Ar	.5 sec	NOT ON
4309	BIAS(4)									NOT ON
4310	FLAT (7200\text{\AA})					2 40 38W	19 53 6N	TuNa	3/5 sec.	NOT ON
4311	FLAT (7200\text{\AA})					2 40 38W	19 53 6N	TuNa	--	NOT ON
4312	FLAT (7200\text{\AA})					2 40 38W	19 53 6N	TuNa	--	NOT ON
4313	FLAT (7771\text{\AA})					2 40 38W	19 53 6N	TuNa	1/2 sec	NOT ON
4314	FLAT (7771\text{\AA})					2 40 38W	19 53 6N	TuNa	--	NOT ON

Spectr. Temp. Dome Temp./Hum. -6.9°C / 73.1% Transparency Conditions SEMI-CLOUDY 234

Focus 200

CLOUDY 2 21:45

Spectr. Temp. Dome Temp./Hum.

TSCALE = 100 scale 90 gain

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1/5 sec	NOT ON				ECHELLE				3ci			
	NOT ON								4ci			
	NOT ON		B 4.38	48Ib		0.485 18.0 (ECH)	700 μ x 100 μ		5ci	SURFACE GRAVITY.		
1/5 sec	NOT ON								6ci			
1/5 sec	NOT ON						200 μ x 100 μ → 450 μ					
	NOT ON		B 4.38	48Ib		0.51 17.5 (ECH)	450 μ x 100 μ → 450 μ		2ci	SURFACE GRAVITY		
1/5 sec	NOT ON								3ci			
1/5 sec	NOT ON					0.53 18.9 (ECH)			4ci			
	NOT ON		B 4.38	48Ib		0.53 18.9 (ECH)	450 μ x 100 μ → 450 μ		5ci	SURFACE GRAVITY	DOME T = -6.8° Hum = 73.9%	
1/5 sec	NOT ON								6ci			
	NOT ON					0.53 18.9 (ECH)			1ci			
1/5 sec	NOT ON					0.53 18.9 (ECH)	900 μ x 100 μ		1ci			
	NOT ON						900 μ x 100 μ					
	NOT ON						900 μ x 100 μ					
1/5 sec	NOT ON					0.51 17.5 (ECH)	900 μ x 100 μ					
1/5 sec	NOT ON					0.51 17.5 (ECH)	900 μ x 100 μ					

235

Emulsion Batches:

Date Feb 5/6-92 Observers Sgt [Pbr]
Pg 3

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[illegible]

Spectr. Temp. Dome Temp./Hum. ... $-6.6^{\circ}\text{C}/74.7\%$ Transparency Conditions ... *CLOUDY 23:00* 236

Focus ... *200*

Spectr. Temp. Dome Temp./Hum. ... $-7.0^{\circ}\text{C}/74.7\%$ @ 2300

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
$\frac{1}{2}$ sec	N07 ON				ECHELLE	0.51 17.5 (ECH)	900 μ x 100 μ					
$\frac{1}{2}$ sec	N07 ON					0.485 18.0 (ECH)	900 μ x 100 μ					
$\frac{1}{2}$ sec	N01 ON					0.485 18.0 (ECH)	900 μ x 100 μ					
$\frac{1}{2}$ sec	N07 ON					0.485 18.0 (ECH)	900 μ x 100 μ					
$\frac{1}{2}$ sec	N07 ON					0.59 17.0 (ECH)	600 μ x 100 μ					
$\frac{1}{2}$ sec	N07 ON					0.58 17.0 (ECH)	600 μ x 100 μ					
$\frac{1}{2}$ sec	N07 ON					0.58 17.0 (ECH)	600 μ x 100 μ					
5 sec	N07 ON					0.58 17.0 (ECH)	450 μ x 100 μ					
	N07 ON		B 4.57	G7III		0.58 17.0 (ECH)	450 μ x 100 μ		2ci			
5 sec	N07 ON								3ci			
5 sec	N07 ON								4ci			
	N07 ON		B 6.06	G8V		0.58 17.0	450 μ x 100 μ		5ci			
5 sec	N07 ON								6ci			

Date _____

FEB 5/6 - 1992

Observers

Srt [Fbr]

Emulsion Batches:

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[illegible]

Spectr. Temp. Dome Temp./Hum. ²²⁵⁶ - 78 / 77.9% Transparency Conditions CLEAR. 240

Focus ... 200

Spectr. Temp. Dome Temp./Hum.

100 t sale 190 gain

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
NOT ON				ECHELLE	0.53 18.9	700μ 100μ					
NOT ON		B 4.57	G7 III		0.53 18.9	700μ 100μ			SURFACE CAVITY		
NOT ON											
ALL TO PERSEUS AND WORM! including Focus Tests											
CAMERA FOCUS .200 T = -2.3°C								1ci	7600Å GRATING		
				Echelle CCD	0.53 18.9	700μ length 100μ width		2ci		out board Right ON.	
				x grating	0.53			3ci		OUTBOARD Shift Rel ≈ 1 pixel	
								4ci			

7200 Å
setup

241

Pg #1

Fri - Sat

Date 14.9.7 Feb 7/8..... Observers [Rm] J. / Ebr.....

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.
CC05607	BIAS(4)			18 34					
5608	Comp							FeAr clear	90sec
5609	HD 30282	04 41 05	+36 32.6	18 49 40	19 28 40	00 27 E			
5610	Comp							FeAr clear	90sec
5611	BIAS(4)								
Fm000420.Tn	HD 29587	04 34.5	+41 57	19 50		00 00	42 09	"N" mode	4 frames
5613	HD 29587	n	n	20 02 50	20 17 20	00 28 W	CC05612 CC05614	FeAr clear	90sec
5616	HD 44990	06 19.8	+07 08	20 28	20 49 30	00 43 E	CC05615 CC05617	n	90
5618	BIAS(4)								
5619									
5621	FLATS x 3					00 30 E	+7° 08	TUNG A=1/2	8sec
5622	BIAS(4)								
5624	HD 62509	07 39.2	+28 16	21 12	21 28	01 24 E	CC05623 CC05625	FeAr clear	90sec
5626	DARK 15m			21 50					
CC05627 5628	Focus tests	Comp/stellar posns		23 40		03 27 E	+12°	FeAr clear	30/60

Spectr. Tem.

Focus... 6

Spectr. Tem.

Exp. Mtr.

Spectr. Temp.

Dome Temp./Hum. -5.4°C 73%

Transparency Conditions .. *PART CLOUDY* 242

90 Cg/in

[illegible]

243 pg #1 SAT 54M

Date 1992 Feb 8/9..... Observers [B.L.][R.M.] T.L. / F.B.T.
* FANSON!

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.
CC05629	BIAS(4)								
CC05631	HD 37479	05 3345	-02 38 48	18 24	19 16	01 26 E	CC05630 CC05632	FeAr Clear	90sec
5633	BIAS(4)								
563A	HD 37479	05 3345	-02 38 48	19 21	20 11	00 32 E	CC05635	FeAr Clear	90sec
5637	HD 36485	05 26 54	-00 21 30	20 19	21 19	00 43 W	CC05636 CC05638 CC05639	"	90sec
5640	HD 37479	05 3345	-02 38 48	21 26 30	22 12 30	01 30 W	CC05641	"	90sec
5643	HD 87901	10 0303	+12 27 22	22 23	22 25	02 45 E	CC05642 CC05644	"	90sec
5645	BIAS(4)								
CC05646	FLATS x 9			22 28		02 40 E	+12°	TUNG A=1/2	
5654									
5656	HD 87901	10 0303	+12 27 22	22 45	22 48	02 22 E	CC05655 CC05657 CC05659	FeAr Clear FeAr Clear	90sec
5658	BIAS(4)								
5660	HD 44990	06 19.8	+07 08	23 03 50	23 19	01 51 W	CC05659 CC05661	"	90sec
5662	FLATS x 3			23 22				TUNG A=1/2	8sec
5664									
5665	DARK 20m			23 30					200s
5667	HD 103095	11 47.2	+38 26	01 52	02 09	00 47 E	CC05666 CC05668	FeAr Clear	90sec

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

11010

12000

11600

9000

4000

120

740

1666

Spectr. Temp. Dome Temp./Hum. -8.5°C 57% Transparency Conditions ... PART. Cloudy 244

Focus 6.90

AURORA seen AFTER 20EST

Spectr. Temp. Dome Temp./Hum. -12°C ... 60%

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

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G=6050 18001		G=6050 6600A		480 0	50 1024 4 1 CCDFWT	
9082	11,090	4" 8"	6.53	B2V _{pe} (HeS)		200% Full Length		3ci	Bth H ₂ 5 Ori E	8000 Sony Average Noise Blacken	
										Dome T = -9.8	
9082	12000	6"	6.53	B2V _{pe} (HeS)	AURORA CONTAMINATION			6ci	Bth H ₂ 5 Ori E	8000 Sony Average Noise Blacken 12K Supp. Avg ADU above bkgrd.	
9082	11,600	4" 6"	6.85	B2V _{sn} (HeS)			III 950525	7ci	Bth H ₂ 5 Ori C	Note AURORA seen, probable Bwd South 10° from H ₂	
9082	9000	3" 5"	6.53	B2V _{pe} (HeS)				8ci	Bth H ₂ 5 Ori E	Cloud at end	
9082	40000		1.36	B7V				10ci	Telluric Std	guided 47WADU max	
								14ci		Dome T = -12.0°C	
								22ci		13K MAX ADU/pixel	
9082	60,120		1.36	B7V			NOT 6600A	14ci	Telluric Std	guided 8K MAX ADU/pixel	
							III 950525	18ci		Dome T = -12.5°C	
9082	740	4"	6.5-8.0	F7I _{ab} -K1I _{ab}				16ci	Rm pgm	Thin cloud	
892								18ci		14K MAX ADU/pixel	
								20ci			
9082	1666	5"	6.45	G8V _p					* Std vel	* some cloud + AURORA	

245
pg #2

Date 1992 Feb 8/9 Observers Fbr/Jn

Emulsion Batches:

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[illegible]

Transparency Conditions *cloudy again* 246

[illegible]

247 pjr, sun-MON

Date ..1992..Feb. 9/10... Observers .Pln./Tn./Bahrm./..Skenton

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.
CC05671 5672	Focus Test	Comp/	Stellar	Aug	Time posn	0 0	+20°	FeAr CLEAR	30/45
5673	BIAS(4)			18 44					
5675	HD 36485	05 26 54	-00 21 30	19 00	19 45	00 48 E	CC05674 CC05676	FeAr C/2ap	90 _{SE}
5678	HD 37479	05 33 45	-02 38 48	19 53 40	20 24	00 14 E	CC05677 CC05679	"	90 _{SE}
5680	HD 37468	05 33 42	-02 39	20 29	20 34	00 05 E	CC05681	"	90 _{SE}
5683	HD 35502	05 20 00	-02 54 22	20 41	21 41	01 15 W	CC05682 CC05684	"	90 _{SE}
5685	BIAS(4) SE								
5687	HD 36485	05 26 54	-00 21 30	21 52	22 31	02 00 W	CC05686 CC05688	FeAr CLEAR	90 _{SE}
5690	HD 35502	05 20 00	-02 54 22	22 40	23 40	03 15 W	CC05689 CC05691	"	"
5692	BIAS(4)								
5694	HD 87901	10 03 03	+12 27	23 49	23 50	01 18 E	CC05692 CC05695	FeAr CLEAR	90 _{SE}
5696 5704	FLATS x9					01 08 E	+12°	TUNG A=1/2	7 _{SE}
5706	HD 87901	10 03 03	+12 27	00 10	00 11	00 57 E	CC05705 CC05707	FeAr CLEAR	90 _{SE}
5709	HD 44990	06 19 8	+07 08	00 21	00 36	03 12 W	CC05708 CC05710	"	90 _{SE}
5712	HD 62509	07 39.2	+28 16	00 48	00 49	02 04 W	CC05711 CC05713	"	90 _{SE}

Spectr. Ten

Focus.....6

Spectr. Ten

Exp. Mtr.

18 44

9/1,300

9/100

9/1000

9/100

9/130

6/300

9/100

9/100

9/100

9/100

Spectr. Temp. Dome Temp./Hum. -12°C 51% Transparency Conditions ... *Fine* 248

Focus *6.90*

Spectr. Temp. Dome Temp./Hum. λ

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

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>315</i>	<i>18"</i>			CASS CCD	$G=6050$ 180	<i>200u</i> Full Length	<i>Hx</i>	<i>3ci</i> 4ci	$T=-12$ set 690	stellar vu SI blue shifted, Dome $T = -12.6^{\circ}\text{C}$	
<i>90</i>	<i>11,300</i>	<i>3"</i>	<i>6.85</i>	<i>B2V_{sn}</i>				<i>4ci</i>	<i>Hx pgm</i>		
<i>90</i>	<i>10,000</i>	<i>3.4"</i>	<i>6.53</i>	<i>B2V_{pe}</i>				<i>5ci</i>	<i>Hx pgm</i>		
<i>90</i>	<i>20,000</i>		<i>3.51</i>	<i>09.5V</i>				<i>6ci</i>	<i>Hx pgm</i>		
<i>90</i>	<i>9,100</i>	<i>3.4"</i>	<i>7.36</i>	<i>B5IV_{sn} (Ho W)</i>				<i>7ci</i>	<i>Hx pgm</i>		
										Dome $T = -14^{\circ}\text{C}$	
<i>90</i>	<i>9,230</i>	<i>3"</i>	<i>6.85</i>	<i>B2V_{sn}</i>				<i>8ci</i>	<i>Hx pgm</i>		
<i>4</i>	<i>6,300</i>	<i>4.6"</i>	<i>7.36</i>	<i>B5V_o</i>				<i>9ci</i>	<i>Hx pgm</i>		
<i>90</i>	<i>30,000</i>		<i>1.36</i>	<i>B7V</i>				<i>10ci</i>	<i>Regulating telluric std</i>	Dome $T = -15^{\circ}\text{C}$ 3K MAX H α clipped	
<i>90</i>	<i>30,000</i>		<i>1.36</i>	<i>B7V</i>	$G=5930$ 1800	<i>500u</i> Full	<i>6450A</i>	<i>11ci</i>	<i>telluric std</i>		
<i>90</i>	<i>5,700</i>	<i>3"</i>	<i>6.580</i>	<i>F7Iab-KLIab</i>	"	"	"	<i>12ci</i>	<i>R_m pgm</i>		
<i>90</i>	<i>20,000</i>				"	"	"	<i>13ci</i>	<i>std vel</i>	<i>B Gem</i>	

249 pg #2

Date 1992 Feb 9/10 Observers Th. For 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.
CC05715	HD 90861	10 24.3	+29 05	00 58	01 08	00 22E	CC05714 CC05716	FeAr Clear	90
FM000422T ₁	"	"	"	01 10		00 20E	"N" Mode	67 sec	1/15 sec
CC05717	BIAS(4)								
CC05719	HD 126053	14 18.1	+01 43	01 22	01 34	3 48E	CC05718 CC05720	FeAr Clear	90 sec
CC05721	BIAS(4)			01 40					
5722 5724	FLAT x3					0 0	+30°	TUNG FeAr Clear Ap = 1/2	8 sec
CC05725 5726	Focus Test	Comp/stellar	HARTMAN posns	01 50		0 0	+30°	FeAr Clear	70/45
CC05727 5728	Focus Test	Comp/stellar		19 46	Feb 10/11 Tests for Rg obs request.	0 0		FeAr Clear	50/70

Spectr. Temp. Dome Temp./Hum. -14.8°C 70% Transparency Conditions *FinR* 250

Focus... 6.90

Spectr. Temp. Dome Temp./Hum. -15.3°C 72% No Fans tonight as is convention.
No wind, Dome Facing SW for seeing test

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
3,100	3"	F20	K2 III	CASS CCD	G=5930 1800/55.4	200 μ Full	6450A	14ci	std vel	The Brighter star (NE) ^{more} wide pair	
55x55	4 frames pixels	"	"	4 frames with old Grab program						Seeing Test. Dome T = -15.1°C	
2700	3.5"	627	G10				6450A	15ci	std vel		
							6550A	15ci 16 17		Dome T = -15.3°C 13K MAX HD4	
					G=5930 1800/55.4	200 μ Full	6450A	18 19	Focus test	T = -14.8°C Set 6.90 Stellar Blue 15 pixels	
All to the Perseus & WORM											
					G=4420 1800/41.7						
					G=4435 1800/				4216-4419		
T = -5.6	Set = 6.90				G=4430 1800/41.8	200 μ Full Length		8ci 7ci	Stellar shift Blue 1 pixel	CCD FMT 360 010 1029 40 1	
									4206-4415		

251

py#1 Tues/Wed

Date 1992 Feb 11/12 Observers [RG]/JL

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.
CCO 5729									
5730	Focus Test	Comp/ Stellar HERTSMAN Poses			18 40	00 15 E	+16°	FeAr clear	60/80
5731									
5732	Focus Test	"	"		18 50			"	50/70
5733	BIAS(4)						CCO 5733		
5735	HD 27371	04 14 06	+15 23 11	19 46	20 16	01 05 W	CCO 5734 CCO 5736	FeAr clear	200s
5737	BIAS(4)								
5739	HD 27697	04 17 10	+17 18 29	20 38	21 11	01 57 W	CCO 5738 CCO 5740	FeAr clear	200s
5742	HD 28305	04 22 47	+18 57 31	21 24	22 04	02 44 W	CCO 5741 CCO 5743	FeAr clear	150s
5745	HD 28307	04 22 52	+15 44 25	22 13 30	22 58 30	03 39 W	CCO 5744 CCO 5746	"	"
5747	BIAS(4)								
5748									
5749	FLATS x 2	(90sec → 2800 ADU MAX) 300sec 8500 ADU MAX				03 50 W	+16°	TUNG clear	90s 300s
5751	HD 40035	05 51 18	+54 17 05	23 22	00 02	03 11 W	CCO 5750 CCO 5752	FeAr clear	150s
5754	HD 62509	07 39 12	+28 16 04	00 12 30	00 18 30	01 43 W	CCO 5753 CCO 5755	"	"
5756	BIAS(4)								
5757	FLAT 7mins							TUNG clear	420s
5759	HD 96833	11 04 03	+45 02 28	00 38	01 08	00 53 E	CCO 5758 CCO 5760	FeAr clear	90s

Spectr. Temp. Dome Temp./Hum. -8.3°C ... 56% Transparency Conditions *PART CLOUDY* ... 252

Focus *set to 7.10 $\rightarrow$ 7.00*

Spectr. Temp. Dome Temp./Hum. -17.7°C ... 51%
central

40 CGAIN T $\rightarrow -100^{\circ}\text{C}$

Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
6092		Set	7.10	$T = -8.3^{\circ}\text{C}$	CASS CCD	G = 4430 1800	200 μ FULL	4300H	1ci 9ci 3ci 4ci	Star Focus Test	<i>Stellar Red 1 Pixel</i> 360 0 10 1024 40 1 CCD FWHM	
5470		set	7.00	$T = -7.9^{\circ}\text{C}$							Stellar Right on (no shift)	
											Dome T = -10.5°C	
20052	55,400	8"	^B 4.64	K0 III					3ci	rG Giant	500 0 180 1024 1 1 CCD FWHM	
											$\Sigma = 8000 \text{ ADU SUM AVG above bkgnd, only sl } > 100 \text{ s/n}$	
2006	63,000	6"-10"	^B 4.74	K0 III					3ci	rG Giant	12K ADU Rick Temp $\rightarrow$ Econ = $+10^{\circ}\text{C}$	
150	96,300	4"-10"	^B 4.54	K0 IV					4ci	"	17K ADU sum avg above bkgnd	
1	80,400	4"-5"	^B 4.79	K0 III					5ci	"	13K ADU sum avg Moon $\approx 15^{\circ}\text{W}$ of 45	
											Dome T = -16.2°C	
40										6ci rG 5 min FLAT		
15	107,000	5"-8"	^B 4.72	K0 III					7ci	rG stel	20K ADU sum avg above bkgnd (400/s s/n)	
1	165,000	5"	^B 2.14	G8 IV					6ci	"	Also RV stel 40K ADU sum avg	
											Dome T = -17.5°C	
420									1ci		12.5K ADU MAX	
93	155,000	5"-8"	^B 4.15	K1 III					8ci	rG stel	24K ADU sum avg $> 300 \text{ s/n}$	

253

Pg 42 Tues/Wed

Date 1992 Feb 11/12... Observers [J.G.] mki. checking on me

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.
CC05762	HD113226	12 5712	+11 2948	01 19 30	01 39 30	02 14 E	CC05762	Fair Clear	150 sec
5764	BIAS(4)								
- 5765	FLATS x3					02 E	+11°	THING Clear	720 sec
5768	FLATS x3					0 0	+30°	"	"
5770	FLATS x3	during Topup		02 11		0 0	+30°	"	"
5771	BIFLAT					0 0	+30°	"	"
5772	Focus Test					0 0	+30°	Kelr Clear	50/70
5773		comp / stellar		HARTMAN poses	02 50				
5774	DARK 20min			03 07		0 0	platform		
5775	BIAS(4)					"	"		

Spectr. Temp.

Focus... 7.6

Spectr. Temp.

Exp. Mtr.

7.400

Spectr. Temp.

Dome Temp./Hum. - 18.2°C, 50%

Transparency Conditions *Fine* 254..[illegible]

255 pg #1

Wed Thurs

Date 1992 Feb 12/13.... Observers [Mti]/Tm.....

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.
CC05776	B145(4)								
5778	MWC 560	07 21 01	-07 32 12	19 27	19 57	2 17 E	CC05777 CC05779	FeAr Clear	40s
5780	"	"	"	20 00 30	20 20 30	1 53 E	CC05781	"	40s
5782	B145(4)								
5783	MWC 560	07 21 01	-07 32 12	20 27	20 57	1 17 E	CC05784	FeAr Clear	40s
5785 5787	FLATS x 3	} while still on MWC 560						TUNG Clear	25s
5788	B145(4)								
5789	MWC 560	07 21 01	-07 32 12	21 10	21 37	0 36 E	CC05790	FeAr Clear	40s
5790	MWC 560	"	"	21 43	22 13	0 01 E	CC05791	FeAr Clear	40s
5792	MWC 560	"	"	22 16	22 46	0 33 W	CC05793	"	"
5795	HD 84441	09 40.2	+24 14	22 55	22 57	1 36 E	CC05794 CC05796	"	"
5798	"	"	"	23 03	23 06	1 27 E	CC05797 CC05799	FeAr Clear	90s
5801	MWC 560	07 21 01	-07 32 12	23 16	23 36	1 23 W	CC05800 CC05802	"	"
5802	"	"	"	23 37	23 57	1 44 W	CC05803	"	"
5805	HD 87901	10 03 03	+12° 27	00 06	00 12	0 44 E	CC05804 CC05806	"	"

Spectr. Temp.

Focus...7

Spectr. Temp.

Exp. Mtr.

520

344

530

591

610

600

200

400

350

400

5000

Spectr. Temp. Dome Temp./Hum. -9.1°C 61% Transparency Conditions ... Part cloudy - hazy 252

Focus 7.00

Spectr. Temp. Dome Temp./Hum. -10.3°C 66.7%

90CG4in T $\rightarrow$ -100%

480 0 50 1024 4 1 CCOFMT

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G=4760 1800	200 μ Full length					
520	2"-3"	2.9	Em				H β	3ci	1mk. pgm	HB 520 ADU MAX CONT 250 ADU SUM AVG obs. binned	
344	2"-5"						.	4ci	"	some cloud - end of exp	
										Dome T = -9.6°C thin cloud	
530	2"-3"							5ci	1mk. pgm	L $\rightarrow$ R DRIET during exp (of image)	
								6ci		12K MAX ADU/pixel	
										Dome T = -9.1°C	
548	2"							7ci	1mk. pgm	cloud at end	
610	2"-3"							8ci	"	clear again, sort of	
600	2"							9ci	"	thin cloud	
12000		B 3.78	G1 Uob		G=4760 1800		H β	10ci	Std vel		
14008	3"	V 2.98	"		G 6000 1800	200 μ Full length	H α	11ci	Std vel	by	
350	2"	2.9V	Em		"	"	"	12ci	mk. pgm	thicker cloud bands	
400	2"-3"				"	"	"	13ci	"	too cloudy at end	
30000		V 1.36	B7U		"	"	"	14ci	Telluric Std	cloudy guide!	

257 pg#2

Date 1992 Feb 17/13 Observers [mki]... Jg.....

Emulsion Batches:

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[illegible]

Spectr. Temp. Dome Temp./Hum. -10.4°C ... 66.8% Transparency Conditions ... Cloudy ... 25.8

Focus ... 7.00

Spectr. Temp. Dome Temp./Hum. -10.7°C ... 68%
 λ central

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2200	<2"	V 6.9	K2L	CASS CCD	G=6000 1800	200 μ Full length	Blue of H α	15c	std vel	medium uni. form cloud no wind obvious	
31x31 pixels	"	"	"			"	"		seeing test	Fans were on all night	
						"	"			Dome T = -10.6°C	
						"	"	16c		12 K MAX ADU / pixel	
					G=6000 1800	"	"	17c 18c	Focus Test	Stellar S/Rad 0.3 pixels 360 0 10 1024 40 1 default	
									Bucked up	to WORM c Perseus to 5815	
					G=6000 1800/548	"	"	17c 18c		I used BIGDOS window in DV no other windows brought in.	
										TO 5818 Feb 14 _{TC}	

Date 1992. Feb. 19/20..... Observers T.Hy./T.H./F.Br..... Cloudy Night Tests

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
CE04353, fts	Focus Test.	OUTBOARD Pos'n		21 30		03 00W	+30°	Th Ar	10s
4354, fts	" "	IN BOARD Pos'n						"	"
4355	focus test	IN board Pos'n		22 25		03 00W	+30°	"	"
4356	" "	OUTBOARD Pos'n						"	"
4357	" "	IN BOARD							
4358	" "	OUTBOARD							
Note: between the "null" result and the final focus test (~ 5^m) the line found @ col 29 Row 958 shifted to (col 29) Row 965 For no apparent reason. not written.									
	mini Flexure Test					0 0	0°	Th Ar	10s
	"					0 02.5W	350°	"	"

Focus...220...-230....

Spectr. Temp. Dome Temp./Hum. *Echo 116 TILT=18.60 90C GAIN 200 0 64 1024 8 1 ccd*

Comparison Iter. Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	X Grating/ Tilt	Slit width	Emulsion	P.H.	Program	Remarks	Quality
105		Set .220	T = +1.08°C		Echelle CCD	5000 Å grid 600 nm / 0.9553	0.277	* 4481 Å	11C1	0.195 Hight Focus Test	* Fds λ CRITERION	
"		89			Note ^x The ORDER of OUT/in Reversal Form						Inboard Shifted Blue = 1.5 pixels	
"		Set to .220	T = +1.06°C						9C1		Inboard shift	
"		.2235 .2235							10C1		OUT BOARD Shift Red 4.5 pixels	
		.2235 .2235	T = +1.05°C						9C1	out board Shifted shift No shift		
									10C1	out board shift		
106									4C1		0 0 69 1029 8 1 CCD Font	
"									5C1		No obvious Shift	

261 pg #1

Date 1992 Feb 21/22 Observers [KK] Tty/Ty./KK.in person

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.
ce04357	BIAS(4)			21820				THA 10sec	
4359	HD 34029	05 09 18	+45 54	19 08 00	19 17 45	00 11 E	ce04358 ce04360	THA 10sec	
4361	"	"	"	19 25 10	19 40 10	00 11 W			
4362	Comp							THA 10sec	
4364	HD 47105	06 31 54	+16 29	19 51 30	20 36 30	00 13 E	ce04363 ce04365	THA 10sec	
4366	Comp							THA 10sec	
4367	HD 62509	07 39.2	+28 16	20 42 07	21 02 10	00 55 E			
68	Comp							THA 10sec	
69	BIAS(4)								
ce04370 4372	FLATS 9" x 3 (3 sets of Flat 9.15s Batch)					01 45 W	+35°	TUNG 15sec	
4373	Bias (4)								
4374	Comp for H α Region							THA 50sec	
4375	HD 34029	05 09 18	+45 54	21 38 00	22 00 00	02 31 W			
4376	Comp							THA 50sec	
4377	HD 34029	05 09 18	+45 54	22 03 45	22 11 00	02 42 W			

Spectr. Temp. Dome Temp./Hum. -4.0°C 67.7% Transparency Conditions . Cloudy in gradually clearing ²⁶²

Focus ... 21.5

Spectr. Temp. Dome Temp./Hum.
5000 Å Blaze Grating

CCDT $\rightarrow -100^{\circ}\text{C}$
30 CGAIN 0 0 256 1024 4 1 readout

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	X Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD	.4570 600 l/mm	600 width = .277 600 height = .205				Echelle Grating Tilt = <u>18.90</u>	
10,000		✓ 0.08	G6 III	+G2 III			4481 Å	4ci	KK pyn		
18,612								5ci	"	6 K MAX HDU / pixel	
4890	4"	B 1.9	A0 IV					6ci	KK pyn		
7300	2.5"	B 2.14	K0 III					7ci	std vel		
										DewT = -5.7°C	
						600 width 800 height for flats					
					.2840 600 l/mm	600 600	H α Region			Echelle Grating to <u>19.40</u>	
at 100 + scale: (5 sec exp)										MAX 7000 HDU for str line	
11,200	2.3"	0.08	G6 III + G2 III				17 Å	2ci	KK pyn	<u>Saturated on Hβ ends</u>	
(5 sec actual)											
5000								3ci		8 K MAX	

263 pg #2

Date 1992 Feb 21/22. Observers KK/Tty/Tp.....

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.
ce04378	Comp for HD 34029							ThAr	5s
4379	Comp for HD 47105							"	5s
4380	HD 47105	06 31.9	+16 29	22 18	22 48	01 58W			
4381	Comp							ThAr	5sec
[4382	Comp] written over							"	"
4383	HD 62509	07 39.2	+28 16	22 55 20	23 15 20	01 18 W			
4384	Comp							ThAr	5sec
4385	Comp								
4386	HD 87901	10 03 03	+12 27	23 32 30	00 03 30	00 17 E			
87	comp							ThAr	5sec
ce04388 → 4390	FLATS 9 x 3					00 00	+12°	TUNG	2sec
4391	BIAS(10)					"	"		
ce04392	Focus Test	INBOARD		01 40		02 20W	+16°	ThAr	5sec
4393	m	OUTBOARD				"		ThAr	5sec

Note This Batch Resulted in
— saturation next time used

Spectr. Tem

Focus...2

Spectr. Tem

Exp. Mtr.

4375

650

5300

or 2000

Spectr. Temp. Dome Temp./Hum. -6.3°C 69%

Transparency Conditions ... P.A.T. Cloudy - Hazy 264

Focus ... 215

Spectr. Temp. Dome Temp./Hum.

30 CGAIN
CED T = -101.4°C @ 22 EST

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	X Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD	.2840 600 $\mu\text{m}/\text{mm}$	60 μm width 600 μm	H α			Echelle Grating tilt = 1890	
4375	2"4"	B 1.9	AOL					4ci	HK pgm	6K ADU MAX	
										Dome T = -6.3°C	
650	2"3"	B 2.14	KOIII					5ci	std vel	cloud again	
5300	3"4"	V 1.36	B7V					7ci	telluric std	MAX 8000 ADU/pixel clearing a bit - Hazy	
note 200BS with 100 t scale						60 μm width 800 μm height				MAX ADU 8000/pixel	
Temp = -6.0°C set 215 (No Filter in place of course)						60 μm 600 μm height	H α	8ci	200 0 64 1024 8 1 CCD PMT	Dome T = -6.8°C	
111 to woman - persons								9ci	out shifted red 16 pixels		

265

py #1

Sun / Mon

Date 1992 Feb. 23/24.... 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.
ce0 4394	✓ BIAS (4)	at HD 87901 posn							
4395	✓ Comp				(1500 secs Exp)			Th Ar	4 sec
4396	✓ HD 87901	10 03 03	+12 27	20 45	21 10	03 03 E			
4397	✓ Comp							Th Ar	4 sec
4398	✓ Comp				[Exp 600 sec]			"	"
4399	✓ HD 34029	05 09 18	+45 54	21 24	21 34	02 13 W			
4400	✓ Comp							Th Ar	4 sec
4401	✓ Comp							"	"
4402	✓ HD 47105	06 31.9	+16 29	21 44	22 26	01 44 W			
4403	✓ Comp							Th Ar	4 sec
4404	✓ Comp							"	"
4405	✓ HD 62509	07 39.2	+28 16	22 34 30	22 45 30	00 57 W			
4406	✓ Comp							Th Ar	4 sec
4407	BIAS (4)					01 W	+28°		
4408	Comp for	HD 87901						Th Ar	4 sec

Spectr. Tem.

Focus... 1.2

Spectr. Tem.

Exp. Mir.

3500

6460

5575

3000

Spectr. Temp. Dome Temp./Hum. 0°C 80% Transparency Conditions ... Part cloudy-hazy ²⁶⁶

Focus ... 225

CFDT $\rightarrow -100^{\circ}\text{C}$

Spectr. Temp.

Dome Temp./Hum.

CCO FMT

30 CGAIN 0 0 256 1024 4 1

Comparison
Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	X Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD	• 2850 600 $\mu\text{m/mm}$	60 μm width 600 μm height	Hd		600 = 0.277 set 600 = 0.205	default stats 176.708 σ 0.874	
2500	2"	^V 1.36	B7V					sci	some cloud Telluric Std	DRAG 03 hr E = +0000 03 OK should be +0004 0950 encoder b dec -00 09 27 3200 ADU/pixel max	
6460	2"	^V 0.08	G6III + G2III					3i	kk pgm	$\approx 10\text{K ADU MAX/pixel}$ Capella some cloud	
5575	2"-4"	^B 1.9	^{V=1.93} A0IV					5ci	kk pgm	8 Gem 8600 MAX ADU	
2000	2"	^B 2.15	K0IIIb					6ci	std vel	Beta Gem cloud tend	
										Porro T = -1.6°C	

267

pg #2

Sun / mon

Date 1992 Feb 23/24. Observers ... HK / Jh / mki

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.
ce04409	✓ HD 87901	10 0303	+12 27	23 0740	23 3000	00 42E			
4410	✓ Comp							Th Ar	4sec
4411	✓							Th Ar	4sec
→ 4413	✓ FLATS (6) x 3			23 40		0 0	+30°	Th Ar	4sec
4414	"		"			"	"	Th Ar	1sec
4416	"		"			"	"	Th Ar	1sec
4417	BIAS(4)					0 0	+6P		
4419	HD 95689	10 57.6	+62 17	01 14	01 35	00 27W	ce04418 ce04420	Th Ar	4sec
4421	HD 95689	"	"	01 39	01 55	00 47W	ce04422	"	"
4423	Comp at Nova Cyg 92 pos'n			02 06		08 28E	+52 31	Th Ar	4sec
4424	NOVA Cyg 92	20 30 32	+52 37 53	02 25	02 50	07 44E	ce04425	"	"
4425	✓ "	"	"	02 50 30	03 10 30	E			
4426	✓ Comp							Th Ar	4sec
4427	✓ Nova Cyg 92			03 14	03 37	06 57E			
4428	Nova Cyg 92			03 38	04 00				
4429	Comp							Th Ar	4sec
4430	BIAS(4)								

Spectr. Tem

Focus ...

Spectr. Tem

Exp. Mr.

860

1200

Using 100

000

2300

45

58

256

20

Spectr. Temp.

Dome Temp./Hum. -1.7°C 83%

Transparency Conditions . PHAT - mostly cloudy... / 268

Focus 2.25 no filter

Spectr. Temp.

Dome Temp./Hum.

Clearing a bit By 01 EST

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
860	2"	V 1.36	B7V	Echelle CCD	0.2850 600/14mm	60u 600u	HL	7ci	Telluric Std	1700 ADU MAX thin cloud (thicker at end)	
1 sec											
using 100 + scale						60u width 800u length for flats				MAX ADU/pixel = 7200-7400	
"	"	"								Note. using FLAT 9.205 saturated. See previous night. 7500 MAX	
										Pero T = -2.2°C Delta S = -00 07 18 Delta RA = +18 sec MAX = 10 000 ADU	
6000	<2"	V comb 1.79	K0 IIIa			60u width 600u	HL	3ci	Kk pgm		
4300	2"	"	"					4ci	x UMa AB		
								5ci	Now visible in Finder OK		
45	3-4				(very broad Em) (1200 ADU MAX @ HL)		HL	6ci	Now 92 pgm	using unassisted camera hazy & fainter slit	
58	"							7ci		Field drawn field deck's right on	
256	2	V 4.5	Fainter than SCyg					4ci	TV image OK	3K ADU MAX @ HL now despite thick haze	
320								5ci			
								1ci		Dome T = -4.6°C	

269 pg #3

Date 1992 Feb 23/24... Observers Maki / Ty.....

Emulsion Batches:

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[illegible]

Spectr. Temp.

Focus . . .

Spectr. Tem

Exp. Mtr.

408

150

540

$$\overline{I} =$$

Spectr. Temp. Dome Temp./Hum. -4.6°C 61% Transparency Conditions ... *part cloudy* ... 270
 Focus ... 225 ...
 Spectr. Temp. Dome Temp./Hum. -5.1°C 60%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
408	3"	24.5		Edeko CCD	600nm	600nm	H ₂	7c	^{c49} Nova 92 pgn	Clear now	
150								8c		Cloud now	
540	$3-4"$	2.99	A0V _n					6c	Telluric Std	thin cloud ^{V sin i} = 331 km/sec	
										Photo T = -5.2°C	
				All to Pearson and worm, TN							
				T = -1.6°C still set at 225		60nm		8c	200 0 64 1024 8 1 ccd fmt		
						600nm	H ₂	9c		^{sh. ft} of Outbound Red .3 pixels	
				H ₂ ORDER 6535Å → 6584Å						6509 Å red	
									6483Å	next ORDER blue of H ₂ 94-96 pixels	
				(6386 Å blue)					6410Å	next ORDER n	
									6338	48-60 pixels, 6933 Å red	
										Top ORDER red end only	

271

Thurs - Fri

Date 1992 Feb 27/28 Observers [Bln]/Tr/Fbo.....

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.
CC05819.fts	BIAS(4)								
5821	HD 36485	05 26 54	-00 21 30	19 10	19 40	00 19 W	CC05820 CC05822	FeAr Clear	90sec
5823 5822	BIAS(4) Quinn			19 56		W		i	
5824 5832	FLATS x 9			20 05		00 18 W	-00 21	Tung A=1/2	7sec
CC05833 5834	Focus Test	Comp/stellar	hurtrun	20 20		"	"	FeAr	60/45
CC05836	HD 36485	05 26 54	-00 21 30	20 47	21 47	02 27 W	CC05835 CC05837	"	90sec
5838	BIAS(4)			21 51		"	-00 21		
5840	HD 35502	05 20 00	-2 54 22	22 10	22 42	3 28 58 W	CC05839 CC05841	FeAr Clear	90sec
5843	HD 87901	10 03 03	+12 27	22 53	23 03	-0 53 00 E	CC05842 CC05844	"	"

Transparency Conditions... PORT cloudy - snow ²⁷²
str NW wind

CCDT - -100°C 90 CGAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G=6050 18001	200u Full Length	6600 Å center H α		480 0 50	1024 4 1 CCD FMT	
90%	4100	6"	6.85	B2V _{sn} (He Str)				4ci	H α pgm-Bln	snow & cloud & end	
				Note (Had to Reset Heuricon before this B145)						Dome T = -1.4°C	
75%								3ci 10ci		9 K max ADU	
60/45				T = -1.6°C	set 7:00	200u Full Length	6600 Å center H α	11ci 12ci		stellar 1 pixel RA shift	
90%	8500	4-6"	6.85	B2V _{sn}		200u width Full Length		6ci	H α pgm-Bln	more cloud by end	
										Dome T = -4.3°C	
90%	1140							7ci			
	11961	6"	1.36	B7V						300 max ADU Telluric std in cloud	

273
py #1

Fri - SAT

Date . 1992 . Feb 29 ²⁸ MART Observers . [B.M.] / T.M. / F.B.

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.
CC05844 CC05845	Focus Test	Comp/	Stellar Hydr	TMAN posns	23 33		CC05846	FeAr CLEAR	60/45
CC05847	HD87901	10 03 03	12 27 00	00 25	00 26	0 34 W			
CC05848	HD87901	10 03 03	12 27 00	00 31	00 33 00 33	0 40 49 W			
CC05849	Comp							FeAr CLEAR	180 sec
CC05850	Bias (4)					0 44 W	+12 27		
FM:00424 ^{1st} HD90861		10 24 17	29 05 35	01 02		00 53 W	+28 38	4 frames	
5851	Comp							FeAr CLEAR	180 sec
5852	HD90861	10 24 17	+29 05 35	01 16	01 39	01 29 W			
5853	Comp							FeAr CLEAR	140 sec
5854	Comp							" "	" "
5855	HD95689	10 57.6	+62 17 00	01 58	02 00	01 17 W			
5856	Comp							FeAr CLEAR	180 sec
5857	BIAS (4)								
5858	Comp FeAr								
5859	Nova Cyg 92	EPOCH 2000 20 30 32	52 37 53	02 25 30	02 31 00 02 31 00	07 39 E		CLEAR CC05859 FE NO. 4 sec	180 sec

Spectr. Temp.

Focus ... 7

Spectr. Temp.

Exp. Mtr.

T = -

19350

80350

"N" grade

3500

20000

2300

CCOFMT
30CG41n 480 0 50 1024 41

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
6045	T = -5°C	Set 7.00	CASS CCD	G=6000 180/55°8'	200μ Full length	6545H actual HL						
19350		V 1.36	B7V							TELLURIC STD	Dome T = -8.6°C ≈ 6000 ADU MAX	
50,350		"	"							TELLURIC STD	(STRONGER SPEC.)	
18000												
ve	"N" mode	V POOK 67 msec Int + (1/15 sec)	LARGE BOX	stars X̄ = 161.284 ± 1.054	200 μ slit Full length					seeing Test	DOME T = -9.5°C STR N WIND DOME SW	
8000												
3500	5"-8"	V 6.9	K2 III					6545A 7ci	std vel		Dome T = -10.5°C	
1400												
"												
20000		V 1.79	KO IIIa					10ci Kk pgm			MAX 4100 ADU	
10000												
e 15000												
5 min	2300	10"						1ci Nova Cyg 92			3500 ADU MAX	

275 pg#2

Date 1992 Feb 28 / MAR 1 Observers T.H. / Fbr

Emulsion Batches:

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[illegible]

Spectr. Temp. Dome Temp./Hum. -12.5°C 5270 Transparency Conditions ... Fine 276
 Focus 7.00 prob. Ideal for -10°C
 Spectr. Temp. Dome Temp./Hum.

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	6800	10"			CASS CCD	G=6000 1800/558	200x FULL	6545A	9ci	Nova pgm		
	5280								10ci			
	5870								11ci		2.3275 AIR MASS @ 0306 EST	
	5670	6"							12ci		Brighter Than Finder Field Star is at SSE edge of Field, But not by much	
											2.1460 AIR MASS @ 0330	
	21,600	6"	2.99	AOV _n					14ci	Telluric Std	3.1800 @ 0330	
											Dome T = -12.6°C	
	6300	8"							15ci	Nova pgm	Air MASS = 1.85	
	6800								16ci	— " —	Dome T = -13.7°C	
	6900								17ci	— " —	Dome T = -14.0°C	
	6700								18ci	— " —		
	6575								19ci	— " —	Dome T = -14.4°C	

Spectr. Temp. Dome Temp./Hum. -14.8°C 55% Transparency Conditions ... Fine but cold 278

Focus 7:00

Spectr. Temp. Dome Temp./Hum. -15.8°C 52%

NO AURORA Tonight as Stelton had predicted

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
37,000	8"	3.94	A1 V _n	CASS CCD	G=6000	200 μ	6545A	20ci	TELLURIC STD	Emission within H α 3100 MAX ADU 1.83 AIR MASS	
6600									Nova pgm	DOME T = -15.6°C	
6400									"		
										Pend T = -15.7°C	
								24ci -32ci		MAX 10 K ADU	
								33 34 35 36	Focus test	stellar Red 2.5 pixels	
										still @ 7:00 T = -15.8°C	
										All to persons and webcam	

279

Date 1992 ^{Feb 29} ~~Mar 1~~ Observers Bln./Fbr./Tn.....

Emulsion Batches:

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[illegible]

Spectr. Temp. Dome Temp./Hum. -9.2°C 61% Transparency Conditions ... PARTLY CLEAR 280

Focus 7.00 $\rightarrow$ Reset to 6.85 after Focus test

Spectr. Temp. SKY CORR. vs. Blue Dome Temp./Hum. FORMAT

480 0 50 1024 41 90CGAIN
Completely Cloudy

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Central Emission	P.H.	Program	Remarks	Quality
				CASS CCD	G6050 18001	200% Full Length	6050 G=6050	1;2		stellar shift 1 pixel Red CCD FmT	
				Temp = -8.9°C	Set 700		6050 Refof H ₂	350; 360;	Focus ccd FmT	360 0 10 1024 90 1	
2230	2-4"	$\checkmark$ 7.36	B5TV _{SH}	(Hew)				30; 40;	Bln pgm	clouding in	
										Dome T = -9.3°C	
										Dome T = -9.0°C	
										All to Perseus = NORM.	

Tues / wed

Date 1992 MAR 3/4.... Observers K.H. / T.M. / Shen.....

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.
FIT 6898	Comp							FeNe / 200	
899	Comp							FeA / 200	
900	comp							TiNe 200	
901	flat							W 200	
902	comp							FeA/BG39 200	
903	comp							FeNe/BG39 200	
TAGS FIT 904 FIT00905, FAS	Flat HD 34029	05 09 18	+45 54 00	18 29 50	18 59 50	00 14 W	+45 49	BG39 Filter	1200
TAGS FIT 906	"	"	"	19 00 15	19 30 15	00 44 W		"	"
907	Comp	"	"	19 42		Diffuser OUT	FeNe clear	BG39 filter	10 min
908	FLAT	"	"	19 59	20 18	Diffuser OUT	TUNG clear	"	
TAGS FIT 909	HD 62509	07 39 12	+28 16 00	19 26 45	20 56 50	00 17 E		BG39 in	
FIT00910	Comp (Last of Spectacle OBS)			21 01			FeNe clear	BG39 in	10 min
CC05912	Bills (4)								
5914	MWC 560	07 21 03	-07 32 12	21 35	22 05	01 11 W	CC05913	FeAr clear	90 sec
5915	"	"	"	22 06 30	22 36 30	01 42 W	CC05915		
5916	Comp			note	Diffuser still OUT		FeAr clear		90 sec

Spectr. Temp. Dome Temp./Hum. .. 0°C 52% Transparency Conditions ... Thin ... cloud - OK 282

Focus ... FOR CASS 6.85

Spectr. Temp. Dome Temp./Hum.

FOR Spectle Fiber Feed
using Old "X" Columnator

Exp.	Exp. Mir.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200					X coll. fiber feed	1200/48	8.5μm Fiber					
200						831/45						
200						831B/45						
1500/4000	OK	B 0.89	G812? + F	FF Spectle	831/45	8.5μm Fiber	4250A			KK Spectle pgrm	*831B grating "old G12" a 1000000s MAX	
1200/3500										"	Image sl out of focus perings	
10-20cm												
150-210												
400-600										KK pgrm as a Std	part cloudy	
328	2"				30 CGAIN (T = -100°C for CCD)	G = 6000 200μm 6545A				X = 165 ADU	Dom T = -2°C	
325	2"				CASS CCD	1800/	Full Length		3ci	Mki pgrm	480 0 50 1024 4 1 CCD FMT	
					"	"	"	"	4ci	"	Fairly cloudy	
					"	"	"	"	5ci		292 ADI Top Scale A	

283

pg #2 Tues / Wed

Date 1992 MAR 3/4.... 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.
CC05917	Comp	This Time with Diffuser IN						Fear Clear	180sec
5918	MWC 560	07 21 03	-07 32 12	22 46 30	22 59 30	02 05 W			
5919	Comp					Diff IN		Fellr Clear	180sec
5920	BIAS(4)					02 10 W			
→ 5921 5926	FLATS x 6					02 15 W	-7 54	TUNG A=V2	12sec
5927	Comp							Fear Clear	180sec
5928	HD 87901	10 03 03	+12 27	23 31	23 33	200 10 W			
5929	Comp							Fellr Clear	180sec
5930	Comp							"	"
5931	HD 25642	03 59 08	+50° 04 48	00 03	00 23	6 48 W	+50° 17'	Dec Circle	
5932	Comp							Fellr Clear	180sec
5933	BIAS(4)					6 55 W	+50 17		
5934	Comp							Fellr Clear	180s
5935	HD 77372	08 56 48	+47 33 03	00 57 30	01 03 30	2 32 W	+47 13	Dec Circle	
5936	Comp							Fellr Clear	180

Spectr. Ten

Focus... 6

Spectr. Ten

Exp. Mtr.

7400

593300

62000

Spectr. Temp. Dome Temp./Hum. -2.7°C 62% Transparency Conditions *part cloudy* 284

Focus *6.85*

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G=6000 1800/	200x Full	6545A		388 Top scale #	CGAIN = 30	
	2-3"							5ci	Mki pgn	cloud extend clear partially again	
	5-10" 12-18" 12							6ci			
										Dome T = -2.8°C	
								6ci		MAX 10K HDU/pixel	
74000	OK	V 1.36	B7V					6ci	Telluric Std	guided a bit 5200ADU MAX	
54300	3"	V 4.29	H0IV _n	Note	Att. Blk This is another "ODD" Hz profile Like for H0199629			7ci	Telluric Std (Blk)	Tel East Side of Piers - encoders failed guided a bit too much by accident. 4400ADU MAX	
										x ~ 164 ADU Dome T = -3.3°C	
62000	2"	V 3.60	H1V _n					8ci	Topup @ 0040 Telluric Std (Blk)	5200ADU MAX	

285 pg#3

Emulsion Batches:

Date 1992 MAR 3/4.... Observers [mtr.] hyphoe... T.n.....

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.
cc05937	Comp BIAS(4)					02 38W	+47 13		
5938	Comp FOR Nova							FeAr Clear	180 ^{sec}
5939	NOVACyg 92	20 30 32	^{3000 epoch} +52 37 53	01 21 20	01 33 20	08 25 E			
5940	"	"	"	01 35 00	01 42 00	E			
5941 ✓	"			01 44	01 52				
5942 ✓	"			01 55 30	02 04 30				
5943	Comp							FeAr Clear	180 ^{sec}
5944	BIAS(4)								
5945	NOVACyg 92	20 27 43	+52 17 39	02 12 30	02 20 30	E			
5946	"			02 23	02 30				
5947	"			02 39	02 47				
5948	"			02 43 30	02 44 30				1 min
5949	"			02 46 40	02 47 40				1 min
5950	"			02 50 00	02 51 00				1 min
5951	Comp							FeAr Clear	180 ^{sec}

1900 precessed from 1950 coords

Spectr. Ten

Focus...6.

Spectr. Ten

Exp. Mtr.

4200

3460

3200

4370

3700

1750

630

690

740

Spectr. Temp. Dome Temp./Hum.

30 C Gain still CCOT $\approx -100^\circ\text{C}$

Comparison Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					CASS CCD	G=6000 1800	200x Full	6545A				
180 sec												
	4200	4"	V* ~5.5						9ci	Now pgrn	* Looks sl brighter than 2 field stars ^{a Finder} HIA MASS = 3.66	
	2460								12ci	"	15 K HOU MAX (Almost saturated)	
	3000								22ci	"	H MASS = 3.3	
									13ci	"	Air MASS 3.0 10 K/MAX ADY	
180 sec												
											Dome T = -3.9°C	
	4370								16ci		guided a bit almost saturated	
	3700								18ci			
	1750								24ci		guided	
1 min	630								25ci			
1 min	640								26ci			
1 min	740								27ci			
180 sec									'			

287 pg #4

Emulsion Batches:

Date 1992 MAR 3/4 Observers [mki.] T.S.

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.
CC05952	Comp							FeAr Clear	180 _{sec}
5953	HD 199629	20 5327	+40 46 55	03 08 30	03 22 30	7 03 E			
5954	Comp							FeAr Clear	180 _{sec}
5955	FLATS x 6				03 32	6 50 E	+41°	TUNG A=1/2	12 _{sec}
5960									
5961	BIAS (4)					"	"		
5962	Comp							FeAr Clear	180 _{sec}
5963	HD 144579	16 01 30	+39 25 36	03 41 45	03 47 45	01 44 E			6 min
5964	Comp							FeAr Clear	180 _{sec}
5965	Focus				04	01 38 E	+39°	FeAr Clear	60/45
5966	Comp/stellar Hartman							"	180 _{sec}
5967	Comp	1900							
5968	Novo Cyg 92	20 27 43	+52 17 39	04 06	04 08	E			
5969	"			04 09	04 11	5 47 E			
5970	"			04 12	04 14				
5971	Comp							FeAr Clear	180 _{sec}
5972	BIAS (4)								

Spectr. Temp. Dome Temp./Hum. ^{-4°C} 62%

Focus ... 6:25

Spectr. Temp. Dome Temp./Hum. $\sim 4.3^{\circ}\text{C} \dots 61\%$

Transparency Conditions *Final* 288

Nova Cys est @ MAG Visual $\approx$ 5:5 by Tn
03 EST, and 5:5 also @ 4:30 EST previous
MORNING

	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
180 ^{SE}		J						6545P		(Blm)	I guess no good as Tel Std	
	23000	2"	V 3.94	AIVn					28c:	Telluric Std / AIRMASS 3.60		
180 ^E									79 31		10 K MAX	
125E											Pore T = -3.9°C	
180 ^S									27c: 29c:			
6mir	4000	1-2"	V 6.66	G8V					29c:	Std vel		
180op												
60/45		Set=6.85			-4°C				33 34c:	Focus Test	Right on focus FORMAT 360 0 10 1024 40 1	
180 ^N									30c: 30c:	Mov pym		
	2140								31c:			
	2340								31c:			
	2845	1"							32c:			
180 ^{NE}											All to Persaus & work	

289

Pg #1

Wed / Thurs.

Date 1992 March 4/5

Observers KK / Tu / SC / [MKI] *planning / Tu*

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.
FIT 00911	FeNe (aux feed)						^{Filter} BG39	aux FeNe	600
912	Tungsten						"		
913	HD 34029	5 09 18	+45 54	17 59 19					1800 _{sec}
914	"	"	"	18:34:20					"
915	"	"	"	19:06 25	19 36 25	00 55W			"
916	FeNe (comp)						Diffuser out BG39	Reg FeNe	600 _{sec}
CC05973.F45	BIAS (4)								
5974	Comp						Diffuser IN	FeAr Clear	180 _{sec}
5975	MWC 560	07 21 03	-07 32 12	20 14	20 44	00 07 W			
5976	Comp							FeAr Clear	180 _{sec}
5977	FLAT for H ₂							TUNG h=1/2	12 _{sec}
5978	FLAT for H ₂ beta							TUNG Clear	40 _{sec}
5979	Comp							FeAr Clear	80 _{sec}
5980	MWC 560	07 21 03	-07 32 12	20 56	21 26	00 39 W			

Spectr. Tem

Focus

Spectr. Tem

Exp. Mir.

350

1700

2400

2400

2400

25

447

Spectr. Temp. Dome Temp./Hum. ... +1.2°C / 74% Transparency Conditions V: clear 290

Focus 6.85 for CASS

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
600	550	B 0.89	G8III H β	fiber feed X collimator	831 B/ 45°	8.5 μ fiber	PCS			seeing good, mirror bad	
1700											
1800	2400	2"? B 0.89	G8III +F2							Capella	11.0 MB
"	2400									obscured by dome 1000 rev	11.7 MB
"	2200										10.8 MB
600											
	FITS also copied to N:\ Spectr/ Persaus.								CCDT -7 -100° 480 0 50 1024 9 1 CCD-FMT		
	Focus 6.85 seems OK @ 0°C (comp 2 pixels wide FWHM)								30 GGAIN		
800				CASS CCD	1800 G6000 CASS CCD	2000 Full	H α Region 6545Å				
	425	2"						4ci	MkI pyro	There was an arc when turning Dome during exp - H α filter multi exp still on.	
1800											
1200								5ci		8K MAX	
400					G 4760 1800/		G=4760 H Beta	6ci		8K MAX	
800							Central 4825Å				
	447	2"					H Beta	8ci	MkI pyro		

291

Tried Thurs.

Date 1992 MAR 4/5... Observers [mki] In./SC.....

Emulsion Batches:

USING CCD3 starting This page.....

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
CC05981	MW 560	07 21.03	-07 32 12	21 35 30	22 00 00	01 09 W			
CC05982	Comp FeA			22 10 43 9					
5983 - 5985	BIAS FLATS x3						Diffuser IN	Tung Clear	40 sec
5986	BIAS(4)	using SC's BIAS 4. BAT in CCD 3							
5987 5988	FOCUS - comp pos - stellar pos					01 40 W	-7° 40'	FeA Clear	30/30
FIT00917	Tungsten - dead time test							BG 39 +ND 0.6	7200
918	"							BG 39	7200
919	"							BG 39 +ND 0.6	
CC05989	Focus Test	Comp pos'n	MAR 12/13			00 07 W	+22°	FeA Clear	60 sec
CC05990	" "	Stellar pos'n			20 08			"	"

Spectr. Temp. Dome Temp./Hum. 0°C 70% Transparency Conditions ... some cloud in SW 292

Focus ... 6.85

Spectr. Temp. Dome Temp./Hum.

30C G41n

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	2"			CAS CCD	G=4760 1800	200 μ FULL	4825A	9ci	mkp gm	cloud at end	
										7 K max	
										Prime T = 0°C	
				Set 658	T = 0°C		4825A	$\frac{33}{34}$	Focus Test	Right on	
670							All CCD OBS			to worms Perseus	
2000											
4650											
Set 685	T = -7.0°C			CASC CCD	G=5930 1800	200 μ Full L	6450A	33ci 34ci	stellar uvsl blue	≈ 0.2 pixels seen 2.2 pixels	
										FWHM ≈ 2 pixels	

293

Thurs - Fri

Date . MAR. 12/13. - 92.... Observers E.B. Jr. / Fbr

using CCD3

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.
CC05991 5992	Focus Test	Comp	1 stellar	02 26		06 SSE	+52 35	FeAr CLEAR	50/50
CC05993	BIAS(4)								
05994	Comp	1900 precessed							
CC05995	NOVA Cyg 92	20 27 43	52 17 39	02 37	02 42	06 41 E	+52 35		
CC05996	NOVA Cyg 92	20 27 43	52 17 39	02 49	03 01	06 22 E	+52 35		
CC05997	NOVA Cyg 92	20 27 43	52 17 39	03 04	03 16				
5998	Comp (using ccon + 90)							FeAr CLEAR	90 sec
5999	NOVA Cyg 92			03 24 45	03 36 45				
6000	n	(exposed 600)		03 38 30	03 52	05 31 E	+52 35		
6000	BIAS(4)	[Header says its BIAS(4), but 600 sec exp?] June 96/tn							
6001	NOVA Cyg 92	20 27 43	52 17 39	04 09	04 19				
6002	Comp							FeAr CLEAR	90s
6003	Comp							n	9
6004	H0177724	19 00 49	+13 43	04 36	04 56	03 00 E			
6005	Comp								

Spectr. Temp. Dome Temp./Hum. $-10.7^{\circ}\text{C} / 62\%$ Transparency Conditions Clearing ... Snow ending ²⁹⁴
 Focus ... 6.85
 Spectr. Temp. Dome Temp./Hum. *30 C GAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS	$\lambda = 6000$	20 μ	6545A	33 μ	Focus Test	360 0 10 1024 40 1 CCD FAST	
				CCD	1800/	Full length		34 μ		480 0 50 1024 4 1 CCD FAST	
								4 μ			
1195	8"							5 μ	NOVA Pam.	DOME T = -11.4°C	
2900	8"							4 μ	NOVA Pam.	DOME T = -11.7°C	
2700	6"							6 μ	NOVA Pam.	DOME T = -12°C	
								7 μ			
2800								8 μ			
3155								9 μ			
2000								9 μ	NOVA Pam	← Using (expose 600) DOME T = -12.8°C .	
								11 μ			
53600	4"	2.99	HOVn					10 μ	Telluric Std	Air mass 1.50	
								12 μ			

295

pg #2

Date MAR 12/13/92 Observers [B/n] Fbr Tn

Emulsion Batches:

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[illegible]

296

685

30 CGain

[illegible]

297

pg 1

Date MAR. 15/16, 1972..... Observers [K.H.]..... Tn..... Bhrum

Emulsion Batches:

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[illegible]

Spectr. Temp. Dome Temp./Hum. -11°C 60% Transparency Conditions *Sl. hazy* 298

Focus ~~240~~ 190

Spectr. Temp. Dome Temp./Hum.

CCOT $\rightarrow -100^{\circ}\text{C}$ CCOFMT
30 CGAIN 00256 1024 4 1

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD	7600 Å $x = 1565$	$60\mu = .275$ $L = 600\mu$ Length $600\mu = .205$ set			Echelle Tilt = 19.0	-11.5°C Dome T	
2sq 2/1400 2/1100		B 0.89	G8III +F?						3ci Asm Sp-KK	Saturated at 4000 cnts.	
2sq 1400	3"	B 1.9	A0IV						3ci Asm Sp-KK	5800 ADU max	
2sq 1700		"	"					6ci	"	6900 ADU MAX Dome T = -12°C	
2sq 1450	3"	V 1.36	B7V						3ci Telluric Std	7600 max ADU AIR MASS = 1.019 Approx 10° from 3/4 moon	
2sq 940	3"	V 1.14	K0III						4ci Std vel	4000 ADU MAX	
2sq 370	2-3"	V 3.66	F0p						5ci Asm Sp KK	2500 ADU MAX	

299 pg #2

Date 1992 MAR 15/16 Observers [KK] / Th / Bhrm

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.
4459	BIAS(4)			01 25 00					
4460	COMP							ThA	1sec
4461	NOVA Cyg 92	20 27 43	+52 17 39	01 45 00	02 17	06 54 E			
4462	"	"	"	02 20 30	02 43				
4463	Comp							ThA	1sec
4464	NOVA Cyg 92	20 27 43	+52 17 39	02 50 20	03 06 20	06 04 E			
4465	Comp							ThA	1sec
4466	BIAS(4)								
4467	75 Comp FLATS x 9				03 42	02 05 W	+13 43	TUNG	7sec

Comparison
er Exp.

150

154

15c

750

301

Mon - Tues

Emulsion Batches:

Date 1992 MAR 16/17... Observers [KK] Fbr./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.
ce04476 4477	Focus Test		Set.200	T=-3°C	19 30	03 W	RGG10F:11ed in +24°C	ThAr	2/2
ce04478	BIAS(4)					"	"		
4479	Comp for	HD34029						ThAr	
4480	HD34029								
ce04478 4479	Focus Test	INBOARD OUTBOARD	MAR 17/18/92		19 46			ThAr	1/1 se
ce04480 4481	Focus Test	Inboard OUTBOARD	MAR 17/18/92		21 50			ThAr	1/1

Spectr. Temp. Dome Temp./Hum. -3°C ... 53%
 Focus ... 190 $\rightarrow$... 200
 Spectr. Temp. Dome Temp./Hum.

Transparency Conditions PART - mostly cloudy.
 NO Observing.
 30 CGain $T \rightarrow -100^{\circ}\text{C}$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	X Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2/2	200	0	64102481	Echelle CCD CCD FMT	7600Å Height = 190	60μ 190	H ₂		Focus Test	OUT BOARD = .7 pixel Res. FOR .190 setting .2 pixel	
	0	0	256	102481	CCD FMT					OUT BOARD .2 pixel Res. for .200 setting	
									X GRATING changed to .5665	6707Å is 3rd order from Bottom.	
1/1	T = 0°C	Set. 200		Echelle CCD	x grating 7600Å Tilt = .5665	60μ 190	6560Å H ₂		Echelle Tilt = 198 Slit H = .205 = 60μ	OUT BOARD .5 pixel Res.	
1/1	T = -1°C	Set. 200		Echelle CCD	7600Å x .476	60μ width 8800Å (Height) = .205 = 60μ			300 0 64102481 CCD FMT	OUT BOARD vusl Res. shifted	
									Echelle Tilt = 18.70		

303 pg#1 Tues wed.

Date 1992 MAR 17/18 Observers JKH/ Fbr/Tn

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R.G. 610. Filter All night

[illegible]

Spectr. Temp. Dome Temp./Hum. -2°C 59%Transparency Conditions *Mostly cloudy & some snow* 304

Focus ... 200

Spectr. Temp. Dome Temp./Hum.

30 CGAIN 0 0 256 1024 4 1 CCD

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	X Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD	7600Å 5655	60μ 600 High	6560Å				
								3ci			
1400	2"	B 0.89	G8IV +F?					4ci	Asm Sp KK	MAX ADU → 15000	
1000								4ci	Asm Sp KK	MAX ADU = 8000	
900	42"	B 1.09	A0IV					5ci	Asm Sp-KK		
1000	2"	V 1.36	B7V					6ci	TELLURIC STD.	AIR MASS 1.22 DOME T = -3.9°C	7.5 MAX
										T = -4.4°C	
1300	2"	V 2.0	A0F					7ci	Asm Sp KK	5200 ADU MAX	

305

pg #2 Tues wed

Date 1992 MAR 17/18... Observers [KK]... T_n / F_{br} / S.C...

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.
ce04498	HD 8890	01 22.6	+88 46	00 37	00 53	10 10 W			
4499	Comp							Th Ar	1sec
4500	Comp							Th Ar	1sec
4501	Nova Cyg 92	20 27 43	+52 17 39	01 10	01 44	7 19 E			
4502	Comp							Th Ar	1sec
4503	Nova Cyg 92	20 27 43	+52 17 39	01 50	02 10				
4504	Comp							Th Ar	1sec
4505	BIHS (A)	Then Topup @ 2 30							
4506	Comp							Th Ar	1sec
4507	HD 17724	19 00 49	13 43 00	02 51	03 31	4 06 E			
4508	Comp							Th Ar	1sec
4509	Comp							Th Ar	1sec
* 4510	HD 137909	15 23 42	+29 27	03 39	04 09	0 08 W			
4511	BIAS (A) for Nova Cyg 92 After reset of Heuricon Camera controller							Th Ar	1sec
4512	Comp at Nova Cyg 92			no go	(cloud)				

Spectr. Temp.

Dome Temp./Hum. ... -4.6°C... 59%

Transparency Conditions Fine s/haze 306

Focus 200

Spectr. Temp.

Dome Temp./Hum.

0117 P. 274

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1300	2"	2	A	Echelle CCD	7600 AB/4200 X tilt = .5665	600H	H ₂	4c	Asm Sp-HK		
								3c			
								3c			
0	2"							5c	Nova Cyg 92.	2200 ADU MAX @ H ₂ AIR MASS = 2.75 @ 0123 ∴ 3000 km/sec	
0								6c		H ₂ BLUE ABSORPTION @ 6505 Å	
								3c		AIR MASS 2.23	
										Dome T = -5.3	
										@ CDT still -101°C	
180		2.99	ADU _n					7c	TELESCOPE	AIR MASS 2.57 DOME T = -5.9°C	
365	2"	3.66	F0p	* This OBS probably lost. (ONLY 2500 bytes)				4c	Asm Sp-HK	System Hung while attempting to write	

307 #3

#3

Date 1992 MAR 17/18 Observers (KH) Fbr Tm

Emulsion Batches:

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[illegible]

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions *Cloud* 308

Focus 200

Spectr. Temp.

Dome Temp./Hum. ... -6.2°C ... 67%

Comparison Alter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
750					Echelle CCD	60μ Height set (#190) For flats	HL	4c.			MAX 12,400 ADY/pixel	
											All to persons & worm	

309

Thurs - Fri pg #1

Emulsion Batches:

Date 1992 MAR 14/20 Observers [H.K.] ... Fbr./Tn./SC ← look here!

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
CE04522	BIAS(4)	using	<< BIAS. BAT						
4523	Comp							ThAr	1sec
4524	HD 34029	05 09 18	+45 54	20 05	20 06	02 23 19 W			
4525	Comp								1sec
4526	HD 34029	05 09 18	+45 54	20 19	20 23	02 41 W			
4527	Comp							ThAr	1sec
4528	HD 34029	05 09 18	+45 54	20 34	20 37 20	02 55 W			
4529	Comp							ThAr	1sec
4530	HD 47105 Comp							ThAr	1s.
4531	HD 47105	06 31.9	+16 29 00	20 58	21 18	02 15 W			
4532	Comp							ThAr	1s.
4533	Comp							ThAr	1s.
4534	HD 87901	10 03 03	12 27 00	21 26 20	21 41	0 53 E			
4535	Comp							ThAr	1s.
4536	Bias (4)								

Spectr. Temp. Dome Temp./Hum. *-2.1 50%* Transparency Conditions *Fine* *310*
Focus *200* *should be fine refer to previous nights tests.*
Spectr. Temp. Dome Temp./Hum. *20.6 50% T → -100°*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	x Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echell CCD	7600 Å x = 180 set		Echelle		grating = 19.50	Dome T = -1.8°C	
1000		B 0.89	G8 III + F?		width 60 μ Height 600 μ	60 μ	8807 Å		Asm Sp-KK	MAX 3500 ADU	
2000									Asm Sp-KK	MAX 6900 ADU	
3300									Asm Sp-KK	Problems with PC/DV? SC did this exp no DV, shows other CCD 3 version.	
2165		B 1.9	A0 IV						Asm Sp-KK	DOME T = -2.3°C. <u>detuned?</u> 4200 ADU MAX	
2930		V 1.36	B7 V						TELLURIC STD.	Dome T = -2.7°C	

311

Emulsion Batches:

#2

Date ... 9d. Mar 19/20 ... Observers ... [KKJ] For / Tn / SC.

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.
4537	Comp							ThAr	2s
4538	HD 62509	07 39 12	28 16 00	21 54	21 58	01 47W			
4539	Comp							ThAr	2sec
4540	Comp							"	2sec
4541	HD 95689	10 57 36	+62 17 00	22 31	22 40	00 49E			
4542	Comp							ThAr	2sp.
4543	BIAS(4)								
4544	Comp							ThAr	2sec
4545	HD 8890	01 22 36	+88 46	23 00	23 20	8 48 W			
4546	Comp							ThAr	2sec
4547	HD 8890	01 22 36	+88 46	23 21	23 38	9 05W			
4548	Comp							ThAr	2sec
4549	Comp							ThAr	2s
4550	HD 137909	15 23 42	+29 27	23 58 30	00 44	03 09E			
4551	Comp							ThAr	2sec
4552	BIAS(4)								

Spectr. Temp. Dome Temp./Hum. -3°C 50% Transparency Conditions Flap 312
 Focus 200
 Spectr. Temp. Dome Temp./Hum.
 Top up at 22:15

30 CCAN 1000 TSCALS

Exp. Mir.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Ecl/ke CCD	7600Å x grating width 60u Length 600u	480 set					
2100	2"	V 1.14	KoIIIb				8807A	7ci	STANDARD VELOCITY		
2500	2"	V 1.79	KoIIIq					4ci	KK pgm	4700 ADU MAX	
400		V 2	F					5ci	KK pgm.	4000 Adu max	
2500		V 2	F					6ci	KK PROG.	4600 Adu max	
720	3"	V 3.66	F0p					4ci	KK pgm	1500 ADU MAX	

313 pg 43

Date 1992 MAR 19/20 Observers (KA) Tn / Fbr

Emulsion Batches:

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[illegible]

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[illegible]

315

(SAT/SUN) pg #1

Date .. MAR 21/22 - 1992 ... Observers .. I.K.K.J. / T. / Fbr ..

Emulsion Batches:

using CCD 2A again R.G.G.R. filter in

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.
ce04567	BIAS(4)	using changed BIAS BAT			20	02 20W			
4568	Comp							ThAr	4sec
4569	HD 34029	05 09 18	45 54	20 02 30	20 09	02 34 W	02 34		
4570	Comp							ThAr	4sec
4571	COMP							ThAr	4sec
4572	HD 47105	06 31 54	16 29 00	20 18	21 18	02 22 W			
4573	Comp							ThAr	4sec
4574	BIAS(4)								
4575	Comp				2100 sec. cited			ThAr	4sec.
4576	HD 87901	10 03 03	12 27 00	21 28	22 03	00 23 E			
4577	Comp							ThAr	4sec
4578	Comp							ThAr	4sec
4579	HD 62509	07 39 12	28 16 00	22 13 00	22 27	02 24 W			
4580	Comp							ThAr	4sec
4581	BIAS (4)								

Spectr. Temp.

Focus 200

Spectr. Temp.

Dome Temp./Hum. $-3.8^{\circ}\text{C}/+44.17\%$
(1900 hrs)

Dome Temp./Hum.

Transparency Conditions ... CLEAR ... 316
2200 HAZE

* 30 CGAIN

CCDT $\rightarrow -100^{\circ}\text{C}$
Echelle Tilt = 19.50

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD	7600 X Tilt = 19.50 Tilt = 19.50	60u 600u Microf	8807A			* 270 0 170 1024 41 ccd fnt	
3360		B 0.89	G8III +F?					4ci	Asm Sp-KK 9090 Å center of Bottom 4th ORDER	* 8000 Adu max 4 ORDERS after windowing 8807 center 2nd ORDER from TOP. 8945 center of TOP ORDER 3rd 8665 Å center TOP ORDER Dome T = -5.6°C 4700 Adu max	
2550		B 1.9	A0 IV					5ci	Asm Sp KK.		
2500	4"	V 1.36	B7 V					5ci	TELLURIC STD Note Bottom (Red) 2 ORDERS have lots of TELLURIC LINES.	Dome T = -6.3°C 3000 max Adu WEATHER $\Rightarrow$ THICK HAZE!!	
2000		V 1.14	K0 IIIb					6ci	STD. VELOCITY	Dome T = -6.4°C / Hum = 44%	

pg #2

Emulsion Batches:

Date .. MAR 21/22..1992

Observers LKJS Tn/Fbr.....

PAGE #2

[illegible]

Spectr. Temp. Dome Temp./Hum. $-6.8^{\circ}\text{C}/.48.4\%$ Transparency Conditions $.. \text{CLEAR} .. (\text{LIGHT} .. \text{HAZE}) ..$ 312
 Focus 0.200
 Spectr. Temp. Dome Temp./Hum. 30 CGAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD	7600 X Tilt = 0.47	60 μ 600 μ H	8807A				
2800	4"	V 1.79	K0IIIa					7ci	KK Prog.	Dome T = -6.8°C 3400 Adu MAX	
2250	3"	V 2	F					8ci	KK Pam.	Dome T = -7.3°C 3000 ADU MAX PC Time was slow ≈ 1 min Reset PC Time @ 23:26	
										Dome T = -7.4°C	
62	3"	V 3.66	FOP					9ci	KH pgm	Dome T = -7.5°C VERY Hazy 400 adu max (900)	
					slit height 2800 μ $\therefore = .165$			3ci		8200 ADU MAX	

Spectr. Temp. Dome Temp./Hum. -3°C 73% Transparency Conditions ... S/ hazy 320
 Focus 235 (FWHM looks better than 3 pixels) clearing by sundown
 Spectr. Temp. Dome Temp./Hum. $\text{edge grating tilt} = 18.90$
 30 CGAIN KOT $\rightarrow 100^{\circ}\text{C}$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	XGrating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				eichellp CCD	600 l/n/m 5000 Å blaze .455	60 μm 500 μm slitwidth for stellar			700 for flats	Dome T = -3.3°C 173.16 ADU 500 = .215 set	
7000		B 0.89	G8III + F?				4481 Å	3c	Kk pgm	some cloud now x 6th ORDER FROM TOP 2300 MAX ADU	
19,500								1c	(4574-76 Lost in red)	4573 Å at Red end of 8th ORDER 4577 Å at Blue end of 9th K MAX ADU clear now (4680 Å Red Limit of range)	
										Dome T = -4.0°C	
11,850	2"	B 1.9	A0IV					5c	Kk pgm	KPC hung up at Red end 6100 ADU MAX Red out after restoring in 21 10 11	
11,800	2"	B 1.9	A0IV					6c	Kk pgm		
										Dome T = -5.0°C	
9000	2"	V 1.14	K0III5					5c	std Vel	3000 MAX ADU	

321

pg #2 Mon / Tues

Date ..1992..MAR 23/24.

Observers KK / TS

Emulsion Batches:

still

No. Filter of course

[illegible]

Spectr. Temp. Dome Temp./Hum. -5.1°C 80% Transparency Conditions sl Hazy 322
Focus 235 looks good For sl higher Temp - based on focus test.
Spectr. Temp. Dome Temp./Hum.

[illegible]

323

pg#2 Tues-wed

Date 1992 MAR 24 25..... Observers [KK]... Jn... SC.....

Emulsion Batches:

No Filters used 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.
ce 4636	Focus Test	inboard/outboard	that many posns			2:33 W	+18°	ThAr	5/5
4637	"	"	"	"				"	"
4638	"	"	"	"				"	"
4639	BIAS(4)	using	LL BIAS 4. BAT						
4640	Comp							ThAr	5sec
4641	HD 34029	05 0918	+45 54	19 41	19 50	2 27 W			
4642	Comp							ThAr	3sec
4643	HD 34029	05 0918	+45 54	19 53 30	20 04				
4644	Comp							ThAr	3sec
4645	HD 34029	05 0918	+45 54	20 05 30	20 16	2 53 W			
4646	Comp							ThAr	3sec
4647	BIAS(4)								
4648	Comp			20 24 40		-W		ThAr	3sec
4649	HD 47105	06 31 54	+16 29	20 24 45	20 55	02 11 W			
4650	Comp							ThAr	3
4651	HD 47105	"	"	20 58 45	21 31	02 47 W			
4652	Comp							ThAr	3

325

pg #2 Tues-Wed

Emulsion Batches:

Date 1992 MAR 24/25... Observers [KK] 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.
CE0465A	Comp			3				ThAr	3sec
4655	HD 62509	07 39.2	+28 16	21 37 45	21 45	01 54 W			
4656	Comp							ThAr	3sec
4657	Comp							ThAr	3sec
* 4658	HD 8890	01 22 36	+88 46	21 55	22 25	08 10 W			
4659	✓ BIAS(4)								
4660	Comp							ThAr	3sec
4660	HD 8890	01 22 36	+88 46	22 29 30	22 59 30	08 45 W			
4661	Comp							ThAr	3sec
4662	BIAS(4)	after Reboot		23 24					
4663	Comp							ThAr	3sec
4664	HD 124897	14 11 06	+19 42 00	23 31	23 37	2 44 E			
4665	Comp							ThAr	3sec
4666	Comp							ThAr	3sec
4667	HD 137909	15 23 42	+29 27	00 25 20	00 43	2 50 E			

Spectr. Temp. Dome Temp./Hum. -2.0°C 58%

Transparency Conditions . hazy. maxeso. 326

Focus 228

Spectr. Temp. Dome Temp./Hum.

4297Å = star

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
3sec				echelle CCD	600 l/mm	60u 500u height					
5000	2"	V 1.14	K0111b					5ci	std vel	* Numbering got out related to past unwritten c004650. It was written ~2132	
7880	2"	2	F					6ci	Kkpgm	2100 MAX Tel Reveal is through 90° Dome T = -2.3°C	
9000	2"	2	F					7ci	Kkpgm		
				Had To Reboot PC & RESTART CCD3 echelle						Dome T = -2.6°C	
9900		B 1.2	K15 III Fe -0.5					2ci	std vel	2700 MAX H04	
1000	2-3"	V 3.66	F0p					3ci 4ci		After Topup Some cloud - Thick at end	

• 327 pg# 3

Emulsion Batches:

Date 1992 MAR 24/25 Observers Tu... [mti]... checking...

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[illegible]

Spectr. Temp. Dome Temp./Hum. - 2.9°C ... 53% Transparency Conditions ... Cloudy in ... 328

Focus ... 228 ... still ...

Spectr. Temp. Dome Temp./Hum. CLIMBDA

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emission	P.H.	Program	Remarks	Quality
328				Echelle CCD	600 l/mm 5000 Å Blaze	60u 500u H	481 Å				
										Dome T = -3.0°C	
150						700u H = .195 set		2ci		10 K max for 150 secs	
										Dome T = -3.0°C	
600								1ci			
										All to WORM & PERSONS	

329

pg #1

Thurs - Fri

Date 1992 APR 2/3..... Observers [B.m.] 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.
CC06016	BIAS(4)	using <<BIAS4.BAT		19 22					
6017									
6018	Focus Test			19 45		03 26W	+36 46	FeAr clear	30/36
6019	Comp							n	90sec
6020	VHD30282	04 41 05	+36 32 36	19 56	20 18	04 00W			
6021	✓ Comp (also a second one written ^{CCO} 6022 Fts. (usable by fun accident))							FeAr clear	90sec
6023	BIAS(4)								
6024	Comp	using 90 Comp command - Obj set to "FeAr" only							90sec
6025	HD44990	06 19.8	+07 08	20 37 30	20 53 30	01 58W			
6026	Comp							FeAr clear	90sec
6027	Comp			21 03				n	n
6028	HD87901	10 03 03	+12 27	21 06	21 07	00 31 E			
6029	Comp								
6030	BIAS(4)								
6031	Comp							FeAr clear	90sec
6032	HD90861	10 24 17	+29 05 35	21 31	21 42	00 39 E			
6033	Comp							FeAr clear	90sec

Spectr. Temp. Dome Temp./Hum. -1.9°C 62% Transparency Conditions OK ... some cloud 330
 Focus 6.85 ... all night.
 Spectr. Temp. Dome Temp./Hum. (For Stellar) 480 0 50 1024 4 1 CCD FMT

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				C455 CCD		200 μ Full Length				Stellar VSI Real	
					G=5930 1800 ln/mm		6450A	3ci 4ci		CCDFMT focus test fmt 360 0 1 0 1024 40 1	
								5ci			
3500	4"	B 7.9-8.8	FG -G1					6ci	Rm pgm	25K photons 6200 ADU SUM/AVG. some bkgd.	
								1ci		Done T = -2.7°C	
								5ci			
5300		B 6.5-8.0	F7Iab -K1Iab					7ci	Rm pgm		
34000		V 1.36	B7V					8ci	Telluric Std	8500 MAX ADU	
										Done T = -3.0°C	
2900		V 4.8"	6.26 sg K1					9ci	std vel		

pg #2

Date 1992. APR. 2/3..... Observers [Rm] Jh... SC... MKI...

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.
Fm00424	A,B,C,D HD90861	10 24 17	+29 05 35		21 44	00 15 E	"N" made	Real Time [Forgot 1/5 Int set]	4/5
c06034	Jupiter			22 09 00	22 10	00 05 W			
6035	comp							FeAr clear	90sec
6036	BIAS(4)								
6037	comp							FeAr clear	90sec
6038	HD62509	07 39 12	+28 16	22 28 30	22 29 20	03 14 W			1/600
6039	comp							FeAr clear	90sec
6040	comp							n	7
6041	HD 114762	13 07 30	+18 02	22 42 45	22 57 45	01 45 E			420
6042	comp							FeAr clear	90s
Fm 425	A,B,C,D HD103095	11 47 13	+38 26 10	23 12		00 09 E		Int 1/5 sec 67 m sec	4/5
6043	comp								
6044	HD103095	11 47 13	+38 26 10	23 26	23 38	00 14 W			700
6045	comp								
6046	BIAS(4)			23 41					

Spectr. Temp. Dome Temp./Hum. -3.2°C 68% Transparency Conditions Fine 332
 Focus
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
4 frames off	5"	✓ 6.26	Dome SW medium NW wind		200u Full length	q+lower Right of view			Seeing test	Fans on as they should be	
			CASS CCD		"	6450A	10ci		Good Demo FOR VISITORS	11K ADU MAX	
										Dome T = -3.2°C	
								5ci			
26000		B 2.14	KODAK		1800/h/min G-5930			11ci	std vel	13K MAX ADU	
2420	4.6	✓ 7.31	dFA					12ci	std vel		
4 frames	4"	✓ 6.45	G8Vp					13ci	Seeing test	Dome SW STR WNW wind	
3900	3"	✓ 6.45	G8Vp					13ci	std vel		
								1ci		Dome T = -3.3°C	

Pg #3

Date 1992 Apr 2/3... Observers [Blm] Th... SC.....

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.
6044 CC06047	FLATS x3			23 46		00 30W	+38°	TUNG Clear	5sec
6050	Comp							Fair Clear	90sec
6051	Nova Cyg 92	20 27 43	+52 17 39	00 03 30	00 18 30	07 42E			890sec
6052	"			00 24		7 27E			600sec
6053	Comp							Fair Clear	90sec
6054	BIAS(4)			00 47					
6055	Comp @ Hx (λ changed here)			00 50				Fair Clear	90sec
6056	Nova Cyg 92	20 27 43	+52 17 39	00 52 30	01 00	7 00E			
6057	"	"	"	01 03 40	01 18 30	6 42E			900sec
6058	Comp							Fair Clear	90sec
6059	BIAS(4)								
6060 6068	FLATS x9	using (Repeat _{sp} 3F19ts. Bat #9)						TUNG Clear	5sec
6069	Comp							Fair Clear	90sec
6070	Nova Cyg 92	20 27 43	+52 17 39	01 44 30	01 55	6 05E			
6071	Comp							Fair Clear	90sec

Spectr. Temp. Dome Temp./Hum. ... -3.3°C ... 72% Transparency Conditions .. *part cloudy → hazy* ³³⁴
Focus ... *6.85*
Spectr. Temp. Dome Temp./Hum. ... -3.6°C ... 74% *90% gain till 1000000*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
58					1800/14mm	200μ FULL	6450A	14ci		10 K max ADU	
80							6450A	15ci	Novae pgm	13 K ADU at Red end MAX	
80	1000	6"						16ci		8 K ADU max	
80	822										
90					1800/14mm					Pure T = -3.4°C	
90					G = 5930						
90					1800/56°		6550A			30C gain	
90	~900				G = 6000					AIR MASS 2.3	GOOD ADU MAX
90					"			17ci			
90	1330	6"			"			18ci			
90					"						
58								19ci		Pure T = -3.6°C	
58								19ci		7400 ADU MAX	
90								5ci		(1.86 AIR MASS)	
90	600							20ci		CLOUD OUT	
90										∴ no Telluric for this region tonight	
										previous MAR 12/13	

(TO WORM next day after sunsets) All TO Perseus

335

SAT/SATV pg 2

Date 1992 APR 4/5... Observers [mki] [Rm] TA SC

Emulsion Batches:

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..... Di. Fraser in. 45 NORMAL

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.
CC06072 CC06073	Focus					00 15W	+28°	FeAr Clear	30/30
6074	BIAS(4)								
6075	Comp			19 28				FeAr Clear	30sec
6076	HD62509	07 3912	+28 16	19 31 30	19 32 30	00 14W			
6077	Comp							FeAr Clear	30
6078	Comp							"	"
6079	MWC 560	07 21 01	-07 32 12	19 48	20 18	01 30 W			
6080	Comp							FeAr Clear	30s
6081	BIAS(4)					01 33W	-7° 41'		
→ 6082 6084	FLATS x 3	using	3FLATSB. BAT					TUNG Clear	20sec
6085	Comp at	6450A						FeAr Clear	90sec
6086	HD 30282	04 41 05	+36 32 36	20 36 30	21 16 30	05 06W			2400sec
6087	Comp							FeAr Clear	90sec
6088	Comp							"	90
6089	HD 44990	06 19 48	+07 08	21 27 25	21 52 30	04 06W			
6090	Comp						FeAr	FeAr	90s

Spectr. Temp. Dome Temp./Hum. $+20^{\circ}\text{C}$ 5490 Transparency Conditions *Fine* 336
 Focus *6.85* *All night*...
 Spectr. Temp. Dome Temp./Hum.
283-2403 Kk
CCDT $\rightarrow -100^{\circ}\text{C}$ 90 CGAIN to start

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>30/30</i>	$T = 2.0^{\circ}\text{C}$	$\text{set} = 6.85$		<i>C455 CCD</i>	$G = 4760$ 1800ln/mm	<i>200μ</i> <i>Full Length</i>	<i>4845A</i>	<i>3ci</i> <i>4ci</i>	<i>(360 0 10 1024</i>	<i>401) CCD FMT for Focus</i> <i>Right on</i>	
								<i>4ci</i>		<i>Dome T = $+1.9^{\circ}\text{C}$</i>	
<i>30/30</i>								<i>5ci</i>	<i>using 480</i>	<i>0 50 1024 4 1 CCD FMT</i>	
<i>42006</i>	<i>good</i>	<i>B</i> <i>2.14</i>	<i>K0116</i>					<i>6ci</i>	<i>stlvel</i>	<i>10 K max</i>	
								<i>5ci</i>			
								<i>7ci</i>			
<i>425</i>	<i>4"</i>	<i>≈ 9</i>						<i>8ci</i>	<i>mk pgm</i>		
								<i>7ci</i>			
								<i>1ci</i>		<i>$+00.7^{\circ}\text{C}$ Dome T</i>	
							<i>4845A</i>	<i>19ci</i>		<i>7500 ADU MAX</i>	
					<i>G 5930</i> <i>1800ln/mm</i>		<i>6450A</i>	<i>9ci</i>			
<i>4100</i>	<i>3"-6"</i>	<i>B</i> <i>7.9-8.8</i>	<i>F6</i> <i>-G1</i>					<i>9ci</i>	<i>Rm pgm</i>		
								<i>7ci</i>			
<i>5600</i>	<i>4"</i>	<i>B</i> <i>6.5-8.0</i>	<i>F7Iab</i> <i>-KLIab</i>					<i>10ci</i>	<i>Rm pgm</i>		

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Pg#2

[Am]

Emulsion Batches:

Date 1992 Apr. 4/5..... Observers Th SC.....

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.
CC06091	Comp							FeAr Clear	90sec
6092	HD62509	07 39 12	+28 16	22 02 30	22 03 20	2 56 W			
6093	Comp							FeAr Clear	90sec
6094	Comp							"	"
6095	HD 103095	11 47 13	+38 26 10	22 21 30	22 36 30	0 39 E			
6096	Comp							FeAr Clear	90sec
^{ABCD} Fm 6096	HD 103095	11 47 13	+38 26 10	22 50		0 25 E	"N" mode	67 msec integration	
6097	BIAS(4)								
6098	Comp							FeAr Comp	90sec
6099	HD 87901	10 03 03	+12 27	23 03	23 04				
6100	Comp								
6101	FLATS x3							TUNG Clear	55sec
6103								FeAr Comp	90sec
6104	Comp								
6105	HD 87901	10 03 03	+12 27	23 28	22 29 30	01 58 W			
6106	Comp							FeAr	90sec

[Repeat 3 FLATS. BAT 3]

Spectr. Temp. Dome Temp./Hum. -00.2° 63% Transparency Conditions ... *sl. hazy* 332

Focus

Spectr. Temp. Dome Temp./Hum.

FANS on since 1830

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G=5930 1800/n/mm	200u Full	6450A	7ci			
35000	3"							11ci	std vel	AIRMASS = 1.28 guided. 11K MAX	
								7ci			
								5ci			
8200	3'							17ci	std vel	(That v high proper motion star)	
803								5ci			
39x39	3"								Seeing Test	medium NW wind Dome SW SW	
								13ci		Dome T = -00.3°	
35000		✓ 1.36	B7V					14ci	Telluric Std	guided. 5000/171K HDU	
								19ci		17,400 MAX	
					G=6000 1800/n/mm	200u	6550A	20ci		90C GAIN for comp.	
55000								21ci	Telluric Std	1.32 AIRMASS	
								20ci			

C GAIN = 30 now.

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pg # 3

Date 1992 APR 4/5... Observers [Blk]... Th... SC.....

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.
CC06107	BIAS(4)								
CC06108	Comp							FeAr clear	90s
6109	NOVA Cyg 92	20 27 43	+52 17 39	23 58	00 20	-07 33 E			
6110	- " "	"	"	00 23	00 43	07 10 E			
6111	Comp							FeAr clear	90s
6112	FLATS x 3	Repeat 3 FLATS. BAT						TUNG clear	5 sec
6114									
6115	BIAS(4)								
* 6116	Comp at H ₂ beta		(* clamber elst)					FeAr clear	40s
6117	NOVA Cyg 92	20 27 43	+52 17 39	00 57	01 03	06 50 E			
6118	"	"	"	01 05 45	01 35 45				180s
6119	Comp							FeAr clear	40s
6120	FLATS x 3							TUNG clear	40s
6122									
6123	BIAS(4)								
6124	NOVA Cyg 92			01 48 36	02 08 30	05 45 E			
6125	Comp							FeAr clear	40s

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

S

450 6

1220 4

920 4

5500

560 4

Spectr. Temp. Dome Temp./Hum. ^{700.7° 66%} Transparency Conditions .. ³⁴⁰ Hazy... PART cloudy...
 Focus
 Spectr. Temp. Dome Temp./Hum. 30 C Gain

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G=6000 1800 1/2/mm	209u Full Length	6550A				
								20ci			
450	6"							22	Novu pgm	1700 MAX ADU AIR MASS=2.7	
1220	4-6"							23.	"	(5000 ADU MAX)	
								24ci		7400 ADU MAX	
					G 4760 1800 1/2/mm		4845A	25ci		Still 30 C Gain	
920	4-6"							26ci	Novu Pgm	MAX 540 ADU	
5800								27i-	"	MAX 2000 ADU	
								28ci		8400 ADU MAX	
										DOME T = -1°C	
5160	4"				G 4650 1800 1/2/mm		4750A 4640A	29ci	Novu		
								"			
								"			

pg #4

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spectr. Temp
Focus
spectr. Temp

[illegible]

Spectr. Temp. Dome Temp./Hum. Transparency Conditions *Hazy*

Focus

Spectr. Temp.

Dome Temp./Hum. -1.3°C 81%
4. figs (control)

Transparency Conditions Hazy

30 CGAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Braun				CHSS CCD	G=4650 1800/n/m	20 μ	* A640A	30ci		str emission at 4685Å?	
								31ci	[This comp next night. (missing pixels)?	noticed to be add. close up noise? Fans off	
								32ci		5500ADU MAX	maybe
										All to Perseus & WORM	-

343

pg #1

Sun/Mon

Date 19.92. Apr. 5/6..... Observers [Rm.] In..... mki checking 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.
CCO 6132 6133	Focus Test	Comp/Stellar Hartman		19 20		00 10W	+28°	FeAr Clear	90/10
6134	BIAS(4)			19 25					
6135	Comp							FeAr Clear	90sec
6136	HD 62509	07 39.12	+28 16	19 35	19 38.30	00 31W	00		30sec
6137	Comp							FeAr Clear	90sec
6138	Comp							"	"
6139	HD 29260	04 31.4	+18 20	19 46	20 06	04 10 W			
6140	Comp							FeAr Clear	90s
6141	Comp							"	"
6142	HD 30282	04 41.05	+36 32.36	20 14 30	20 44.30	04 38 W			
6143	Comp							FeAr Clear	90s
6144	BIAS(4)								
6145	Comp				(1320sec)			FeAr Clear	90sec
6146	HD 44990	06 19.48	+07 08	20 53.40	21 15.40	03 32 W			20min
6147	Comp							FeAr Clear	90sec

Spectr. Temp. Dome Temp./Hum. $+2^{\circ}\text{C}$ 51% Transparency Conditions *thin cloudy stratus* 344

Focus *6.85* *unchanged*

Spectr. Temp. Dome Temp./Hum. *CEATANK*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	$T = +1.9^{\circ}\text{C}$			CASS CCD	G-5430 1800 lines/mm	200 μ Full L	6450A			Stellar Red 3pixel 670-685 μ plot	
										Dome $T = +1.9^{\circ}\text{C}$	
<i>20,000</i>		B 2.14	K0 IIIb					6ci 5ci	std vel	fast guided 6 K MAX	
7000	4"	B 7.13-7.74	F5 Ib -F9.5 Ib					6ci 7ci	Rm pgm	4200 ADU MAX	
3800	2-4"	B 7.9-8.8						7ci 8ci	Rm pgm	some cloud	
		B 6.5-8.0	F7 Iab -K1 Iab							Dome $T = +00.5^{\circ}\text{C}$	
6500	4"	"	"					9ci 7ci	Rm pgm	17 K ADU SUM AVG above bkgd for 8 columns. $\therefore$ 64 K photons $\approx 250/1$ S/N	

345 pg#2

Emulsion Batches:

Date 1992 Apr. 5/6..... Observers [Rm] - T. - SC.....

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.
CC06148	Comp							FeAr Clear	90sec
6149	HD90861	10 2417	+29°0535	21 27 40	21 41 00	00 08 E			
FM00427	^{AB} C " "	"	"	21 48		00 00	4 frames		
6150	Comp							FeAr Clear	90sec
6151	Comp							FeAr Clear	90sec
6152	HD87901	10 0303	+12 27	22 03	22 04	00 37 W			
6153	Comp							FeAr Clear	90sec
6155	HD62509	07 3912	+28 16	22 20	22 20 40	03 17 W	Comp 6154		40sec
6156	Comp							FeAr Clear	90.
6157	BIAS(A)								
→ 6158 6160	FLATS x 3			22 35		03 35 W			
6161	Comp (edit)							FeAr Clear	90sec
6162	Bm Cass	00 4836	+63 33	22 52	23 22	11 07 W			
6163	Comp							FeAr Clear	90sec
6164	Comp for Nova Cyg 92							n	n

Spectr. Temp. Dome Temp./Hum. $+00.4^{\circ}\text{C}$... 5.7% Transparency Conditions ... Fine ... 346

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CHSS CCD	G=5930 1800 l/mm	200 μ FULL	6450A				
4500	4"	✓ 6.9	K2III					10ci	std vel		
47x47				Note - Found MKIII in 8 mhz mode					switched to "slow" 5 mhz	gusty variable dir wind	
						200 μ slit Full Length	Lower Right of slit	7ci	Seeing Test	Arne SW	
		✓						7ci			
40000		1.36	B7n					7ci	Telluric std	1.19 AIRMASS	
40000								11ci			
26000		B 2.14	K0III					12ci	std velocity MAX 600ADY	windy fast guidel AIRMASS 1.35	
								11ci			
								13ci		Dew T = 00°C	
								13ci		10K MAX	
					G=6000 1800 l/mm	200 μ FULL	6550A	14ci		Still 90 CGAIN	
2600	5"							15ci	Mk: pgm	MAX 2000ADY + H2	
								14ci			
								14ci			

347 pg #3

Date 1992 Apr 5/6..... Observers Tn/SC.....

Emulsion Batches:

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[illegible]

Spectr. Temp. Dome Temp./Hum. -00.3°C 58% Transparency Conditions *Fire* 348

Focus ... 6.85 M/Night ...

Spectr. Temp. Dome Temp./Hum. -00.5°C 58%
central

90 CGAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
965	6"	7		CASS CCD	G=6000 1800 l/w Tilt=56°	200% FULL	6550A	16ci	Pha pyro	8600 MAX Tel back to west side AIR MASS 3.06	
850					56°			17ci	"		
								14ci			
550	6"							18ci		Dome T = -00.2°C NO changes ADU/px same as last night too.	
								19ci		12 K MAX ADU/px	
								20ci			
13600	10"	2.99	V	ADU _{in}				20ci	Telluric Std	5.0 Air mass start 3600 MAX some cloud	
	J=	0.00°C				200% FULL	6550A	3ci 4ci	Focus test	CCD UNIT 360 0 10 1024 40 V VERY slight RAL < 2 pixels	
					(7 obvious cosmic Rays)			2ci	(stellar		
					All To Perseus, but					UTs may be edited before worming?	

349 pg #1

Mon - Tues

Date 1992 Apr 6/7..... Observers [Rm]... Fbr./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.
CCO 6181 6182	Focus Test					0 0	+25°	FeAr Clear	40/40
6183	BIAS(4)								
6184	Comp							FeAr Clear	90sec
6185	HD 30282	04 41 05	+36 32 36	19 40	20 11	04 11 W			
6186	Comp							FeAr Clear	90sec
6187	Comp							"	90sec
6188	HD 44990	06 19 48	07 08 00	20 26	20 56	03 16 W	07 05 N		1800s
6189	Comp							FeAr Clear	90sec
6190	Comp							"	"
6191	HD 90861	10 24 17	29 05 35	21 08	21 23	21 46 E	29 05		
6192	Comp							FeAr Clear	90sec
6193	BIAS(4)								
FM 00428.fts	HD 90861	06 19 48	07 08 00	21 51		00	67msec Int		'N' mod
6194	Comp							FeAr Clear	90.
6195	HD 62509	07 39 12	+28 16	21 51	21 51 40	02 51 W			40sec
6196	Comp								90s

Spectr. Temp. Dome Temp./Hum. $+6.0^{\circ}\text{C}$ 44%

Transparency Conditions *Hazy - part cloudy* 350

Focus ... 6.75 ... *changed from 6.85*

Spectr. Temp. Dome Temp./Hum.

FANS ON EARLY

90 CGAIN CCDT - -100°C

Centra

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Set 6.75	$T = +6.0^{\circ}\text{C}$			CASS CCD	G = 6000 1800/56°	200 μ FULL	6550A	3ci 4ci	Focus Test	Right on (Really)	
					G = 5930 1400 h/mm		6450A				
					"		6450A				
3400	4"-5"	^B 7.9 -8.8	F6 -G1			6ci	"	6ci	Rm pgm	1720 ADU MAX	
5845	4"	^B 6.5-8.0	F7 Iab -K1 Iab			7ci		7ci	Rm Pgm.	4900 ADU MAX	
		^V 6.9	K2 III			8ci		8ci	Std vel	Dome T = 4.8°C (49%) 3640 ADU max	
4 frames		^V 6.9	K2 III			200 μ To Lower Right			Seeing Test	Dome T = 4.4°C Dome SW light SE wind	
28 K		^V 6.14	K0 IIIb			9ci		9ci	Std vel		

Spectr. Temp.

Dome Temp./Hum. $+4.1^{\circ}$... 52%

Transparency Conditions *clouding in*

Focus 6.75

Spectr. Temp.

Dome Temp./Hum.

[illegible]

353

THURS-FRIDAY Pg #1

Date APRIL 9/10 92 Observers KK/Tn/Fbr

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.
606205	Focus (Comp)					200	+25°	FeNe Clear	20s
6206	Focus (STEL)					00		"	20s
6207	BIAS (4)								
6208	Comp							Clear	FeNe 40s
6209	HD 95735	10 57 54	36 38 00	21 32	21 50	00 16 E			
6210	Comp							FeNe Clear	40s
6211	Comp							"	"
6212	HD 112956	12 55 12	69 19 00	22 06 30	22 43	-1 19 E			
6213	Comp							FeNe Clear	40s
6214	Comp		1900 Precessed					FeNe Clear	40s
6215	DM +66 717	11:14 26	66 23 24	23 05 30	00 11	01 47 W			
6216	Comp							FeNe Clear	40s
6217	Comp							FeNe Clear	40s
6218	HD 124752	14 10 18	68 03 00	00 23 30	00 53 30	00 22 E			
6219	Comp							FeNe Clear	40s

Spectr. Temp. Dome Temp./Hum. ... $7.2^{\circ}\text{C}/68\%$ Transparency Conditions CLEAR - hazy 334

Focus 6.75

Spectr. Temp. Dome Temp./Hum.

C Lumbago

90 C Gain $T \approx -100^\circ\text{C}$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20%	Set 6.75	T = 7.2°C		CASS CCD	$\alpha = 4930$ 1800 ln/mm	DOQ ₂ Full length	5040 Å	3ci	Focus test	Looks Right on.	
25%					$\alpha = 4983$ 1800 ln/mm		5140 Å	4ci		480 0 50 1024 4e1 ccd cont	
Fen 40s	4500	5"-4"	V 7.60	M60 M60				5ci			
								6ci	KK Pam	DOME T = 6.8°C / HUM = 70% MAX 1500 ADU/pix.	
40s								5ci			
								5ci			
4000	2.3"	B 8.25	dG6					7ci	KK Pam	DOME T = 6.4°C / HUM = 71.7% 2200 ADU MAX	
40s								5ci			
40s								5ci			
3350	2"	V 9.32	M1V	now Field drawn & checked with BD chart.				8ci	KK Pam	DOME T = 6.1°C / HUM = 72.4% → 74% 780 ADU MAX = 2000 ADU Sum Avg of 10 cols above bkgnd.	
40s		B 9.6	KO					5ci			
40s	1670	2.4"	B 9.6	KO				9ci	KK Pam	for 5 columns 2000 Sum Avg above bkgnd	
40s	1670	2.4"						5ci		2.	
										Cont → Next Book	

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page #2

Emulsion Batches:

Date APRIL 9/10 Observers KK/Tn/Fbr

Atme T = +5.3°C H. 60%

[illegible]

356

Comparison	
Filter	Exp

40s	
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