





# PARTIAL Index

FF speckles PCS examples — July 30 - Aug 3 1991

Flexure Tests — none

TDI Pdr mki Aug 30 / sept / 91



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Spect. T  
Focus...  
Spect. T  
Exp. Nr.



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

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Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					David		Dunlap		Observatory		
						74"	Logbook				
						Vol	68				
						Plate Nos.	2951 - 3995				
						June 1991	- Oct. 1991				



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SAT-SUN

Date 1991 JUN 22/23 Observers P.d.r. - J.n.

Emulsion Batches:

.....  
 ..... DIFF IN .....  
 ..... c.f. 18 Step 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.
CC02951	BIAS(4)			23 57		0 0	-8°		
CC02952	Comp							Felle clear	60s
2953	HD199478	20 52.4	+47 02	00 45 25	01 25 25	01 43 E			
2954	Comp							Felle clear	60s
2955	HD199478	20 52.4	+47 02	01 28 15	02 11 30	00 55 E			
2956	Comp							Felle clear	60s
2957	BIAS(4)					00 54 E	+47° RH 59.26		
2958	Comp							Felle clear	60s
2959	HD208501	21 51.3	+56 08	02 21 10	03 02 50	01 05 E			
2960	Comp							Felle clear	60s
2961	BIAS(4)			0 3 0 8					
CC02962 2966	FLATS * 5					01 <sup>h</sup> E	+56 40	TUNG clear	60s
2967	Dark 20m			03 24 20					



Spectr. Temp. .... Dome Temp./Hum. 15.5°C 65.3% Transparency Conditions ... CLEARING... PARTIALLY...  
 Focus 6.70 ..... SAT Night TOUR PART CLOUDY  
 Spectr. Temp. .... Dome Temp./Hum. 14.1°C 62.3% 550 0 40 102A 2 1 CCD FMT  
 30 CGAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS	G=4290 1800/40.5	25µ	4100Å			$\bar{x} = 175.369$ 155°C CCDT = -101.7 65.3%	
						2nd longest slit					
39000	<3"	B 6.13	B8Ia					3ci	RG pgm	SUM HUG ADU 52586 20cds thin cloud 18517 ADU	
36500	3"	6.13	B8Ia					4ci	RG pgm		
										$\bar{x} = 176.473$ <sup>R</sup> DOMET 14.9° CCDT = -101.5°C	
38800	3"	6.53	B8Ib					5ci	RG pgm		
										$\bar{x} = 175.833$ DomeT = 14.5 CCDT = -101.6°C	
						250µ longest slit length				7280 MAX ADU/pixls	
To 2967 to Perseus & UOR M											
Note CCO2951.TST - CCO2970.TST (Bias from night before)											
Left on AST for now. TA											



7 pg#1 SUN - MON

Date 1.9.91. JUNE 23/24 Observers J. + J. [KK]

Emulsion Batches:

.....  
 ..... DIFF IN .....  
 ..... B.F.I.S. Stop. for Sources

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
Fm <sup>0002</sup> 367.Jn	HD 128718	14 334		20 55		00 08W			
CC 02969	HD 134440	15 0448	-155900	21 2110	21 57	00 36W	CC02968 CC02970	FeNe CLEAR	205
2971	BIAS(4)			21					
2973	HD 134439	15 0448	-15 53	22 12	22 52	01 31W	CC02972 CC02974	FeNe CLEAR	205
2975	BIAS(4)					00 134W	-16°		
CC02977	HD 144287	16 00.0	+25 30	23 03 36	23 11 30	00 57W	CC02976 CC02978	FeNe CLEAR	205
2979	BIAS(4)					01 W	<del>CC02979</del> +65 46°		
2981	HD 147379	16 16.6	+67 28	23 21 00	23 54 15	01 27 W	CC02980 CC02982	FeNe CLEAR	205
2983	BIAS(4)					00 20W	+68 20		
2985	BD +68° 946	17 37	+68 27	00 15 20	01 02 30	01 16 W	CC02984 2986	FeNe CLEAR	205
2988	HD 173740	18 41.8	+59 29	01 12 00	01 40	00 47 W	2987 2989	"	"
2990	HD 173739	"	"	01 12 10	01 58	01 05 W	2991	"	"
2992	BIAS(4)					01 06W	+59°		
2994	HD 199305	20 51.3	+61 50	02 05	02 26	00 37E	2993 2995	FeNe CLEAR	205
2997	HD 215182 BC	22 383	+29 42	02 38	03 19 25	01 32E	2996 2998	"	"



Spectr. Temp. .... Dome Temp./Hum. +18.3... 45% Transparency Conditions... Fine..... 8  
 Focus... 6.70.....  
 Spectr. Temp. .... Dome Temp./Hum. +16.5°C... 50%  
 note Almost FULL MOON S 25° from 1st 2 stars some 90 CGAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emission	P.H.	Program	Remarks	Quality
					1800/AT	250u nodetector				NO WIND DOME NW	
1800?	3"	10.28	K2V	CCD CASS	G=4990 1800/	250u (2nd longest slit)			3ci Asm Sp-KK	South star of pair of 2 COLS =1500 SUM AVG HDU	
					CCDT=-100°C, Dome	T=+18.2°C				CCD FORMAT to here 5300 10 10 1	
2100	3"	9.81	K0V			250u =10" long	5140 Å		New CCD FORMAT=540 0 15 5 1		
										CCDT=-100.5 Dome T=+18.0°C	
4770	2"3"	7.62	G8V					5ci	Asm Sp KK	3 cols SUM AVG ADU 7500 ADU	
										CCDT=-101.5°C Dome T=+17.5°C	
5030	2"	10.1	M0V					8ci	Asm Sp KK	South S Br test of pair	
										<del>etc</del> Dome T=+17.5°C	
5330	4.2"	9.22 Var?	M5						Asm Sp-KK	for 3 cols SUM AVG ADU = 4500 ADU	
1475	4.2"	9.69	dM5					14	"	sum AVG for 3 cols = 1500 ADU fainter one south of pair	
1768	4.2"	8.90	dM4					15	"	sum AVG of 3 = 1680 ADU NORTH of pair	
	4.2"	8.50								Dome T=16.9°C	
1700	4.2"	8.50	M2V						Asm Sp KK	NORTH of pair fainter one	
1383	4.2"	10							"	NW of pair Reg 1-2 are hazy here	







Spectr. Temp. ~~Grating~~ =  $-47.0^{\circ}$  Dome Temp./Hum.  $16.1$   $51.5\%$  Transparency Conditions  $H_2$   $2.9$   $10$

Focus  $6.70$

Spectr. Temp. Dome Temp./Hum.  $+15.6^{\circ}$   $52.5\%$

90 CGAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CLASS	1800/4.7	250u	...		CCD T = $-100.7^{\circ}\text{C}$	Dome T = $16.1^{\circ}\text{C}$	
4000		5.8A	K0 II-IV						std vel		
ND 0.6						250u Longest slit				MAX ADU/pixel $\approx 13\text{K}$ Dome T = $+15.8^{\circ}\text{C}$	
ND 0.6						250u Long slit			FOR CCD FORMAT at start of flight		
						250u SHORT SLIT			ie 530 0 10 1024 10 1 CCD FWIT		
						<u><math>+15.7^{\circ}\text{C}</math></u>			530 0 10 1024 10 1 CCD FWIT		
									CCD T = $-101.6$		
									<p><u>HN to Persons &amp; WARM</u> (not focus tests) but WARM NEVER not updated!</p>		

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Mon - Tues

FITS header times in error by 12<sup>h</sup>

Emulsion Batches:

Date 1991 JUNE 24/25 Observers S.r.t. - J.n.....

edited times and dates Sept 96 to  
..... TO End UT

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
Fm000 3681a ce02942 2943	HD128718 BIAS(4)	14 33.4	+48 39	21 17 21 22 21 26		00 30 W	"N" made	Int x4	
2944	DARK			21 32			15 min	<del>Flats</del>	
2946	HD131156	14 46.6	+19 30.57	22 18.25	22 48.25	01 51 W	ce02948 ce02947	ThA ThA	10s 10s
2948	"	"	"	22 54.19	23 24.40	02 27 W	ce02949	ThA	10s
ce02951	HD171635	18 30.57	+56 58.08	23 36.35	00 06.35	00 32 E	ce02950 ce02952 ce02953	ThA	10s 10s
<del>2951</del>	" <u>Lost</u>	"	"	<del>00 12.13</del>	<del>00 42.45</del>	<del>00 05 W</del>	<del>ce02954</del>	"	"
2954	"	"	"	00 48.18	01 18.30	00 40 W	ce02955	"	"
2956	<del>HD204867</del> BIAS(4)					02 00 E	-5 36		
2958	HD204867	21 26.18	-06 00.40	01 28.53	01 53.53	01 43 E	ce02957 ce02959	ThA	10s 10s
2960	"	"	"	01 56.14	02 22.32	01 14 E	ce02961	"	"
2963	HD209750	22 00.39	-00 48.21	02 27.43	02 52.40	01 18 E	ce02962	"	"
2965	"	"	"	02 54.43	03 24.43	00 46 E	ce02964 ce02966		
2967	BIAS(4)			03 27		00 44 E	-00		
ce02968 2973	FLATS					02 26 W	+23°		
2974 2975	DARKS (2)			03 57				15 mins	



Spectr. Temp. .... Dome Temp./Hum. ~~20.42~~ ~~44.2%~~ Transparency Conditions .... Fine ..... 1.2

Focus ..... 300 .....

FANS on by 20 EST

Spectr. Temp. .... Dome Temp./Hum. 16.7°C 63%

Echelle 1200  $\lambda$ /mm Slit H

90 C GAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
4 frames	Fine	6.7	F2	CCD Echelle	1200 18.55	Echelle Slithead	3934A		Seeing test	0 0 256 1024 1 CCD F Slit Posn 286 Demo NW no wind Dome T = +19.7°C Xgrating 0.4150	
98	2"	B 5.31	G8V			90u .265		600u .205	Slit pgrm	Sum AVG $\approx$ 1400 <sup>on 10 cols</sup> above bias	
86	2"	"	"								
288	2"	5.38	F7Ib						45 Dra		
<del>350</del>	2"	"	"							This 1st attempt lost	
258	2"	"	"					54	45 Dra Si	$\therefore$ Redone. 10 cols Sum A.C. Avg = 2766 <sup>reference below</sup> -101.7°C Dome 1750	
275	3"	3.74	G0Ib						B Agr		
320	2"	"	"						"		
290	2"	3.94	G2Ib						$\alpha$ Agr		
324	2"	"	"						"	CCDT -102.1°C	
						90u				CCDT = -101.6°C Dome T = +16.7°C	
										1000u Length (Height)	
										AIX to PERSOUS & WBRM	



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FITS headers and DOS time  
stamps off by 12 hours

Emulsion Batches:

Edited: 01 Sept 96 Jn  
..... To U.T. end .....

Date 1991. JUNE 25/26 Observers S.F. 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.
CE02976	BIAS(4) 2			19 25	Domet 23.1°C				
2977				19 31	Domet 23.0°C				
2978	DARKS 2			19 34					15min
2979				19 50					
000369.16	HD 128718	14 33.4	+48 39	20 44		00 05W	"N" mole	4x Int	
CE02981	HD 131156	14 46.46	+19 30.57	21 06 35	21 36 35	00 43W	CE02980	THA	10s
2983	"	"	"	21 40 45	22 11 28	01 18W	CE02982	"	"
2985	"	"	"	22 15 36	22 45 38	01 52W	CE02984	"	"
2988	BIAS(4)			22 54	Domet 20.4°C	02 40E	CE02987		
2989	HD 185144	19 32.33	+69 29.28	22 56 30	23 29 30	02 06E	+69°40'	THH	10s
2991	"	"	"	23 32 40	00 02 40	01 33E	CE02990	THA	10s
2993	"	"	"	00 07 24	00 37 23	00 58E	CE02992	"	"
2996	HD 206859	21 39.47	+48 53.28	00 47 22	01 17 22	02 29E	CE02994	"	"
2998	"	"	"	01 19 27	01 49 27	01 57E	CE02997	"	"
CE03000	"	"	"	01 55 21	02 25 22	01 20E	CE02999	"	"
3002	"	"	"	02 27 30	02 57 30	00 48E	CE03001	"	"
3004	"	"	"	03 01 33	03 31 33	00 14E	CE03003	"	"
							CE03005	"	"



Spectr. Temp. .... Dome Temp./Hum. +22.3°C 50% Transparency Conditions ... Sl. hazy ... PART ... 14  
 Focus ... 2.60 ..... NO FAKS Tonight clearly  
 Spectr. Temp. .... Dome Temp./Hum. +19.4 ... 52%

Feble slit height 90CGAIN 1200h/mr gratings

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	←Emission	P.H.	Program	Remarks	Quality
				CCD Echelle	16.55	90u 1265	3934.4	600u		0 0 256 1024 4 1 CCD FWT X gratings .4150	163.46 163.59
23x23 pinel		6.7	F2	4 frames		OFF echelle	slit head			Seeing test Dorno NW, no wind	
72		B 5.31	G8V						slit pgm		
54	3"	"	"						"		
43	3"	"	"						"		
200?	1.3"	B 5.47	K0V						slit pgm	SETBOX 10 15 134 435 162.20 Egrad 172ADU 1005/5 930 ADU above blind 710 ADU 1000k above blind	
135	2"	"	"						"		
104	3"	"	"						"	increasing haze	
78	3"	5.51	G5 Ib						9 peg n		
48		"	"						"		
49	3"	"	"						"	cloudy periods	
32		"	"						"	CCD T = -100.15°C	
61	2"	"	"						"		











Py #1 Wed-Thurs.

Date 1991 JUNE 26/27 Observers Sgt-Ty

Emulsion Batches:

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

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CE 03014 -03015	BIAS(A) 2			19 35	19 42	DOMET 24.6° 24.6°			
CE 03016 03018	DARKS 3			19 44	20 25				15min
F <sub>100</sub> 370.7	HD 128714	14 33.4	+48 39	20 55		00 20 W	4 frames	Int x4	Ninade
CE 03020	HD 131156	14 46 46	+19 30 57	21 15 23	21 45 50	00 56 W	CE 03019 CE 03021	ThA	105 105
03022	"	"	"	21 50 38	22 00 38	01 30 W	CE 03023	"	"
03024	"	"	"	22 24 20	22 54 20	02 04 W	CE 03025	"	"
03027	HD 171635	18 30 57	+56 58 08	23 01 39	23 31 39	01 01 E	CE 03026 CE 03028	"	"
03029	"	"	"	23 35 53	00 05 53	00 25 E	CE 03030	"	"
03031	"	"	"	00 13 40	00 43 40	00 13 W	CE 03032	"	"
CE 03033	Comparator	HD 204867		00 49			CE	"	"
3034	BIAS(A)			00 50		02 39 E	-05 57	"	"
3035	HD 204867	21 26 18	-06 00 48	00 53 55	01 23	02 05 E	CE 03036	ThA	105
3037	"	"	"	01 27	01 57	01 32 E	CE 03038	"	"
3040	HD 209750	22 00 39	-00 48 21	02 05 26	02 35 26	01 38 E	CE 03039 CE 03041	"	"
3042	"	"	"	02 37 21	03 07 30	00 55 E	CE 03043	"	"



Spectr. Temp. .... Dome Temp./Hum. +24.9° 52%

Transparency Conditions ... Hazy ..... 18

Focus ..... 260 Set by KK during DAY beam tests

FAPS ON + Dome open  
by 19 50  
CGAIN = 90

Spectr. Temp. .... Dome Temp./Hum. +21.6° 64%

CCD Fmt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Echelle	16.55	90u	3934A		Slit Posn .286	xy gratig .4150	
										Light S wind	
22*	2"	V 6.7 B 5.31	F2 G8V	Echelle Slit Head		90u .265		600u F831	Seeing test Srt pgn *Cnt rate	Dome NW [390 ADU above blznd] VERY Hazy FOR 10 cols ~ 1/3 of previous rate 490 ADU above blznd	
18	"	"	"								
49	"	"	"					6c		Sum AVG of 10 cols = 500 ADU above blznd	
75	<2"	5.38	F7Ib					3c		Sum AVG of 10 cols = 1000 ADU above blznd	
70	"	"	"					5c		" " " 1130 ADU above blznd	
36	2-4"	"	"					1c		thin cloud	
										Avg T = 23.4°	
	3"									CCD T = -10.5°	
50	3.4"	3.74	G0Ib							X = 163.446 PH 54.7 TNET = 22.4°	
57	3.8"	"	"								
65	4"	3.94	G2Ib								
69	"	"	"							CCD T = -10.16°	







Spectr. Temp. ....

Dome Temp./Hum. ....

Transparency Conditions .....

V.P.A.Y. 1947

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Focus .....

Spectr. Temp. ....

Dome Temp./Hum. 1213° 648°

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Echelle	16.55*		3934A		During Topup		
										X = 162.375 Å Dome T = 21.3 °C	
										CCDT = -10.6	
										All to WORK [see notes on copy methodology] = To Pearson.	
										* Next night I noticed that Echelle Tilt was set At 16.45, not 16.55	
										<u>Attr Jan Short</u> for further reference.	







Spectr. Temp. .... Dome Temp./Hum. .... 55% Transparency Conditions ..... 22

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

30 CGAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Gen Still off				CCD <sup>check</sup> closed				$\bar{x} = 196.304$		Dome T = 25.4 CCDT = -101.6°C	
								3ci <del>195.80</del> 199.295		4.2 ADU = 37e <sup>-</sup> 18e <sup>-</sup> /hr/pixel	
								$\bar{x} = 195.860$		Dome T = +24.7 CCDT = -100.5°C	
								194.752		Dome +23.4 CCD -113°C	
								195.314		+23.6 -101.6	
								196.005		cover off rack! +23.7 -101.4	
								196.264		+23.7 -101.4	
								196.640			
								196.864			
								196.080		cover back on telescope → platform	
								3 781.315			
								4 781.160			
								5 781.039			
								6 780.893			
								7 780.207			



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Sun/Mon

Emulsion Batches:

Date 1991 June 30/1 Observers Tty./KK/Par

FANS ON

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
FM000371, Par	HD 128718	14 33.4	+48 39	20 54		0 35 W		Int x4	1N made
ce03059A	Comp							Th Ar	20s
3060	HD 137909	13 23 42	+29 27	21 30	22 00	0 50 W			
3061	comp							Th Ar	20s
3062	Flat (x9) for above					0 57 W	+29 08	Tung	30s
3063	BIAS(10)			22 26			+29 08		
3064	Flat (x9)					1 33 W	+29 08	Tung	30s
3065	Comp							Th Ar	20s
3066	HD 137909	13 23 42	+29 27	22 51	23 16				
3067	Comp							Th Ar	20s
3068	Comp							Th Ar	20s
3069	HD 159561	17 30 18	+12 38	23 22 15	23 43 15	0 26 W			
3070	Comp								
3071	Comp								
3072	HD 161096	17 38 30	+04 37	23 50 30	00 23 50	0 58 W			



Spectr. Temp. .... Dome Temp./Hum. 19.1 / 59.9 Transparency Conditions *Few clouds* ..... 24  
 Focus ..... *→ Clear*  
 Spectr. Temp. .... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
31x31 pix		6.7	F2	CCD echelle						Slight wind from West Dome pointing WNW	
					18.60	.277 60μ	0.455 45 <del>23</del> A	.205 600μ			
2904		<sup>B</sup> 3.93	F0p		<del>18.60</del>			600μ	β CrB		
								.185 800μ			
					19.0	.277 60μ	0.458 4482A	.105 800μ		T = 18.0°C Dome Setting is better now for "Fdo std"	
1642		<sup>B =</sup> 3.93	F0p <del>A5 III</del>					.205 600μ			
5945	~4"	<sup>B =</sup> 2.2	A5 III						α Oph		
5172		<sup>B =</sup> 3.93	K2 III						β Oph	RV Std	







Spectr. Temp. .... Dome Temp./Hum. 17.1/66.2 Transparency Conditions Clear → cloudy 25  
 Focus .....  
 Spectr. Temp. .... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD echelle	19.0	.277 60μ	0.458 4482A	.205 600μ			
										16.9°C	
2457		B= 3.68	FOII						SAgl		
<del>96</del>		<del>V= 2.72</del>	<del>K3TH</del>							Clouding in, RV Std T <sub>dome</sub> = 15.6°C	
								.185 800μ			
All to WORN + Perseus											





Spectr. Temp. .... Dome Temp./Hum.  $\sim 21.0/$  ... Transparency Conditions *Partly cloudy* ... 28.  
 Focus ..... 0 gain  
 Spectr. Temp. .... Dome Temp./Hum. ~~20~~:19.0/50.7 ... 0 0 1024 11 10 format

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		V 5.06	F81V-V	FFCCD TDE	831/40°	250μ	<del>HK</del> 6140A		Std. Vel	TDI test	
		V 7.3-7.7 ↓	G3 +K7 ↓						VW Cep		
6159										↓ { Clouded in $\odot \sim 23:20$ star reapplied $\odot \sim 23:47$ clouded in $\odot \sim 00:48$	
All to WORM + Perseus											





Spectr. Temp. .... Dome Temp./Hum. <sup>20°</sup>/<sup>87%</sup> Transparency Conditions *Clearing - cloudy* ... 30

Focus .....  
 Spectr. Temp. .... Dome Temp./Hum. <sup>19.5°C</sup>/<sup>90%</sup> *27h* Format 340 0 7 1024 20 1

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD FiberFed	1800/53.9	<sup>250μ</sup> Vernier	087.0				
1021		<sup>B</sup> 7.62	68V				5120A		KK pgr	} 0 Cgan CCDT = -101.7°C	
1166											
2045											
										<u>90 Cgan Now</u>	
1213	4"	7.62	68V						KK pgr		
1208											
1020											
<del>2000</del> 2000		<sup>B</sup> 3.93	K2 III						Std vel		
2000		"	"						"		
2000		"	"						"	in cloud	





Spectr. Temp. ....

Dome Temp./Hum. ....

Transparency Conditions ... Hazy... foggy... 22

Focus .....

Spectr. Temp. ....

Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
									90 CGAIN still	19.6°/88.6% ~ 111	
									<u>0 CGAIN</u>	Dome T 19.6°	
									0 CGAIN		
									90 CGAIN		
2700		<sup>B</sup> 4.32	<del>MO5 III</del> MO5 III			25μ	5/20A		std vel		
"									"		
"									"		
3000		<sup>B</sup> 4.24	K3 III						std vel		
"											
"											
										19.5°/91.1% ~ 1085	

33

Sun - Mon

Date 1991 JULY 7/8 Observers J. + G. - T. n.....

Emulsion Batches:

.....  
F18 stop IN.....  
Diffuser OUT.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CF00716.fts	BIHS 10								
717	FL4TS 9							Tung Clear	75a
719	HD 123782	14 0436	+49 5600	20 32	20 34	01 10 W	CF00718	FENE Clear	205a
720	"	"	"	20 46	20 4800	01 24 W	CF00721	"	"
722	"	"	"	20 56	21 00 00	01 36 W	CF00723	"	"
724	HD 122742	13 58.6	+11 16	21 1030	21 2030	02 01 W			
725	"	"	"	21 2215	21 41	02 22 W	CF00725		
	HD 146051	16 09.1	<del>7</del> 03 26						
727	Dark 15 <sup>m</sup>			2200					



Spectr. Temp. .... Dome Temp./Hum.  $125.1^{\circ}\text{C}$   $74\%$  Transparency Conditions ... *Part. Cloudy* ..... 34

Focus .....

90 CGAIN

Spectr. Temp. .... Dome Temp./Hum. ....

FORMAT 340 0 7 1024 20 1

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Fibered	1800/539	250 $\mu$	5120 $\text{\AA}$			CCDT @ 20 EST -10.6 $^{\circ}\text{C}$	
3076	3"	V 5.25	M2	Urb					std Uel	Part Cloudy	
1400		"	"						*	Too Cloudy	
1600	4"	"	"						*	Clear enough	
1471	4"	B 6.8	G8V						KK pgr		
220		"	"						"	Too cloudy	
		B <del>4.32</del>	<del>M05 III</del>								
				716 - 727 Wormed & Floppied!							

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Mon/Tues

Emulsion Batches:

Date 1991 JULY 8/9... Observers ... Pdr - Tn ..... [KK]

f18 stop in  
S. Diffuser OUT

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
CFO0728	BIA'S (4)								
730	HD 136202	15 14.2	+02 09	20 51 30	20 55 15	00 25 W	CFO0729	FelNe Clear	20s
731	"	"	"	20 58 11	21 01 52	00 32 W			
732	"	"	"	21 04 55	21 11 20	00 42 W	CFO0733	FelNe Clear	20s
734	HD 122742	13 58.6	+11 16	21 18 10	21 24 50	02 10 W			
735	"	"	"	21 25 25	21 32 10	02 18 W			
736	"	"	"	21 33 50	21 40 10	02 26 W	CFO0737	FelNe Clear	20s
738	HD 144287	16 00.0	+25 30	21 46 10	21 59 05	00 44 W			
739	"	"	"	22 00 10	22 12 03	00 57 W			
740	"	"	"	22 12 45	22 25 25	01 10 W	CFO0741	FelNe Clear	20s
742	HD 112844*	12 54.5	+69 14	22 39 00	22 58 00	04 49 W			
743	"	"	"	22 58 30	23 17 00	05 09 W			
744	"	"	"	23 18 05	23 35 50	05 28 W	CFO0745	FelNe Clear	20s
746	HD 123782	14 04.6	+49 56	23 42 05	23 46 15	04 28 W			
747	"	"	"	23 48 25	23 51 52	04 33 W			





37 pg #2

Emulsion Batches:

Date 1991 July 8/9..... Observers Pdr. Tn..... [KT].....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CF00748.Hs	HD123782	14 04.6	+49 56	23 52 55	23 56 20	04 38 W	CF00749	FelNo Clear	205
750	HD112956 ??	12 55.3	+69 19	00 07 04	00 28 40	06 20 W			
751	"			00 33 05	00 53 00	06 44 W			
752	"			00 54 25	01 18 08	07 09 W	CF00753	FelNo Clear	205
754	HD158633	17 25 18	+67 24	01 25 20	01 33 00	02 58 W			
755	"	"	"	01 33 23	01 42 20	03 07 W			
756	"	"	"	01 42 30	01 48 30	03 13 W	CF00757	FelNo Clear	205
758	HD173740	18 41.8	+59 29	01 56 40	02 32 30	02 40 W			
759	"	"	"	02 32 40	03 08 30	03 16 W			
760	"	"	"	03 08 40	03 43 15	03 50 W			
Fm00037.Tn	HD218525	23 03 35	+44 01 14	04 00		00 18 E	4x Int	N' mode	
761	Bias (4)			03 44					
762	Comp								
763	Flat (9)			<del>04 03 5</del>				TUNG Clear	75 9005
764	Dark			04 06 15					





39

~~Mon~~/Tue/~~Wed~~

Date 1991 July 9/10 Observers Tty./Pdr [KK]

Emulsion Batches:

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.....  
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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.
cF00764	Bias (10)								
765	flat (9)								6 <sup>s</sup>
766	Comp (FeNe)							FeNe clear	20 <sup>s</sup>
767	HD 122742	13 58 48	+11 16	20 42	20 46 15				
768	"	"	"	20 47	20 51 15	1 41 W			
769	"	"	"	20 51 45	20 56	1 45 W			
770	Comp							FeNe	20
771	HD 146051	16 09 06	-03 26	21 04 15					
772	"								
773	"				21 05 20	0 15 E			
774	Comp							FeNe	20
775	HD 144287	16 00 00	+25 30	21 13 00	21 19 00	0 08 W			
776	"	"	"	21 19 30	21 26 30	0 15 W			
777	"	"	"	21 27 00	21 34 00	0 23 W			
778	Comp							FeNe	20





W #2

Date 1991 July 9/10 Observers T.t.y./P.dr [KKK]

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.
500779	HD112956*	12 55 18	69 19 00	21 47 00	22 05	3 59 W			
780	"	"	"	22 06	22 25	4 30 W			
781	"	"	"	22 <sup>25</sup> 30	22 43	4 38 W			
782	Comp							FeNe Clear	20 <sup>s</sup>
783	HD124752*	14 10 18	68 03	23 11	23 30	4 12 W			
784	"	"	"	23 31 30	23 51 30	4 32 W			
785	"	"	"	23 52 00	00 15	4 56 W			
786	Comp							FeNe Clear	20 <sup>s</sup>
787	bias								
788	4D144579*	16 01 30	39 24	00 32	00 36	3 24 W			
789	"	"	"	00 36 30	00 40 30	3 29 W			
790	"	"	"	00 41	00 45	3 34 W			
791	Comp							FeNe Clear	20 <sup>s</sup>
792	HD158633	17 25 18	67 24	00 52 30	00 56 30	2 25 W			
793	"	"	"	00 57 00	01 00	2 29 W			





















Spectr. Temp. .... Dome Temp./Hum. 18.6/77.2 Transparency Conditions ... Clear ..... 48.

Focus .....  
 Spectr. Temp. .... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1500				CCD Fiberfed	1800/53.9	250 $\mu$	5720A		KK		
1500											
1500											
1200	2.5	8.9	DM4								
"											
"											
900		9.7	DM5								
900											
903	3"										
31x31							Fiber Head		Seeing test	Dome pointing WNW light wind from NW 16.9/82.9% ~105.5	

49

#3

Date 1991 July 10/11 Observers Ttg/Pdr

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.
cf00834	HD 186791	19 45 51	10 35 32	01 38					10 <sup>s</sup>
835	"	"	"						10 <sup>s</sup>
836	"	"	"		01 39 40	0 52 W			10 <sup>s</sup>
837	Comp							Fe Ne Clear	20 <sup>s</sup>
838	DM + 45° 3310	20 49 18	45 44	01 55 20	02 10 00				
839	"	"	"	02 10 30	02 26 00				
840	"	"	"	02 26 30	02 44 00	0 49 W			
841	Comp							Fe Ne Clear	20 <sup>s</sup>
842	HD 199305	20 51 18	61 50	03 27 30	03 38 20	1 43 W			
843	"	"	"	03 29 00	03 50 50	1 55 W			
844	"	"	"	03 51	04 02	2 06 W			
845	Comp							Fe Ne Clear	20 <sup>s</sup>
846	HD 222368	23 29 31	05 34 49	04 09 11					
847	"			04 09 50					
848	"			04 10 25					















Spectr. Temp. .... Dome Temp./Hum. *19.5°C 54.8%* Transparency Conditions .. *Clear* .....

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

Comparison  
Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Fiberfel	1800 53.9	250 $\mu$	5120 $\text{\AA}$		KK	20.6% 56.3% <i>404</i> <i>105.7</i>	
2000		<sup>V</sup> 5.58	G2V								
2000											
2000											
2200	2"	<sup>B</sup> 6.55	dG5								
2200											
2200											
1800		<sup>V</sup> 6.43	dK1 or G9V								
"											
"											

65

205

5  
16

20

55

#2

Emulsion Batches:

Date 1991 July 11/12 Observers Tly / Pdr

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cf00867	HD 173740	18 41 48	+59 29	21 30 45	21 43 25	1 58 E			
868	"	"	"	21 44	21 57 06	1 45 E			
869	"	"	"	21 57 20	22 10 50	1 31 E			
870	Comp							FeNe Clear	20 <sup>s</sup>
871	HD 173739	"	"	22 13 30	22 38 37	1 03 E			
872	"	"	"	22 39	23 09	0 33 E			
873	"	"	"	23 09 40	23 37	0 05			
874	Comp							FeNe Clear	20 <sup>s</sup>
875	HD M +45° 3310	20 49 18	45 44	23 47	23 57 10	1 54 E			
876	"	"	"	23 57 45	00 08	1 43 E			
877	"	"	"	00 08 30	00 21 20	1 30 E			
878	Comp							FeNe Clear	20 <sup>s</sup>
879	HD 199305	20 51 18	+61 50	00 28 36	00 40 50	1 09 E			
880	"	"	"	00 41 30	00 53 15	59 E			
881	"	"	"	00 53 40	01 10 30				
882	Comp							FeNe Clear	20 <sup>s</sup>















Spectr. Temp. .... Dome Temp./Hum. *17.5 56.8* Transparency Conditions *Clear* ..... 60..  
 Focus .....  
 Spectr. Temp. .... Dome Temp./Hum. ....

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
10 <sup>5</sup>	~4500	1.5 <sup>u</sup>		F	CCD Fiberfed	1800/ 53.9	250 $\mu$	5120A		KK		
10 <sup>6</sup>	"											
10 <sup>6</sup>	"											
20 <sup>6</sup>	<del>1600</del>											
20 <sup>6</sup>	1600		✓ 4.13	F7V							RV Standard	
20 <sup>6</sup>	1600											
20 <sup>6</sup>	1500											
20 <sup>6</sup>												
7 <sup>5</sup>											17.4°/57.1% <sup>ADG</sup> 106.5	
					All to worn & Floppy							

6A

Date 1991 July 13/14 Observers Ttg/Pdr [KK]

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
900906	bias (10)								
907	Flat (9)								13 <sup>s</sup>
908	Comp								30 <sup>s</sup>
	HD146051*	1609 06	-3 26	<del>01</del> 12 10	01 13 10	4 8 25 W		} Not saved	
911	"	"	"	01 13 56	01 16 40	4 12 W			
909	"	"	"	01 18 15	01 28 10	4 23 W			
910	"	"	"	01 28 40	01 44 50	4 40 W			
	"	"	"	01 45 45				} Not saved	
912	Comp								30 <sup>s</sup>
913	HD123782*	14 04 36	49 56	02 07 20	02 17 15	7 19 W			
914	Comp								
915	HD201156	21 02 42	33 44	02 31 30	38 15				
916	"	"	"	38 45	46 05				
917	"	"	"	46 30	55 00	0 57 W			
918	Comp							FeNe clear	30 <sup>s</sup>









Spectr. Temp.  $4860 \text{ \AA}$  Dome Temp./Hum.  $17.5/76.5\%$  Transparency Conditions *Clear*  $41$

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

anson  
Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
800		8.1		CCD Fibered	$1800/52.1$	$250 \mu$	$4860 \text{ \AA}$		KK	Pair resolved on screen	
800	2.5										
700											
3000		$\checkmark$ 4.13	F7V								
3000											
3000											
All to WORM & Floppy										$17.0/73.5\%$	$204$ $107.5$

65

Emulsion Batches:

Date July 14/15, 1991 Observers Fds - Fru - R

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CE03080-83	Bias(4)			20:38					
CE03081-84	4x FLAT			20:40					
CE03085-88	4x FLAT			20:50					
CE03089	TK-AR			21:06:40				TK-AR	10s
CE03090	HD 188897	14 11 06	+19°42'32"	21:12:30	21:14:07	02 <sup>h</sup> 11 <sup>m</sup> W	+19°20'	<del>TK-AR</del>	
03091	TK-AR			21:17:00		02 <sup>h</sup> 11 <sup>m</sup> W	+19°20'	TK-AR	20s
03092	TK-AR			21:22:11				TK-AR	20s
03093	HD 188892	19:52:17	+38°13'	21:27:13	22:07	2 <sup>h</sup> 36 <sup>m</sup> E	+38°34'		1/2
03094	TK-AR			22:08:40					20s
03095	TK-AR			22:12:43					20s
03096	HD 206672	21:38:33	+50°43:59	22:16:30	22:46:13	3 <sup>h</sup> 43 <sup>m</sup> E	+51°16'		
03097	TK-AR			22:47:00					20s
03098	TK-AR			22:50					80s
03099	HD 207330	21:43:06	+48°50'48"	22:54:37	23:25:11	3 <sup>h</sup> 05 <sup>m</sup> E			
03100	TK-AR			23:26:00					20s
03101	TK-AR			23:31:00					20s



Spectr. Temp. .... Dome Temp./Hum. 18.8°C / 55.3% Transparency Conditions ... CIRRUS ..... 66

Focus .....

Spectr. Temp. ....

Dome Temp./Hum. 17.9°C / 66.7%  $\emptyset \emptyset$  256 1024 41 @CDFMT  
90 again

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD EHELLE	18.85	60.277 60	4570 4481A	1ci			
				"	18.85						
				"	"	"	"				
5000			HOI	"	"	"	"			WRONG HD B IN HEADER	
				"	"	"	"				
1623		4.94	B5IV	"	"	"	"				
				"	"	"	"				
				"	"	"	"				
2000		4.67	B3IV	"	"	"	"				
				"	"	"	"				
2000		4.23	B3IV	"	"	"	"			CIRRUS	
				"	"	"	"				
				"	"	"	"				

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Emulsion Batches:

Date July 14/15 1991 Observers Fds - R1

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
03102	HD188892	19 52:17	+38 13	23:33:02	00:18	04 24 E	+38° 28		
03103	Th-Ar			00:18:52	<del>00:18</del>				20s
03104	Th-Ar			00:21:12					20s
03105	HD193237	20 14 06	+37 43 19	00:22:46	00:59	00 05 E	+38° 01		
03106	Th-Ar			01:00:00					20s
03107	Th-Ar			01:03:00					20s
03108	HD206672	21:38:33	+50°43'59	01:05:30 <del>01:05:30</del>	01:32:35	04 56 E	+51°10'		
03109	Th-Ar			01:33:40					20s
03110	Bias (4)			01:36:10					
03111	Th-Ar			01:38:00					20s
03112	HD207330	21:43:06	+48°50'48	01:39:31	01:59:08	00 35 E	+49 16		
03113	Th-Ar			01:59:52					20s
03114	Th-Ar			02:02:55					20s
03115	HD188892	19 52 17	+38 13 15	02:05:00	02:47:00	024 W	+38° 28		
03116	Th-Ar			02:48:05					20s
03117	Th-Ar			02:51:20					20s



Spectr. Temp. .... Dome Temp./Hum. 17.5°C / 60.9% Transparency Conditions ..... 68

Focus .....

Spectr. Temp. .... Dome Temp./Hum. 16.5°C / 64.8%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1435		4.94	B5IV	CCP EHELE	18.85	.277 60 <sub>2</sub>	.4570 4481A			CLOUDS	
20s				"	-	"	"				
20s				-	-	-	-				
2000		4.88	B2pc	-	-	-	-				
20s				"	-	"	"				
20s				"	-	"	"				
		4.69	B3IV	-	-	-	-				
20s				"	-	"	-				
				"	-	"	-				
20s				"	-	"	-				
		4.23	B3IV	-	-	-	-				
20s				"	-	"	-				
20s				-	-	-	-				
1800		4.94	B5IV	"	-	-	-				
20s				"	-	"	-				
20s				"	-	"	-				







11

Date July 15/16 1991 Observers Fds - Ri

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.
CE03125.FTS	BIAS (4)			18:45:50					
03126	BIAS (4)			18:48:00					
03127	DARK 15MIN								
03128	DARK 15MIN								
03129	DARK 15MIN								
03130	BIAS (4)			19:34:40					
03131-3138	FLAT			19:51:46					
			8 FLATS @ 25 SEC						
03139	BIAS (4)			20:02:30					
03140	TK - Ar			20:35:30					20s
03141	BIAS (4)			20:37:49					
03142	HD 124897	14 11 06	+19° 42 30	20:39:44	20:41:10	14 43W	+19° 18'		
03143	TK - Ar								20s
03144	TK - Ar								20s
03145	HD 188892	19 52 17	+38° 13 15	20:54:30	21:28:36	34 11 E	+38° 28'		
03146	BIAS (4)			21:29:06					
03147	TK - Ar			21:30:34					20s



Spectr. Temp. .... Dome Temp./Hum. 22.2°C 54.5% Transparency Conditions ... Good ..... 72

Focus .....

00256 1024 4 1 CCD FMT

Spectr. Temp. .... Dome Temp./Hum. 21.2°C 55.3%

90 cgain

Exp. Mtr.	Seeing	Pig. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				ECHELLE		.277	.4570				
				CCD	18.85	60μ	4481A			T = 23.3°C	
				"	"	"	"			T = 23.4°C	
				"	"	"	"				
				"	"	"	"				
				"	"	"	"				
				"	"	"	"			T = 22.9°C	
				"	"	"	"			T = 22.6°C	
				"	"	"	"			↓	
				"	"	"	"				
				"	"	"	"			T = 22.1°C	
8000			KOIN	"	"	"	"			WRONG HD IN HEADER	
				"	"	"	"				
				"	"	"	"				
2000		4.94	B51X	"	"	"	"				
				"	"	"	"			T = 21.4°C	
				"	"	"	"				

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Date July 15/16 1991

Observers Fds - Ri

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.
03148	TK-Ar			21:33:18					20x
03149	HD 206672	21 38 32	+50°43 59	21:41:17	22:05:14	44 20 E	+51°10'		
03150	TK-Ar			22:06:21					20s
03151	TK-Ar			22:08:53					20s
03152	HD 207330	21:43:06	+48°5048	22:10:30	22:36:50	3 <sup>h</sup> 53 E	+49°17'		
03153	Bias (4)			22:37:09					
03154	TK-Ar			22:38:30					20s
03155	TK-Ar			22:41:40					20s
03156	HD 193237	20 14 06	+37°43 19	22:44:26	23:07:42	14 53 E	+38°02'		
03157	TK-Ar			23:08:45					20s
03158	TK-Ar			23:10:52					20s
03159	HD 188892	19 52 17	+38 13 15	23:13:00	23:46:22	0 <sup>h</sup> 53 E	+38 30		
03160	TK-Ar			23:47:08					20s
03161	Bias (4)			23:48:29					
03162	TK-Ar			23:51:29					20s
03163	HD 206672	21 38 32	+50°43 59	23:53:58	00:24:47		+51°11'		



Spectr. Temp. .... Dome Temp./Hum. *21.2°C 55.3%* Transparency Conditions ... *Good* ... *74* ...

Focus .....

Spectr. Temp. .... Dome Temp./Hum. *19.6°C ... 59.7%*

Comparison  
or  
Exe

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				<i>ECHELLE</i>		<i>.277</i>	<i>.4570</i>				
				<i>CCD</i>	<i>18.85</i>	<i>60μ</i>	<i>481A</i>				
<i>2000</i>		<i>4.67</i>	<i>B3IV</i>	<i>~</i>	<i>-</i>	<i>-</i>	<i>-</i>				
<i>3000</i>		<i>4.03</i>	<i>B3IV</i>	<i>~</i>	<i>-</i>	<i>-</i>	<i>-</i>				
				<i>!</i>	<i>-</i>	<i>-</i>	<i>-</i>			<i>T = 20.8°C</i>	
<i>2000</i>		<i>4.88</i>	<i>B2pe</i>	<i>~</i>	<i>-</i>	<i>-</i>	<i>-</i>				
<i>2000</i>		<i>4.94</i>	<i>B3IV</i>								
<i>2000</i>		<i>4.67</i>	<i>B3IV</i>	<i>~</i>	<i>-</i>	<i>-</i>	<i>-</i>				
										<i>T = 19.7°C</i>	

15 23

Emulsion Batches:

Date July 15/16 1999 Observers Fds - Ri

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
3164	Th-Ar			00:26:12					203
3165	Th-Ar			00:29:00					203
3166	HD 207330	21:43:06	48°50'48"	00:31:35	00:57:39	01 <sup>h</sup> 32E	+49°17'		
3167	Bias (4)			00:58:00					
3168	Th-Ar			01:59:22					205a
3169	Th-Ar			01:03:08					205a
3170	HD 188892	19 52 17	38°13'15"	01:05:48	01:36:28	0 <sup>h</sup> 58W	+38°29'		
3171	Th-Ar			01:37:26					205a
3172	Th-Ar			01:40:00					205a
3173	HD 206672	21 38 32	+50°43'59"	01:43:54	02:03:05	0 <sup>h</sup> 22E	+51°11'		
3174	Bias (4)			02:03:29					
3175	Th-Ar			02:04:48					205a
3176	Th-Ar			02:07:03					205a
3177	HD 207330	21 43 06	+48°50'48"	02:08:54	02:26:11	0 <sup>h</sup> 03E	+49°17'		
3178	Th-Ar			02:26:57					205a
3179	Th-Ar			02:29:03					205a









Spectr. Temp. ....

Dome Temp./Hum. ....

Transparency Conditions .. PERFECT .. 78

Focus .....

Spectr. Temp. ....

Dome Temp./Hum. 18°C 62.3%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2000		4.94	B3TV	ECHELLE CCD	18.85	.277 60μ	.4570 4481A				
										T = 19.1°C	
2000		4.67	B3TV								
2000		4.23	B3TV								
										T = 18.0°C	
										ALL FILES COPIED TO WORM + PENSEUS	

## Emulsion Batches:

Date July 16/17 1991 Observers Eds - R.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CR03190, FTS	BIAS (A)			18:35:17					
3191	BIAS (A)			18:38:19					
3192	DARK 15 MIN								
3193	DARK 15 MIN								
3194	DARK 15 MIN								
3195	BIAS (A)			19:34:10					
3196-3208	8 * Flat	slit height = 550 $\mu$ (.210)							25s
3204	BIAS (A)			19:58:06					20s
3205	IR-AR			20:43:11					20s
3206	HD 124897	14 11 06	19 42 30	20:46:10	20:47:39	1 <sup>h</sup> 52 <sup>m</sup> W	+ 19°17'		
3207	IR-AR			20:48:08					20s
3208	IR-AR			20:52:51					20s
3209	HD 188892	19 52 17	38° 13 15	20:56:43	21:36:43	3 <sup>h</sup> 00 <sup>m</sup> E	+ 38°28'		
3210	BIAS (+)			21:37:13					
3211	IR-AR			21:38:30					20s
3212	IR-AR			21:41:34					20s





12

Emulsion Batches:

Date July 16/17, 1991 Observers Fds - Ri

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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.
3213	HD 206672	21 38 33	+50 43 59	21. 49:04	22:21:00	3 <sup>h</sup> 57 E	+51° 10		
3214	Th - Ar			22 24 56					20 sec
<del>3215</del>	<del>Th - Ar</del>			<del>22 27:00</del>					<del>20 sec</del>
3215	HD 207330	21 43 06	+48 50 48	22 30 12	23:00:10	3 <sup>h</sup> 26 E	+49 17		
3216	Bias (4)				23:00:33				
3217	Th - Ar				23:02:04				20s
3218	Th - Ar				23:05:06				20s
<del>3219</del>	HD 193237	20:14:06	+37:43:19	23:07:46	23:49:03	14 08 E	+38 00		
3220	Th - Ar			23: 20: 14					20 sec
3221	Th - Ar			23. 52:56					20 sec
3222	HD 188892	19 52 17	+38 13 15	23:54:38	00:34:38	00 4 00	+38° 27		
3223	Bias (4)			00:35:01					
3224	Th - Ar			00:37:22					20 sec
3225	Th - Ar			00:39:35					20 sec
3226	HD 206672	21:38:33	+50 44	00 41:10	01:25:03	00 <sup>h</sup> 56 E	+51° 10		
3227	Th - Ar			01:25:06					20 sec.

Spectr.  
 Focus.  
 Spec.  
 Exp. Mtr.

1793

3539

2000

1270



Spectr. Temp. .... Dome Temp./Hum. *22.9°C 60.1%* Transparency Conditions ... *Good* ..... *32*

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

2050  
Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1793		4.67	B3II	<i>ECHELLE CCD</i>	18.85	.277 60 $\mu$	.4570 4481A				
						-	-				
						-	-				
2539		4.23	B3IV								
										<i>T = 22.3°C</i>	
2000		4.88	B2pe								
1970		4.94	B5IV								
										<i>T = 21.1°C</i>	
		4.67	B3IV								

2050

2050

205

205

2050

2050

2050

2050

2050

4 #3

83 Date July 16/17 1991 Observers Fds - Ri

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
3228	Th - Ar			01:28:08					2052
3229	HD 207330	214306	+49:50:48	01:29:20	01:59:20	00 <sup>h</sup> 26 <sup>m</sup> E	+49°16'		
03230	Bins (4)			01:59:40					
03231	TL - Ar			02:01:10					2052
03232	TL - Ar			02:03:38					2052
03233	HD 188892	1952 17	+38 13 15	02:05:22	02:48:28	02 <sup>h</sup> 15 <sup>m</sup> W	+38°28'		
03234	TL - Ar			02:49:20					
03235	TL - Ar			02:51:27					
03236	HD 206672	2138 33	+50 44	02:54:04	03:29:22	61 09 W	+51°10'		
03237	TL - Ar			03:30:08					2052
03238	Th - Ar			03:32:03					2052
03239	HD 207330	2143 06	+48 50 48	03:34:30	04:09:25	01 <sup>h</sup> W	+49 17		
03240	TL - Ar			04:09:59					
03241	Bins (4)			04:12:20					
03242	Bins (4)			04:14:10					



Spectr. Temp. .... Dome Temp./Hum. ... 20.7°C ... 70.4% Transparency Conditions ... good ..... 84

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ... 19.6°C ... 71.7%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2500				FENHUE CCO	18.85	.277 60L	.4570 4491A				
2742 <del>2500</del>		4.23	B3IV								
										9 = 20.50C	
1500		4.98	B3IV								
2000		4.67	B3IV								
2000		4.23	B3IV								
										9 = 19.6°C	
										9 = 19.6°C	

## Emulsion Batches:

Date July 17/18 1991... Observers Fols-Ri.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
CEP3243.AS	BIAS (4)			18:31:18					
03244	BIAS (4)			18:34:06					
03245	DARK 15 MIN								
03246	DARK 15 MIN								
03247	DARK 15 MIN								
03248	BIAS (4)			19:23:35					
03249 - DB03256	FLATS		8 FLATS @ 20s	19:35:58					
03257	BIAS (4)			19:47:00					
03258	TL-Ar			20:33:53		+01 46 CORRECT TO 92			20x
03259	HD 124897	14:11	119	20:34:53	20:37:50	14 40 W 14	+19° 18'		
03260	TL-Ar			20:58:12					20x
03261	TL-Ar			20:42:15					20x
03262	HD 188892	1952 17	38° 15' 13"	20:44:32	21:24:32	03° 5' E	+38° 28'		
03263	TL-Ar			21:25:45					20x
03264	TL-Ar			21:28:07					20x
03265	HD 206672	21 38 32	+50° 43' 59"	21:32:30	22:11:30	4° 06' E	+51° 10'		





#2

Emulsion Batches:

Date July 17/18 1991 Observers Eds R

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
03266	Bias (4)			22:11:51					
03267	Th-Ar			22:13:31					205
03268	Th-Ar			22:15:04					205
03269	HD 207330	21 43 06	48 50 48	22:17:38	22:46:08	3 <sup>h</sup> 36 <sup>m</sup> E	+49° 16'		
03270	Th-Ar			22:49:15					205
03271	Th-Ar			22:51:36					205
03272	HD 188892	19 52 17	+38° 13 15	22:54:26	23:34:36	0 <sup>h</sup> 56 <sup>m</sup> E	+38° 27'		
03273	Th-Ar			22:35:43					
03274	Th-Ar			23:38:26					
03275	HD 193237	20:14:06	+37° 43' 19	23:40:09	00:13:21	0 <sup>h</sup> 40 <sup>m</sup> W	+38° 00'		
03276	Bias (4)			00:13:39					
03277	Th-Ar			00:15:00					205
03278	Th-Ar			00:17:00					205
03279	HD 206672	21 38 32	+58° 43 59	00:27:40	01:04:24	1 <sup>h</sup> 13 <sup>m</sup> E	+51 10		
3280	Th-Ar			01:05:06					205
3281	Th-Ar			01:07:26					205





81 # 3

Date July 17/18 1991... Observers Fds - Ri.....

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.
3282	HD 207330	21 43 06	48 50 48	01:09:00	01:39:20	04 43 E	+49 15		
3283	Bias (4)			01:39:24					
3284	Th - Ar			01:40:44					205
3285	TL - Ar			01:43:55					205
3286	<del>Th - Ar</del> HD 188592	19 52 17	+38° 13	01:45:06	02:25:06	+38 28	1" SW		
3287	Th - Ar			02:26:23					205
3288	TL - Ar			02:28:48					205
3289	HD 206672	21 38 32	+50 43 59	02:30:08	03:03:02	04 46 W	+51° 10'		
3290	TL - Ar			03 04 02					
3291	TL - Ar			03 06 07					
3292	HD 207330	21 43 06	48 50 48	03:08:32	03:30:42	01° 9 W	+49° 17'		
3293	Th - Ar			03:31:21					
3294	Th - Ar			03:33:15					
3295	HD 206672	21 38 32	+50 43 59	03:36:32	04:09:52	04° 53 W	+51 10'		
3296	TL - Ar			04:10:38					
3297				04:12:45					
3298				04:14:31					



Spectr. Temp. .... Dome Temp./Hum. .... Transparency Conditions ..... 90

Focus .....

Spectr. Temp. .... Dome Temp./Hum. 20.7°C ... 91.1%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2700		4.25	B3III	FENELLE LCD	18.85	.277 60	.4570 4481A				
										T = 22.0°C	
1950		4.97	B5IV								
2000		4.67	B3IV								
2000		4.23	B3III								
2000		4.67	B3IV								
										T = 20.7°C	

a1

Thu/Fri

Emulsion Batches:

Date 1991 July 18/19 Observers Fds/Pdr

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
ce03299	Bias (4)					# 2 <sup>h</sup> 30 <sup>m</sup> W	+42°		
3300	Bias (4)					"	"		
3301-3308	8x flat			20:27:46					20 <sup>s</sup>
3309	<del>Bias</del> Comp					0 <sup>h</sup>	-35°		
3310	<del>HD 124847</del> Comp			<del>20:46:33</del>				Th Ar	20 <sup>s</sup>
3311	HD 124847	14 11 06	19 42 30	20:46:33	20:50:45				
3312	Comp			20:52				Th Ar	20 <sup>s</sup>
3313	Comp			20:57					
3314	HD 207330	21 43 06	48 50 48	21 01 48	21 35 26				
3315	Comp							Th Ar	20 <sup>s</sup>
3316	Comp							Th Ar	20 <sup>s</sup>
3317	HD 206672	21 38 32	50 43 59	21 46 59	22 21 13	3 <sup>h</sup> 52 <sup>m</sup> E			
3318	Comp			22 22 22				Th Ar	20 <sup>s</sup>
3319	comp							Th Ar	20 <sup>s</sup>
3320	HD 188892	19 52 17	38 13 15	22 29 50	23 01 17	1 26 E			



Spectr. Temp. .... Dome Temp./Hum. 25.6 / 76.7% Transparency Conditions Few Clouds 92

Focus .....

Spectr. Temp. .... Dome Temp./Hum. .... slit  
Height

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD	18.85	.271 60μ	.4570 4481Å			$\bar{x} = 168.533$ Dome T = 25.8 rH = 74%	
										$\bar{x} = 168.292$ " "	
								450μ .220			
										$\bar{x} = 166.949$ Dome T = 25.7 rH = 75.9%	
								450μ .220			
				K0 III							
				V = 4.23 B3 III							
				V = 4.67 B3 IV							
				V = 4.94 B5 IV							

93

#2

Date 1991 July 18/19

Observers

Fls/Pdr

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.
ce03321	Bias (4)					1 25 E	38 28	ThA	
3322	Comp							ThA	20 <sup>s</sup>
3323	Comp							"	"
3324	HD 193237	20 14 06	37 43 19	23 07 47	23 40 44	1 08 E			
3325	Comp							ThA	20 <sup>s</sup>
3326	Comp							ThA	20 <sup>s</sup>
3327	HD 207330	21 43 06	48 50 48	23 46 58	00 05 58	2 12 E			
3328	Comp							ThA	20 <sup>s</sup>
3329	Comp							ThA	20 <sup>s</sup>
3330	HD 206672	21 38 32	50 43 59	00 11 44	42 18	1 31 E			
3331	Comp								
3332	Comp Bias								
3333	Comp					1 27 E	+51°		
3334	HD 188892	19 52 17	39 13 15	00 54 02	01 35 18				
3335	Comp							ThA	20 <sup>s</sup>
3336	Comp							ThA	20 <sup>s</sup>
3337	HD 207330	21 43 06	48 50 48	01 43 16	02 08 42	0 09 E			





45

#3

Date 1991 July 18/19

Observers Fds Pdr

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.
003338	Comp							ThAr	20s
3339	Bias			2 10 16		0 07 E	+49		
3340	Comp							ThAr	20s
3341	HD206672	21 38 32	50 43 59	2 15 06	02 57 53	0 45 W			
3342	Comp							ThAr	20s
FM00376	HD 207754	21 46 12	+43 25	<del>02 57 53</del>	03 10	0 49 W	4x Integ	'N' mode	
3343	BIAS								
3344	Comp							ThAr	20s
3345	HD207330	21 43 06	48 50 48	03 15 01	03 47 32	1 30 W			
3346	Comp							ThAr	20s
3347	Comp							ThAr	20s
3348	HD206672	21 38 32	50 43 59	03 52 26	04 19 59	2 08 W			
3349	Comp							ThAr	20s
3350	Bias					2 <sup>h</sup> 52 <sup>m</sup> W	+51		
3351	Bias					2 <sup>h</sup> 52 <sup>m</sup> W	+51		



Spectr. Temp. .... Dome Temp./Hum. 23.4°C 84.5% Transparency Conditions *Hazy* ..... 96.

Focus .....

Spectr. Temp. .... Dome Temp./Hum. 22.8°C 86.9%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD	18.85	.277 60μ	.4570 481A	.220 450μ			
										$\bar{X} = 165.895$ Dome T = 23.5 rH = 83.7%	
1900	2"	4.67	B3IV								
23x23 pix		FANS ON V=732		K0 III Forgot to type star name + obsrvr			Echelle Head		Selling test	Dome printing W No wind <del>from</del>	
2000		4.23	B3III								
1000	2.5"	4.67	B3IV								
										Dome T = 22.7 rH = 86.9	
										Dome T = 22.7 86.9	

All copied to worn + Pender

a7

Fri/Sat

Date 1991 July 19/20 Observers Fds Pdr

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.
ce03352	Bias (4)			20:43 48		0 03 W	+40		
3353	Bias (4)			20 45 37		" "	" "		
3354-3361	8x flat			20 51 40		0 03 W	+40	TUNG	17 <sup>s</sup>
3362	Comp							ThAr	20 <sup>s</sup>
3363	HD 124847	14 11 06	19 42 30	21 04 40	21 07 38				
3364	Comp							ThAr	20 <sup>s</sup>
FM000377	HD 144579	16 01 30	39 25 36		21 18	0 46 W		IN mode	
3365	Comp							ThAr	20
3366	HD 188892	19 52 17	38 13 15	21 29 00	22 09 W	2 15 E			
3367	bias (4)								
3368	Comp							ThA	20
3369	Comp HD 207330							"	"
3370	HD 207330	21 43 06	48 50 48	22 17 58	22 57 35				
3371	comp							ThAr	20
3372	comp							ThAr	20
3373	HD 206672	21 38 32	50 43 59	23 04 10	23 45 40	2 24 E			



Spectr. Temp. .... Dome Temp./Hum.  $27.5^{\circ}\text{C}$  67.1% Transparency Conditions *Hazy* ..... 92

Focus .....

Spectr. Temp. .... Dome Temp./Hum.  $26.0^{\circ}\text{C}$  68.5%

anson  
Exp

Exp. Mtr.	Secing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD	18.97	.277 60 $\mu$	.4570 4477	.185 800 $\mu$	$\bar{x} = 170,005$	Dome T = 27.6 RH = 66.9%	
									$\bar{x} = 170,099$		
8000								.195 700 $\mu$	Arcturus		
23x23 pix		V 6.66	68I	NO FANS			Echelle Head		Seeing test	Dome pointing w slight wind from SW	
1093	3"	V 4.94	B5IV						22 Cyg		
1560		V 4.23 ↓	B3III ↓								
1000	3.5"	V 4.67	B8IV						$\pi$ Cyg		





Spectr. Temp. .... Dome Temp./Hum. 25.2°C 70.9% Transparency Conditions fazy ..... 105.

Focus ..... few clouds

Spectr. Temp. .... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle (C)	18.97	.277 60μ	.4570 4477A	.195 700μ	$\bar{x} = 168.696$	Dome T = 25.4 RH = 70.3%	
1000									P Cyg		
1028	3.5	4.94		B5IV						$\bar{x} = 167.194$ Dome T = 24.3°C RH = 71%	
1000	4.5	4.67		B3IV							
338		4.23		B3III							
All to WORM + Persens											





Spectr. Temp. .... Dome Temp./Hum.  $24.3/67.2\%$  Transparency Conditions  $\approx$  Hazy w/c clouds.

Focus ..... 102

Spectr. Temp. .... Dome Temp./Hum. .... slit height

panor  
er Exp

20

20

15

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					18.85	.277 60 $\mu$	.4570 4483A	.220 450 $\mu$			
340	3 <sup>u</sup> .5									central order ADU = 1350	
										$\bar{x} = 165.931$ Dome T = 24.2C RH = 67.7%	
								.200 650 $\mu$			
All copied to EVORM + Pensen											

1022

Sun/Mon

Date 1991 July 21/22

Observers Tty KK Per

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.
003396	Comp							Th Ar	20 <sup>s</sup>
3397	HD 137909	15 23 42	29 27	20 33 30	21 03 30				
3398	Comp							Th Ar	20 <sup>s</sup>
3399	Comp							"	"
3400	HD 159561	17° 30' 18"	12° 38'	21 29 00	21 35	0 19 19 E			
3401	Comp							Th Ar	20 <sup>s</sup>
3402	Comp							"	"
3403	HD 165908	18 03 12	30 33	21 43 30	22 23 30	0 03 E			
3404	Comp							Th Ar	20 <sup>s</sup>
3405	Comp							"	"
3406	HD 182640	19 20 30	02 55	22 38 00	23 18 00	0 27 E			
3407	Comp							Th Ar	20 <sup>s</sup>
3408	<del>Comp</del> bias (10)					0 23 E	03 11	LOG <sup>1</sup>	
FM 000378	<del>Comp</del> HD 176844				23 39	0 19 W		Mode	
3409	Comp							Th Ar	20 <sup>s</sup>



Spectr. Temp. .... Dome Temp./Hum. 24.7°C 75.6% Transparency Conditions *Few clouds*

Focus .....

*→ partly cloudy*

Spectr. Temp. .... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Echelle	18.85	.277 60μ	.4570 4483Å	.220 450μ			
~ 837		<sup>B</sup> 3.93	F0P						$\beta$ Cr	clouds	6000 Å
1220		<sup>B</sup> 2.2	A5 III						$\alpha$ Oph		
516	3.5	<sup>B</sup> 5.5	F7 IV						$\alpha$ Her		
667		<sup>B</sup> 3.68	F0IV								
23x23 pix				NO FANS			Echelle Head	450μ	$\bar{R} = 164.793$ seeing test	Dome T = 23.0 rH = 82.0% Dome pointing W slight wind from NW	

105

#2

Date 1991 July 21/22 Observers T.G. Pdr

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	Companion Type/Filter	Exp.
ce03410	HD 196524	20 32 54	14 15	23 49 45	00 24:12:45	0 44 E			
3411	Comp								
3412	Comp								
3413	HD 186791	19 41 30	10 22	00 18 30	00 24 30	0 19 W			
3414	Comp								
3415	Comp								
3416	HD 209790	22 00 54	69 08	00 39 15	01 08 30	1 14 E			
3417	Comp								
3418	BIAS(10)			01 15 00					
3419	flat (9)			01 25 00			TUNG	15	15 <sup>s</sup>
3420	flat (a)			01 45 00			Tung	15 <sup>s</sup>	
3421	BIAS(10)			01 50 00					
3422	comp						RAr	20 <sup>s</sup>	
3423	HD 204867	21 31 07	(19915) -05 36	02 02 00	02 27 30				
3424	Comp						ThAr	20 <sup>s</sup>	
CCF00108 - 109 Hartmann focus test, Cass T + 25.2 F = 6.60									

Spectr.

Focus

Spectr.

Exp Mtr

736

307

307



Spectr. Temp. .... Dome Temp./Hum.  $22.5^{\circ}\text{C}$   $84.5\%$  Transparency Conditions *Few clouds*

Focus .....  $\rightarrow$  *Overcast* 10.5

Spectr. Temp. .... Dome Temp./Hum.  $22.0^{\circ}\text{C}$   $87.7\%$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
736		$\checkmark$ 3.78	F5 IV	CCD Echelle	18.85	.277 60 $\mu$	.4570 4483A	.220 450 $\mu$			
807		$\checkmark$ 2.72	K3 IV								
697		$\delta$ 4.63	Bm							Clouds.	450A04
								.200 650 $\mu$		22.0/86.1% $\bar{z} = 163.107$	
										For 3416	
										For the rest	
										22.2/86.1% $\bar{z} = 162.894$	
		$\checkmark$ 2.91	G0 I6					.220 450 $\mu$		Clouds	
				All to WORM + Pursey							

107

Tue/Wed

Emulsion Batches:

Date 1991 July 23/24 Observers WxL Pdr

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
CC03030	Comp							FeAr Clear	30 <sup>s</sup>
3031	bias (4)								
	<del>V361 Lyr</del>	(1950) 19 01 06	+46 54		NOT SAVED				
3032	Comp	(1950)						FeAr	30 <sup>s</sup>
• 3033	1E1806+70*	18 06 03	+69 45	23 54 00	00 14 00	1 58 W			
• 3034	Comp							FeAr	30 <sup>s</sup>
• 3035	1E1806+70	"	"	00 18 50	00 38 50	2 22 W			
• 3036	comp							FeAr	30 <sup>s</sup>
• 3037	1E1806+70	"	"	00 42 40	04 02 40				
3038	comp							FeAr	30 <sup>s</sup>
• 3039	1E1806+70	"	"	04 07 00	01 27 00				
3040	comp							FeAr	30 <sup>s</sup>
3041	1E1806+70	"	"	01 30 00	01 50 00	3 34 W			
3042	comp							FeAr	30 <sup>s</sup>
3043	1E1806+70	"	"	01 53 45	02 13 45	3 57 W			



Spectr. Temp. .... Dome Temp./Hum.  $19.0^{\circ}\text{C}$   $62.2\%$  Transparency Conditions *clear*  
 Focus *6.60* ( $+25^{\circ}\text{C}$  for  $1800 + 831 \text{ \AA}/\text{mm}$ ) *30 c/gain*  $10^{\circ}$   
 Spectr. Temp. .... Dome Temp./Hum. .... *cd/fmt: 420 0 34 1024 2 1*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	831/ 34.2	250 $\mu$	G=3600 6544 $\text{\AA}$			Focus also good for 831 $\text{\AA}/\text{mm}$ grating	
		V 13.5								Failed attempt to observe, too faint ( $\sim 1$ count/minute)	
192		V 10.5	F9	* telescope E of pier				3ci		AST clock is 12 hours off forgot to check it! at the beginning	
							4ci				
200	5"	"	"				5ci				
							6ci				
214		"	"				7ci				
							8ci				
228		"	"				9ci			Header times should be corrected by subtracting 12 hrs & adding $\approx 3$ secs.	
							10ci				
236		"	"				11ci			Previous Echelle data also have time off by 12 hrs.	
							12ci				
214		"	"				12ci				

10<sup>a</sup>

#2

Date 1991 July 23/24 Observers WxL Pdr

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.
CC03044	comp							FeAr	30 <sup>s</sup>
3045	bias (4)	(1950)				04 00 W	+69 44		
3046	1E1806+70	18 06 03	+69 45	02 22 15	02 42 15	04 26 W		FeAr	30 <sup>s</sup>
3047	Comp			<del>02 47 05</del>					
3048	1E1806+70	"	"	02 47 05	03 09 05	04 52 W		FeAr	30 <sup>s</sup>
L3049	Comp								
3050	1E1806+70	"	"	03 12 15	03 32 <sup>29</sup> <del>18</del>	05 16 W			
3051	Comp							FeAr	30 <sup>s</sup>
3052	Comp							"	"
3053	HD 222368	23 34.8	05 05	03 48 55	03 49 20	00 01 W			
3054	"	"	"	03 50 36	03 51 05				
3055	Comp							FeAr	30 <sup>s</sup>
FM000379	HD 223094	23 41 23	28 08 54		04 08	0 11 W	'N' mode	x4 inter	
3056-3060	Flats x 5					0 13 W	+28 38	TUNG A=1/4	45





III  
 Date 1991 July 24/25 Observers WxL / Pdr  
 We/Th

Emulsion Batches:

FANS ON

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CCO3061	bias (4)			23 07		0h	+47		
FM000380	HD 176844	18 57 03	40 32 36		23 20	0 12 W		IN' mode	x4 Int
3062	Comp			23 40				FeAr clear	30 <sup>s</sup>
3063	HD 187691	19 46.2	+10 10	23 45 20	23 46 15				
3064	"	"	"	23 48 35	23 49 35				
3065	Comp							FeAr clear	30 <sup>s</sup>
3066	Comp							"	"
3067	HD 194071	20 18.5	+27 55	00 02 25	00 07 45	0 22 E			
3068	Comp							FeAr clear	30 <sup>s</sup>
3069	Comp	(1950)						"	"
3070	1E 1806 + 70	18 06 03	+69 45	00 27 05	00 43 05	02 30 W			
3071	comp								
3072	1E 1806 + 70	"		00 51 00	01 07 00	02 54 W			
3073	Comp			01 11 00					
3074	1E + 1806 + 70	"	"	01 21 00	01 27 00	03 14 W.			



Spectr. Temp. .... Dome Temp./Hum.  $20.7^{\circ}\text{C}$   $56.8\%$  Transparency Conditions *clear* ..... 112  
 Focus .....  $6:60$  ..... Why?  $\rightarrow$  30 gain  
 Spectr. Temp. .... Dome Temp./Hum. .... 372 0 34 1024 21 ccd ft \*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	831/34.2	250 $\mu$	G-3600 G544A		$\lambda = 184.130$	Dome T = 21.0 rH = 55.5	
31x31	$\sim 2''$	$\checkmark$ 6.65	M2 III	Cass Head					seeing test	Dome pointing W No wind	
2500		$\checkmark$ 5.11	F8 V						3ci		
2836									4ci	* Why did origin of format changed so much compared to last night?	
									5ci		
1400									6ci	RVstd	
233	3''	$\checkmark$ 10.5	F9						7ci	Telescope on E side of pier 1	
236		"	"						8ci		
229		"	"						9ci		





Spectr. Temp. .... Dome Temp./Hum. 19.1°C 63.2% Transparency Conditions Clear .....

Focus .....

114

Spectr. Temp. .... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30 <sup>S</sup>				CCD	831	250	$\lambda = 3600$ 6544A				
269		V 10.5	F9	cas	34.2			10ci			
317		"	"					11ci			
337	3 <sup>u</sup>	"	"					<del>12ci</del> 12ci		$\bar{x} = 181.852$ Dome T = 19.1 rH = 63.3%	
352		"	"					13ci			
346	3 <sup>u</sup>	"	"					14ci			
291								15ci		$\bar{x} = 181.580$ Dome T = 19.2 rH = 64.6%	
All copied to WORM & Persley								16-20ci		ADU MAX = 9760	
								21-25ci		" = 9300	

115

Th/Fri

Date 1991 July 25/26 Observers WxL / Pdr

Emulsion Batches:

No. FANS

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
FM000381	HD153399	16 54 18	43 50	20 57	21 07	0 07 W			
CC03100	bias (4)			21 33		1 32 E	46 58		
3101	Comp	(1950)						FeA Clear	30 <sup>s</sup>
3102	V361 Lyr	19 01 06	+46 54	21 39 55	22 10 18				
3103	Comp							"	"
3104	Comp							"	"
3105	HD171232	18 28 30	25 25	22 33 35	22 40 35	00 04 W			
3106	Comp							FeA Clear	30 <sup>s</sup>
3107	Comp							"	"
3108	HD182572	19 20 12	11 44	22 52 30	22 54 30	00 32 E			
3109	Comp							"	"
3110	Comp	(1950)						"	"
3111	V361 Lyr	19 01 06	46 54	23 12 35	23 42 35	00 30 W			
3112	Comp								
3113	bias (4)			23 56		0 <sup>h</sup>	+20		



Spectr. Temp. .... Dome Temp./Hum. 18.9 / 70.9 Transparency Conditions ... Clear ..... 116  
 Focus ... 6:60 ..... 30 gain  
 Spectr. Temp. .... Dome Temp./Hum. .... 394 0 34 1024 2 1 ccd/fnt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
31x31	4"	7.56	G5IV	CCD CASS	831 34.2	250	G-3600 μ 6544A			seeing test Dome printing w light wind from N	
										$\bar{x} = 180.795$ Dome T = 18.9°C rH = 70.9	
36		13.5	?					3ci			
								4ci			
1528	3"	7.73	G8III					5ci	RV Std		
3041		5.16	G8IV					6ci	RV Std		
33		13.5	?					7ci			
										$\bar{x} = 177.967$ Dome T = 16.6 rH = 77.2	

#2  
 Date 1991 July 25/26 Observers WxL Pdr

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.
003114-3118	flat x5					0h	+20	TUNG A=1/4	4 <sup>s</sup>
3119-3123	flat x5 *					4 <sup>h</sup> W	+69 43	" "	" "
3124	Comp		(1950)	00 49				FeAr clear	30 <sup>s</sup>
3125	1E 1806+70	18 06 03	+69 45	00 55 50	01 15 50	3 07 W			
3126	comp							" "	" "
3127	1E 1806+70	"	"	01 21 50	01 41 50	3 33 W			
3128	comp							" "	" "
3129	1E 1806+70	"	"	01 46 40	02 06 40	3 58 W			
3130	comp							" "	" "
3131	1E 1806+70	"	"	02 11 00	02 31 10	4 22 W			
3132	Comp							" "	" "
3133	bias (4)			02 35 40		4 28 W	+69 44		
3134	1E 1806+70	"	"	02 38 45	02 58 45	4 50 W			
3135	Comp							" "	" "
3136	1E 1806+70	"	"	03 02 35	03 22 35	5 14 W			



Spectr. Temp. .... Dome Temp./Hum. 16.9°C 77.2% Transparency Conditions Clear ..... 118

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	831 34.2	250μ	G=3600 6544A	8-12 ci		MAX ADU=10670	
								8-12 ci		* Telescope on E side of pier. MAX ADU=10800	
201	4"	10.5 <sup>V</sup>	F9					8 ci			
207		"	"					9 ci			
217		"	"					10 ci			
227	3.5"	"	"					11 ci			
										$\bar{x}=175.840$ Dome T=15.5 rH=78.0	
241		"	"					12			
245								13 ci			











Spectr. Temp. .... Dome Temp./Hum.  $19.5^{\circ}\text{C} / 66.2\%$  Transparency Conditions *Clear*  $\rightarrow$  *cloudy*

Focus .....

Spectr. Temp. .... Dome Temp./Hum.  $17.3^{\circ}\text{C} / 75.1\%$



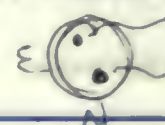
122

Exp. Mtr.	Secing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
300 <sup>a</sup>		✓ 0.04		PTS <del>Speckle</del>	830 39.8	300 $\mu$	H <sub>a</sub>			NO F18 stop NDO.6 in place	
900/500	3"		AOV							" "	
400/600											
700/400		✓ 3.24	K511+B?							Clouded over e ~ 23:50	
1200/800				All copied to WORN + Purser but + 883 ?						⇒ No signal transmitted when telescope is in park position. → Flat done with tel. pointing up ✓	





Spectr. Temp. .... Dome Temp./Hum. 22.0°C / 66.9% Transparency Conditions Partly cloudy  
 Focus ..... Dome Temp./Hum. 21.3°C / 66.9% Rain !!  
 Spectr. Temp. .... Dome Temp./Hum. 21.3°C / 66.9% 4 in week 124



Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1000	300/80			PR	83/39.8	None	Hx			FF Spec refocused 30A	
7200	1300/400										
	1000/600	✓ 0.01	AOV							Last 10secs dome lights were ON clouds @ 21:48 rain @ 22:00	
900	1400										
	1500/500	~2" ←								maximum signal	
										[All copied to Worm & Perseus w/8539884]	
										observing through few clouds, clouded over @ 23:58	

125

Thurs / Fri

Emulsion Batches:

Date 1991 Aug 1/2 Observers KK for Flat / Tn / Pdr KK service

.....  
 .....  
 ..... DiHuser in 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 Type/Filter	Exp.
F1700891	flat			14:50			F/18 A = 1/16	Tungsten	7200
F1700892	Comp			21 56			No f/18 stop	FeNe Clear	200
893	HD 183912	19 2641	+27 45	22 0330	23 03 30				3600sec
894	"	"	"	23 0910	00 09 10				3600sec
895	Comp						No f/18	FeNe Clear	200
896	FLAT (on timer)			01 16	03 16	0 0	F/18 IN A = 1/16	Tung Clear	7200
897	Comp (done by KK in morning)			08 48			A = ?	FeNe ??	600
<del>898</del>	<del>FLAT</del>			<del>20 10</del>		<del>0 0</del>	<del>F18 IN A = 1/8</del>	<del>TUNG</del>	



Spectr. Temp. .... Dome Temp./Hum.  $+22.5^{\circ}\text{C}$  54% Transparency Conditions ... Sl. haze ... thin cloud .....

Focus ..... 126

Spectr. Temp. .... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1300/480				FF PCS	831/39.8	None	Hd				
1700/600				"	"	"	"				
2000/600	*	✓	K5 II	"	"	"	"		KK pgn	* based on 3.6" spatula handle	
1500/500	3-A	3.24	+B?	"	"	"	"		"	clouding in, Thick by 2320	
1800/650				"	"	"	"				
1350/420											
All copied to work & Perseus to <del>895</del> 897											
?	?									(For Lower Signal/Rate)	
<del>B A 1900/50 NO = 0.6 1.2 PCS 1800/46.3 1100R</del>											







12<sup>th</sup> py #1 Sun - Mon

Date .. Aug. 4. 15... 1991... Observers .. Felsltn.....

Emulsion Batches:

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 .....  
 ..... D. F. 45. 98. 1A.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
CC03140 3141	BIAS (4) 2			18 29	18 32	0 0	+45°		
3142 3144	DARKS								15min
3145	BIAS(4)			19 36 40		0 0	+45°		
3146 3155	FLATS 10					0 0	f18 stop In	Tung H=1/2	6sec
3156	BIAS(4)								
3158	HD 144470	16 00 57	-20 24	20 20 33	20 34 09	01 03 W	CC03157 f18 stop in	FEA CLEAR	20sec 30sec
3161	HD 147933	16 12 35	-23 13 00	20 39 06	20 59 19	01 10 W	CC03160 CC03162	"	30sec 30sec
3163	HD 148605	16 24 08	-24 54 00	21 05 03	21 08	01 12 W	CC03164	"	30sec
3166	HD 180163	19 10 21	+38 58 00	21 18 45	21 25 45	01 13 E	CC03165 CC03167 CC03168	"	30s 30s
3169	HD 180554	19 11 55	+21 13	21 30 17	21 41 26	00 59 E	CC03170	"	"
3172	HD 182568	19 20 11	+29 26 00	21 45 30	21 58 00	00 51 E	CC03171 CC03173	"	"
3175	HD 184171	19 28 03	+34 14 00	22 01 33	22 11 55	00 45 E	CC03174 CC03176	"	"
3178	HD 184915	19 31 31	-07 15 00	22 17 13	22 34 40	00 26 E	CC03177 CC03179	"	"
3181	HD 184930	19 31 33	-01 31 00	22 38 37	22 48 15	00 12 E	CC03180 CC03182	"	"
3183	BIAS(4)			22 50 22					



Spectr. Temp. .... Dome Temp./Hum.  $\pm 19.0^{\circ}\text{C}$  ...  $71\%$  Transparency Conditions ... *PART. Cloudy* ... 130

Focus ... *6:60* .....

Spectr. Temp. .... Dome Temp./Hum. ....

*CGAIN = 30*

*CCD FORMAT 510 0 80 1024 21*

Exp. Mtr.	Secing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				<i>CASS</i>					$\bar{x}$ 186.874	rel Humidity 68.6%	$\pm 20.7^{\circ}$
				<i>CCD</i>	<i>1800/565</i>	<i>250<math>\mu</math></i>	<i>Hol</i>		$\bar{x}$ 186.612	68.5%	$\pm 20.6^{\circ}$
									$\bar{x} = 185$	Rel H = 69.6%	
									$\bar{x} = 185.522$	Rel H = 70.3% T = 19.8 $^{\circ}\text{C}$	
									<i>Fds pgm</i>		
<i>30000</i>	<i>4"</i>	<i>3.96</i>	<i>B1V</i>						<i>"</i>	<i>Comp 3162 for 3161</i>	
<i>30000</i>	<i>4"</i>	<i>5.02</i>	<i>B2V</i>						<i>"</i>	<i>400 3163</i>	
<i>3000</i>	<i>6"</i>	<i>4.79</i>	<i>B2V</i>						<i>"</i>	<i>Drive off at end</i>	
<i>30000</i>	<i>3"</i>	<i>4.39</i>	<i>B2.5V</i>						<i>"</i>		
<i>30000</i>	<i>3"</i>	<i>4.77</i>	<i>B4V</i>						<i>"</i>		
<i>30000</i>	<i>3"</i>	<i>4.97</i>	<i>B3V</i>						<i>"</i>		
<i>30000</i>	<i>3"</i>	<i>4.74</i>	<i>B3V</i>						<i>"</i>		
<i>30000</i>	<i>4"</i>	<i>4.95</i>	<i>B0.5V</i>						<i>"</i>		
<i>30000</i>	<i>4"</i>	<i>4.36</i>	<i>B5V</i>						<i>"</i>		
										$T = 16.92$ $\pm H = 69.58$	

*+ 45 $^{\circ}$  Dec [no Decker]*

*(Longest Decker Length)  
250 $\mu$*







Spectr. Temp. .... Dome Temp./Hum. +16.6°C 81.3% Transparency Conditions .... Fine s/ haze .....

Focus ..... 6.60 .....

Spectr. Temp. .... Dome Temp./Hum. +15.5°C 82%

Cloud at end 132

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20000	3"	6.29	B0.5m	CCD CLASS	1800/565	* 250μ	Hα		Fds pgn	* Longest detector slit length found H11	
30000	3"	4.94	B5 IV						B2 Cgg		
30000	4"	5.07	B3 V						P Cgg		
30000	4"	4.88	B2 pe						P Cgg	Hα saturated	
10000	4"	"	"						"	<del>Hα saturated</del> Traced near center of slit	
30000	"	4.95	B0.5 IV						Fds pgn		
30000	"	5.04	B5 IV						"		
30000	3"	4.67	B3 IV						"		
30000	"	4.48	B3 III						"		
30000	4"	4.51	B2 IV						"		
30000	4"	4.85	B0.5 IV						"	cloud	
4850	4"	4.88	B1 V						"	very cloudy CCDT = -1020°C	
All to work on and to Perseus											



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mon - Tues

Emulsion Batches:

Date 1991 Aug 5/6..... Observers Fds - Th.....

..... f.18. Stop & Diffuse 1X  
..... for C. sample Flat

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
3219	BIAS (4)		Platform	18:29:54					
3220	" (4)		"	18:31:08					
3221-3223	3x DARK @15m		"						
3224	BIAS (4)		"	19:24:25					
3225	BIAS (4)	0 <sup>m</sup> HA	+45 -	19:34:02					1
3226-3235	10x flat @5s		"	19:36:01				Tung K2000	5s
3236	BIAS (4)		"	19:42:43					
3237	BIAS (4)	35 <sup>m</sup> W	-24°	20:27:00					
3239	HD 148605	16 24 08	-24 54	20:29:24	20 58 11	01 08 W	3238	Fe-Or	30
							<del>3240</del>	clean	30
Fm000382	HD 144579	16 01 30	+39 25 36	20 12		00 47 W	4 frames	Int x 4	
3241	HD 129897	14 11 06	+19 42	21 07 35	21 07 52	03 32 W	<del>3240</del>	Fe-Or	30
3244	HD 120315	13 43 04	+19 48 45	21 14 15	21 15 13	04 07 W	3242	clean	30
3247	HD 193237	20 14 06	+37 43 19	21 34 50	21 39 28	01 58 E	3243	"	"
3250	HD 204572	23 53 56	+55 12 00	21 47 38	22 00 20	05 19 E	3245	"	"
3253	HD 219688	23 12 42	-9 44	22 06 45	22 41 53	03 51 E	3246	"	"
3255	BIAS (4)			22 48 42		03 50	3248	"	"
							3249	"	"
							3251	"	"
							3252	"	"
							3254	"	"
							-10°		



Spectr. Temp. .... Dome Temp./Hum. +17°C... 56% Transparency Conditions... F.I.R. .... 134

Focus ..... 6.60 still .....

Spectr. Temp. .... Dome Temp./Hum. +16°C... 67% 30 C GAIN  
CCDEMT 510 0 80 1024 2 1

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality	
				CCD CASS	G=6048 1800/365	25μ	H <sub>2</sub>				t=19.2 λ=183.708 t=19.2 λ=183.609	
											t=185 λ=182.139	
											t=18.2 λ=182.435	
									no Decker	no Decker	LABELLED TUNER	
											t=17.9 λ=182.101	
											t=17.2 λ=180.664	
	5"	4.79	B2V						Longest Decker Slit Length FANS OFF	2A...00 21' encoder offset's 25...100 233'		
31 x 31		6.46	G8V						Done before CCD exps, (Light N.W. wind)	Seeing test.	no final comp for 3239	
		D.06	K2UP						std vel		014 - 0 026 012 0 02 51	
85000		1.88	B3V									
13,700	5"	4.88	B2pe						P Cyy	guide with astro at mid slit length		
56,520											ΔA4 + 00 00 07	
30 000	5"	4.88	B1V								ΔA4 7 00 06 00	
30 000		4.39	B5V								ΔA4 - 0 0 9 10 3 18	
											t=16.8 λ=179.526	



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Emulsion Batches:

Date ..1991..Aug.5/6.... Observers .Fds.:T.M.....

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

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
3256	BIAS	0 <sup>HA</sup>	-9°	23 05 49		0	-9		
3257-3266	K+flat @ 30s	0 <sup>HA</sup>	-9°	23:09:19		0	-9	clean TUNG	30s
3267	BIAS (4)	"	"	23 17:52					
3269	HD219688	23 12 42	-9 44	23:28:30	23 47 36	02 50 E	CC03268 CC03270	clean FeAR	40s 40s
3272	HD 196740	20 34 10	+23 45 54	23 53 08	00 08 25	00 10 W	CC03271 CC03273	"	"
3275	HD 184915	19 31 31	-07 15	00 16 00	00 39 44	01 43 W	CC03274 CC03276	"	"
3278	HD219688	23 12 42	-9 44	00 44 40	00 58 44	01 39 E	CC03277 CC03279	"	"
3281	HD196740	20 34 10	+23 45 54	01 03 40	01 17 30	01 19 W	CC03280 CC03282	"	"
3284	HD 184915	19 31 31	-07 15	01 22 26	01 48 22	02 53 W	CC03283 CC03285	"	"
3287	HD 193237	20 14 06	+37 43 19	01 59 08	02 10 17	02 32 W	CC03286 CC03288	"	"
3290	HD 219688	23 12 42	-9 44	02 16 23	02 30 00	00 08 E	CC03289 CC03291	"	"
3293	HD 196740	20 34 10	+23 45 54	02 35 37	02 52 10	02 54 W	CC03292 CC03294	"	"
3296	HD 219688	23 12 42	-9 44	02 58 44	03 12 04	00 35 W	CC03295 CC03297	"	"
3298	<del>HD 2223</del> BIAS (4)						CC03299		
3300	HD 222368	23 34 08	+05 05	03 17 20	03 25 57	00 26 W	CC03301	FeAR clean	40 46



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

Focus .....

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Spectr. Temp. .... Dome Temp./Hum. *+14°C.....69%*

Exp. Mtr.	Seeing	<sup>V</sup> Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				<i>C.C.D</i> <i>CASS</i>	<i>G=4578</i> <i>1800/</i>	<i>250</i>	<i>4530A</i>			<i>t = 158</i> <i>(x) 175.72</i>	
<i>10000</i>	<i>5"</i>	<i>4.39</i>	<i>B5 II</i>						<i>Fds - ppm</i>		
<i>40000</i>	<i>4"</i>	<i>5.04</i>	<i>B5 IV</i>						<i>"</i>		
<i>40000</i>	<i>5-8"</i>	<i>4.95</i>	<i>B0.5 II</i>						<i>"</i>	<i>ΔRA -0 0 15</i> <i>Δdec +0 3 33</i>	
<i>40000</i>	<i>5"</i>	<i>4.39</i>	<i>B5 IV</i>						<i>"</i>	<i>ΔRA -0 0 10</i> <i>Δdec +0 3 24</i>	
<i>40600</i>	<i>3"</i>	<i>5.04</i>	<i>B5 IV</i>						<i>"</i>	<i>ΔRA -0 0 7</i> <i>+0 5 57</i>	
<i>40000</i>	<i>5"</i>	<i>4.95</i>	<i>B0.5 II</i>						<i>"</i>	<i>ΔRA -0 0 18</i> <i>+0 3 45</i>	
<i>40100</i>	<i>3"</i>	<i>1.86</i>	<i>B3 V</i>						<i>" PCyg</i>	<i>ΔRA -0 0 10</i> <i>Δdec +0 5 15</i>	
<i>40000</i>	<i>4"</i>	<i>4.39</i>	<i>B5 IV</i>						<i>Fds ppm</i>	<i>ΔRA -0 0 12</i> <i>+0 3 45</i>	
<i>40000</i>	<i>3-5"</i>	<i>5.04</i>	<i>B5 IV</i>						<i>"</i>		
<i>40000</i>	<i>4-6"</i>	<i>4.39</i>	<i>B5 IV</i>						<i>statet</i>	<i>ΔRA -0 0 10</i> <i>Δdec +0 3 40</i>	
<i>40060</i>	<i>4"</i>	<i>4.13</i>	<i>F7V</i>						<i>statet</i>		





Spectr. Temp. ....

Dome Temp./Hum. ....

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

Focus .....

Spectr. Temp. ....

Dome Temp./Hum. .. *14°C 69%* .....

*Some good meteors (Perseids "no doubt") 138  
one went SW → NE through Cygnus at 3:30 EST*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40000	4"	5.04	B5IV	CCD CASS	1800/	250 <sub>u</sub>	4530Å		Fds pgm	RA -0 0 11 Dec +0 6 18	
40006	6"	4.39	B5IV						"	RA -0 0 12 Dec +0 3 54 <i>some cloud</i>	
40000	5"	"	"						"		
<i>All To worm and Perseus</i>											

Pg #1

Tues/Wed

Emulsion Batches:

Date 1991 AUG 6/7..... Observers Fds-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.
CC03312-13	BIAS (4) 2			18 21 29	18 23	0 0	+21°		
CC03314 - 3316	DARKS 3								30min
CC03317 3318	BIAS (4) 2								
CC03319 3328	FLATS 10	Tel on	Platform	20 02		0 0			
CC03330	HD148605	16 24 07	-24 53 42	20 17 12	20 42 24	00 56 W	CC03329 CC03331	FeA clear	40s
CC03333	HD184915	19 31 31	-07 15	20 48 23	21 04 27	01 49 E	CC03332 CC03334	"	"
CC03335	BIAS (4)								
3337	HD196740	20 34 10	+23 45 54	21 11 03	21 21 30	02 33 E	CC03336 CC03338	FeA clear	40s
3340	HD193237	20 14 06	+37 43 19	21 28 07	21 35 19	02 00 E	CC03339 CC03341	"	"
3343	HD184915	19 31 31	-07 15	21 41 33	21 58 20	E	CC03342 CC03344	"	"
3346	HD196740	20 34 10	+23 45 54	22 03 25	22 13 50	1 48 E	3345 3347	"	"
3348	BIAS (4)			22 15 35					
3350	HD184915	19 31 31	-07 15	22 20 09	22 40 19		3349 3351	"	"
3353	HD196740	20 34 10	23 45 54	22 45 43	23 26 17	00 29 E	3352 3354	"	"
CCF00110	Focus test	(comp posn)		3340		02 50 E	+9° 08	FeA clear	10sec
111		stellar posn							











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Wed - Thurs

Emulsion Batches:

Date . 1991. Aug. 7/8... Observers . Fds. - 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.
CC03357	BIASCA) 2			18 05 27					
3358				18 26 22					
3359	DARKS 3								15min
3361									
3362	BIASCA)			19 13					
3363	FLATS 10			19 17		0 0	0°		30s
3372									
3373	BIASCA) 2								
3374									
3376	HD 148605	16 24 07	-24 53 42	20 16 14	20 52 35	01 10 W	CC03375 CC03377	FeA clear	40s 40s
3379	HD 184915	19 31 31	-07 15 00	20 57 23	21 16 18	E	CC03378 CC03380	" "	" "
done earlier	Focus Test	Composition Stellar posn	CCF00112 CCF00113	19 45 28		zenith		FeA clear	10/10
Fm 000383	Tn HD 163075	17 49 15	+46 40 10	20 09	<del>20 16 18</del>	00 55 E		4 frames	Tn 1x4
CC03382	HD 196740	20 34 10	+23 45 54	21 20 58	21 36 13	02 15 E	CC03381 3383	FeA clear	40 40
3384	BIASCA)								
3386	HP 193237	20 14 06	+37 43 19	21 41 26	21 50 56	01 38 E	3385 3387	FeA clear	46 40
3389	HD 184915	19 31 31	-07 15 00	21 59 18	22 20 05	00 29 E	3388 3390	"	"
3392	HD 196740	20 34 10	+23 45 54	22 24 18	22 39 26	01 11 E	3391 3393	"	"
3395	HD 219684	23 12 42	-09 43 42	22 44 13	23 13 11		3394	"	"
3398	HD 184915	19 31 31	-07 15 00	23 20 12	23 44 06		3396 3397 3399	"	"

















Spectr. Temp. .... Dome Temp./Hum. 19.1./76.4 Transparency Conditions Partly cloudy.....

Focus .....

Spectr. Temp. .... Dome Temp./Hum. .... 510 0 80 1024 2 1

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Cass	1800/43.2	250 $\mu$	4530A			T <sub>Dome</sub> = 19.7 rH = 74.1 % $\bar{x}$ = 185.594	
										T <sub>Dome</sub> = 19.7 rH = 74.2 % $\bar{x}$ = 185.494	
30 <sup>s</sup> 40 <sup>s</sup>	no decker										
	17500	5.04	B5IV								
900 <sup>s</sup> x 3											
31 x 31 pix ~ 3"	~ 3"	7.73	G8III				Uneven Background (?) Tried twice			T <sub>Dome</sub> = 19.5 rH = 75.7 % $\bar{x}$ = 182.948	
	40000	4"	4.95	B05III						Dome Pointing SSW No wind	





Spectr. Temp. .... Dome Temp./Hum. 18.2 / 79.7% Transparency Conditions Part cloudy

Focus ..... Dome Temp./Hum. 17.9 / 84.8 (01453) 150

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40000	3"	5.04	B5IV	CCD Cass	1800/43.2	250 $\mu$	4530A				
21217		4.56	B2pe							clouding over	
13462		4.95	B0.5 III								

All copied to WORM & Perseus

T<sub>Dome</sub> = 17.8 rH = 81.5  
 $\bar{x}$  = 183.461  
 510 0 14 1024 12 1  
 Focus setting check goal  
 (using cable)  
 510 0 14 1024 12 1  
 Stellar shifted to  
 blue ~ 1 pixel  
 T<sub>Dome</sub> = 18.5 rH = 79.7%  
 $\bar{x}$  = 181.725

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#3

Emulsion Batches:

Date 1991 August 9/10 Observers Fds/Pdr

Plate No.	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 3466	Comp							F&A Clear	40 <sup>s</sup>
3467	HD 219688	23 12 42	-9 43 42	02 09 13	02 25 10	0 03 W			
3468	Comp			02 25 46				✓	"
3469	Comp			02 28 42				✓	"
3470	HD 196740	20 34 10	23 46	02 30 33	02 50 40	3 08 W			
3471	Comp							"	"
3472	Bias (4)			02 52 32					
3473	Comp							"	"
3474	HD 219688	23 12 42	-9 43 42	02 56 34	03 11 29	0 49 W			
<del>3475</del>	<del>Comp</del>	overwritten						"	"
3476	Comp							"	"
3477	HD 196740	20 34 10	23 46	03 16 55	03 40 26	3 58 W			
3478	Comp							"	"
3479	Comp							"	"
3480	HD 219688	23 12 42	-9 43 42	03 47 33	04 02 56	1 41 W			

LOST



Spectr. Temp. .... Dome Temp./Hum. 17.7/87.0 Transparency Conditions Part cloudy 152...

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

Comparison  
Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Ccds	1800/ 43.2	250	4530A				
40000	4"	4.39	B5V								
40000	3.5"	5.04	B5IV								
40000	4"	4.39	B5V								
40000	3"	5.04	B5IV								
40000	4"										

$T_{dome} = 16.9$   $rH = 91.9\%$   
 $\bar{x} = 182.540$

























16)

#3

Date 1991 Aug 12/13 Observers Tlg/Pdr

Emulsion Batches:

..... FANS ON .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CF00960	Comp			<del>22 58</del>				FeNe Clear	60s
961	HD 173739	18 41 48	+59 29	22 58	23 26	1 50 W			
962	"	"	"	23 26 30	00 05	2 29 W			
963	"	"	"	00 05 30	00 53	3 17 W			
964	Comp							"	"
965	BIAS(10)								
966	Comp							"	"
967	HD 185144	19 32 36	69 29	01 01 20	01 07 25	2 42 W			
968	"	"	"	01 07 35	01 09 45	2 45 W			
969	"	"	"	01 10 00	01 11 50	2 46 W			
970	Comp								
FM000386	HD 207754	21 46 12	43 25		01 33	0 49 W	raw mode	Int x4	
971	Comp Bias(10)								
972	Comp							FeNe Clear	60s
973	HD 8890 A	01 22 36	+88 46	01 47 45	01 48 <sup>51</sup> <del>45</del>	-3 37 E			





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#4

Emulsion Batches:

Date 1991 Aug. 12/13. Observers Tby/Pdr

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
(CF00 974	HD 8890A	01 22 36	88 46	01 49 15	01 49 56	3 37 E			
975	"	"	"	01 50 10	01 50 49	3 36 E			
976	Comp							Fe No Clear	60 <sup>S</sup>
977	BIASC(10)								
978	Comp							"	"
979	HD 199305	20 51 18	61 50	02 08	02 46 45	03 02 W			
980	"	"	"	02 47 00	03 21 00	3 35 W			
981	Comp							"	"
982	BIASC(10)								
983	Comp							"	"
984	HD 3712	00 34 48	55 59	03 31 15	03 32 28	0 <sup>h</sup> 0			
985	"	"	"	03 32 45	03 33 37	0 <sup>h</sup> 01			
986	"	"	"	03 33 45	03 34 42	0 <sup>h</sup> 02			
987	Comp							"	"
988	Comp							"	"
989	HD 9138	01 24 59	05 38	03 48 30	03 51 30	0 30 E			



Spectr. Temp. .... Dome Temp./Hum. 20.1/57.6 Transparency Conditions Part cloudy .....  
 Focus .....  
 Spectr. Temp. .... Dome Temp./Hum. ....

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Exp. Mtr.	Seeing	Obj. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
5000		2.5	F826	CCD Fiberjet	1800 52.7		5140 Å				
5000											
										20.2°/57.6% $\bar{x} = 116.8$	
1300		8.50	M2V								
830		"	"							Clouded in	
										19.7° 59.2% } Bias $\bar{x} = 117.3$	
10 000		2.23	K0 III							RV std	
10 000		"	"								
10 000		"	"								
2000	2.5"	4.84	K4 III							RV std	













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#2

Emulsion Batches:

Date 1991 Aug 13/14 Observers T. G. / P. R.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Comparison	
							Type/Filter	Exp.
CF@ 1005	Comp						FeNe Clear	60 <sup>s</sup>
1006	HD 137107	15 19 06	30 39	20 23 00	20 38 50			
1007	"	"	"	20 39 20	20 50 30	2 38 W		
1008	"	"	"	20 50 50	21 04 10	2 52 W		
1009	Comp						"	"
1010	Comp						"	"
1011	HD 8898A ← Polaris A <del>HD 158633</del>	01 22 36	88 46	21 58 50	22 00 50	7 23 E		
1012	"	"	"	22 01 05	22 02 07	7 21		
1013	"	"	"	22 02 15	22 03 05	7 20		
1014	Comp						"	"
1015	Comp						"	"
1016	HD 158633	17 25 18	67 24	22 27 00	22 29 59	2 16 W		
1017	"	"	"	22 30 10	22 33 06	2 19 W		
1018	"	"	"	22 33 20	22 36 30	2 22 W		
1019	Comp						"	"





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#3

Date 1991 Aug 13/14 Observers Ttg/Pdr

Emulsion Batches:

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.....  
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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.
CF0 1020	bias (10)			22 39		2 25 W	67 25		
1021	Comp							FeNe clear	60 <sup>s</sup>
1022	HD 144287	16 00 00	25 30	22 52 00	23 03 15	4 11 W			
1023	"	"	"	23 03 30	23 26 00	4 34 W			
1024	"	"	"	23 26 10	23 58 48	5 06 W			
1025	Comp							"	"
1026	BIAS (10)								
1027	FLAT (9)								3 <sup>s</sup>
1028	Dark								20 <sup>m</sup>

Spectr. T

Focus ...

Spectr. T

Exp. Mtr

400

1400

650



Spectr. Temp. .... Dome Temp./Hum. 22.7 / 53.0 Transparency Conditions Part cloudy 172.

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD FF	1800/52.7	250	5140A			22.7° / 53.0% $\bar{x} = 117.3$	
1400		7.07	G8V								
1400										clouds	
650										Clouded in	
										22.1° / 55.3% $\bar{x} = 116.3$	
All copied to WORM + Floppy											

pg#1

Wed - Thurs

Date .. 1991.. AUG. 14/15. Observers .. T.M. / P.d.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.
CF0/029	BIAS(10)								
CF01030	HD124897	14 11 06	+19 42 00	20 49 40	20 50 00		CF01030	Fene Clear	60s
1032	"	"	"	20 51 30	20 51 53	3 52W			
1033	"	"	"	20 54 00	20 54 29				
CF01034	Comp							Fene Clear	60s
			1991.5						
1035	HR 5933	15 56 04	+15 41 20	21 21 30	21 23 11				
1036	"	"	"	21 24 30	21 26 33	2 45W			
1037	"	"	"	21 28 10	21 37 46				
1038	Comp							Fene Clear	60s
			1991.5						
1039	HR 6705	17 56 25	+51 29 23	21 46 55	21 47 23				
1040	"	"	"	21 49 40	21 50 08	01 09W			
1041	"	"	"	21 53 40	21 54 02				
1042	Comp							Fene Clear	60s
			1991.5						
1043	HR 7235	19 05 01	+13 51 01	22 11 15	22 12 20	00 22W			
1044	"	"	"	22 18 08	23 10 56				
				<del>22 21 55</del>					



Spectr. Temp. .... Dome Temp./Hum.  $23^{\circ}\text{C}$  .....  $60\%$  Transparency Conditions . Hazy..... cloudy.....

Focus ..... CCD Dewar Temp set to  $6$  for  $-110^{\circ}\text{C}$

Spectr. Temp. .... Dome Temp./Hum. ....  
90 CGAIN 401 0 5 1024 12 1 CCD FMT

Expansion er Exp	Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					FIBERFED CCD	1800/52.7	250 $\mu$	5140A			DOME T = $22^{\circ}\text{C}$ H = $62.59$	
63	20,600		-005	K1.5 III						UBURI and Vel Std	N 10000 AVG ADU	
	"											
	"											
63	3000	2"	3.86	F6 V						UBURI Std	-0 018 AM to 6 12 SEC Cloud	
	3000									"	2000 AVG ADU	
	3000	3"								"	clouds	
63	5000											
	5000		222	K5 III						UBURI Std	22200 AVG ADU	
	"											
	"											
63	4000		299	AOVann						UBURI Std	N 3000 AVG ADU	







177

pg #3

Emulsion Batches:

Date 1991. Aug. 14/15. Observers T.G. Pdr.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1060	HR 63	1991.5 00 16 39	+38 38 04	23 30 35	23 33 48	03 28 E			
1061	"	"	"	23 35 00	23 37 23				
1062	"	"	"	23 29 00	23 41 43				
1063	Comp							Fake CLEAR	60s
FM 000 387.Pd.	HD 207754	1900 21 46.2	+43 25	23 58		00 36 E		"N" mode	T <sub>in</sub> <sup>+</sup> x4
1064	Comp							"	"
1065	HR 321	1991.5 01 07 42	+54 52 44	00 16 35	00 21 41				
1066	"	"	"	00 23 50	00 28 22	3 24 E			
1067	"	"	"	00 29 40	00 34 29				
1068	Comp								
1069	bias (10)								
1070	Comp							Fake CLEAR	60s
1071	HR 80 85	1991.5 (from UBVRI List)	ie center of gravity posn.	21 06 32	38 42 14	00 57 40	01 03 37		
1072	"			01 04 00	01 10 30				
1073	"			01 10 50	01 16 25	01 25 W			





179 pg #4

Emulsion Batches:

Date . AUG. 14/15..... Observers ... Jm... Pdt.....

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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.
CFO1074	HR 8086	21 06 32	1991.5 38 42 14	01 17 05	01 28 14	01 37 W			
1075	"	"	"	01 29 00	01 37 05				
1076	"			01 37 50	01 46 06				
1077	Comp							FeNe Clear	60 <sup>s</sup>
1078	bias (10)			01 50 20					
1079	flat (9)							TUNG clear	3 <sup>s</sup>
1080	BIAS (4)			02 25					
1081	DARK								
1082	DARK								
1083	DARK								

Spectr. Te  
 Focus...  
 Spectr. Te  
 Exp. Mtr

3200  
 3260



Spectr. Temp. .... Dome Temp./Hum.  $20^{\circ}\text{C}$  /  $75\%$  Transparency Conditions ... *Hazy* ... (80) ...

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
3208		603	K7V	FFed CCD	1800/327	25 $\mu$	5140A		61 Egg B	SE of pair and fainter	
3200											
										19.6° / 75.9% $\bar{x} = 119.88$	
								1ci			
								3ci			
								4ci			
								5ci			
All copied to WORM + Floppy											

14

Thurs Fri

Date 1991. AUG. 15. 16... Observers T. G. / T. O. / P. 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.
CFO1084	FTS BIAS(10)					0 10W	+17 17		
1085	FLAT(9)								35
1086	FLAT(9)								35
1087	FLAT(9)								35
1088	BIAS(10)								
1089	Comp							FeNe CLEAR	60c
1090	HD 124897	14 11 06	+19 42	20 02 40	20 04	3 08 W			
1091	"			20 05 17	20 06 02				
1092	"			20 06 46	20 07 10	3 10 W			
1093	Comp							FeNe CLEAR	60s
1094	HD 122742	13 58 36	11 16 00	20 13 35	20 20 53	3 36 W			
1095	"	"	"	20 21 18	20 30 55				
1096	"	"	"	20 31 10	20 43 00	3 58 W			
1097	Comp							"	"
1098	HD 137107	15 19 06	30 39	20 48 00	20 49 42	2 45 W			

Spectr. Te

Focus...

Spectr. Te

Exp. Mtr

17000

18000

15000

500

500

1530

11















Spectr. Temp. .... Dome Temp./Hum.  $+21.0^{\circ}\text{C}$  ... 85% Transparency Conditions ... V. Hazy ... cloudy ... 196

Focus ..... FORMAT 401 D 5 1024 12 1 CCD+MT

Spectr. Temp. W.M. Room still  $80^{\circ}\text{F}$  at end Dome Temp./Hum.  $+20.5^{\circ}\text{C}$  ... 91% 90 C gain. CCD @ 6  $\rightarrow$  -100

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst. Red Column	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				FIBERED CCD	1800/527	250 $\mu$	5140A			See note on hat pump	
										21.5°/80.5% $\bar{x} = \begin{matrix} 126.5 \\ 126.9 \\ 127.0 \end{matrix}$	
										21.6°/79.9% $\bar{x} = 126.6$	
310 K			F						AsmSp- k/k		
"											
"											
1500	4"	B 5.5	KOV						AsmSp- k/k	864 AUG ADU	
2000											
2000										Clouding in	
1450		B 5.7	F8V						Stafel	Cloud	
1500									"	cloud 0015	
1500									"		







189

Sun / mon

Date 1.9.91. AUG. 18. 19...

Observers J. G. f. T. n..... [KK] ~~.....~~

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
Fm000388Tm	HD 163075	17 49 14.7	+46 40 10	20 32		00 11 W	+46 47	N <sup>o</sup> made	Igt x4
CF01125	Bias (10)								
→ 1127								Felt Clear	60sec
CF01128	Comp								20sec
1129	HD 124897	14 11.1	+19 42	20 42 20					"
1130	"								"
1131	"				20 49	04 04 W			"
1132	Comp							Felt Clear	60sec
1133	HD 144287	16 00.0	+25 30	20 55	21 06 30	2 33 W			
1134	"			21 06 50	21 19 50				
1135	"			21 20	21 36 50				
1136	Comp							Felt Clear	60sec
1137	HD 158633	17 25.3	+67 24	21 42 40	21 52 20	1 57 W			
1138	"			21 52 30	22 02 25	2 08 W			
1139	"			22 02 40	22 14 00	2 19 W			
1140	Comp			<del>22 14 4</del>					



Spectr. Temp. .... Dome Temp./Hum. 20.7°C... 83-7% Transparency Conditions ... Clearing... after R. Rain 190

Focus .....

FANS on as ~~was~~ manual

Spectr. Temp. .... Dome Temp./Hum. ....

CCD T set to -110°C #6 on dial

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
31x31 pixels				CCD Fiber Fed	1800/50.7	Fiber Head 250 $\mu$	note Grand Hart A/C system not working. Warm Room +28°C 5140A			AIR vented out windows, Dome West, no wind 20.0°/87.0% $\bar{x}$ 122.7 122.9 122.4	
17000		V 0.04	K15 III							Also UABRI std Std Vel	
"	"										
"	"										
1400	4"	B 7.62	G8V							Asm Sp- HK	
"	"									"	
1400										"	
1500	5"	B 7.09	dK1 or G9V							Asm Sp- HK	
"	"										
1500	A" 8"										Seeing getting very poor [over warm room venting] maybe?

Vol P9 #2

Date .1991. AUG 18/19... Observers ..Tty./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.
CF01141	HD 185144	19 32.6	+69° 29	22 19 45	22 21 45	00 19 W			
1142				22 22 00	22 24 15				
1143				22 24 30	22 26 35				
1144	Comp							FelNe Clear	60sec
1145	BD+45 3310	20 49.3	+45 44 00	22 33 50	23 09 50	00 12 E			
1146	"			23 10 15	23 55 30	34 E			
1147	"			23 35 40	00 40 00	01 18 W			
1148	Comp							FelNe Clear	60s
1149	HD 8890A	01 22.6	+88 46	<del>00 46 19</del>	00 47 10				
1150	"			00 48	00 49				
1151	"			00 49	00 50	04 12 E			
1152	Comp							FelNe Clear	60s
* 1153	HD 222368	23 34.8	+05 05	00 56	00 57 57	01 12 E			
1154				00 58 00	00 59 20	01 09 E			
1155				59 30	01 00 38	01 07 E			
1156	Comp							FelNe Clear	60s



Spectr. Temp. .... Dome Temp./Hum. +18.4°C ... 90.3% Transparency Conditions ... 51.49.24 ... 192...

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

Comparison  
er Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1500	6"	B 5.5	KOL	CCD Fiberfed	1800/50.7	250μ	5140A		Asm Sp-KK		
1506											
1500											
1500											
1500		V <sup>AB</sup> 9.1	G8V						Asm Sp-KK		
1530	4"										
15000		2	F8						Asm Sp KK		
2000	5"	B 1.6A	F7V						Std Vel	one file of this openly labelled CF001153-H5	
2000									"		
2000									"		

60sec

60s

60s

60s

193 pg #3

Date 1991 Aug 18/19... Observers T.H. / J.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.
CFD1157	BIAS(10)								
→1159									
1160→1162	Flat(9)				01 10				3 <sup>s</sup>
1163	BIAS(4)					1 ci			
1164	DARK 30min					3 ci		30min	<del>30min</del>
1165	"					4 ci		30min	
1166	"					5 ci		30min	
1167	BIAS (3)								
Not written - Tripo fono cancelled (no documentation)									

Spectr. T  
 Focus...  
 Spectr. T  
 Exp. M...





195

Date 1991 August 21/22 Observers KK/PdV

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.
CF01167	Bias (10)								
1168	Comp							FeNe Clear	60 <sup>s</sup>
1169	HD 182572			22 17 35	22 19 07	0 37 W			
1169	Bias (10)								
	HD 182572			22 24 58	22 26 29				
CF01167	Bias (10)								
1168	Comp							FeNe Clear	60 <sup>s</sup>
1169	HD 182572	19 20.2	11 44	22 37 27	22 39 02	0 57 W			
1170	"			39 45	41 22	0 59 W			
1171	"			41 48	43 18	01 01 W			
1172	Comp							"	"
1173	Bias (10)								
1174	HD 203156	21 15 24	37 49	22 51 32	22 54 34				
1175	"	"	"	22 57 10	23 01 27	0 35 E			
1176	"	"	"	23 03 00	23 07 35				
1177	Comp							FeNe Clear	60 <sup>s</sup>



Spectr. Temp. .... Dome Temp./Hum. 18.2 / 68.7 Transparency Conditions Clear 196

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

chip at  $-100^{\circ}\text{C}$  tonight 90 gain  
 FORMAT 385 0 5 1024 12 1

Expansion Filter Exp	Exp. Mtr.	Seeing	Mag. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					CCD FF	1800 52.7	250 $\mu$	5140 $\text{\AA}$				
	<del>1500</del>		5.16	G71 $\bar{V}$								
											after cleaning window window fogged (spill-over from fill up) & cleared	
	1500		5.16	G71 $\bar{V}$								
	1500											
	1500											
	2000		5.89	G016					8a		$\sim$ 1000 avg ADU	
	3000								9a		$\sim$ 1300 avg ADU	
	3000								10a			

197 #2  
 Date 1991 Aug 21/22 Observers KK/Pdr

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.
CF01178	HD 8890 A	01 22 36	88 46	23 27 01	23 27 11	5 24 E			
1179	"	"	"	23 27 54	23 28 09				
1180	"	"	"	23 28 35	23 28 48				
1181	Comp								
1182	HD 8890 B	"	"	23 34 45	23 47 37	5 03 E			
1183	Comp								
FM000389	HD 207754	21 46.2	43 25	~00 05		00 01 E	43 58	4x int 'N' Mode	
1184-6	flats (means of 3)							W	3 <sup>s</sup>
1187-9	flats (means of 3)							W	6 <sup>s</sup>
1190	Comp		(1991.5)					FeNe	120
1191	HD 224427	23 57 19.5	+25 05 39	00 39 45	00 40 51	01 34 E			
1192	"	"	"	00 46 48	00 47 54	01 26 E			
1193	"	"	"	00 49 10	00 50 17	01 24 E			
1194	Comp							FeNe	60 <sup>s</sup>



Spectr. Temp. .... Dome Temp./Hum. 17.7 / 71.6 Transparency Conditions ..... 198 .....

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
~5000			F	CD FF	1800 52.7	250	5140A				
~5000											
~5000											
500											200
31x31 pix										Dome pointing w slight wind from W	
											35w
											7000
2600	2"	B 6.25	M31II					11 ci	MK Stds	SUM AVG ADU ~ 1000 (2 pixels)	
2600								12 ci		"	
2600								12 ci		"	
								13 ci			

1991

#3

Emulsion Batches:

Date ... 1991 Aug 21/22 Observers ... Pdr

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Plate No.	Object	R.A. 1900 (1991.5)	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CFO 1195	HD 218329	23 06 34.6	09 21 48	01 09 50	01 11 23	0 12 E			
1196	"	"	"	01 13 40	01 15 30				
1197	"	"	"	01 16 50	01 18 32	0 05 E			
1198	Comp							FeNe	60s
1199	HD 216228	22 49 22.8	+66 09 20	01 33 30	01 33 56	0 27 W			
1200	"	"	"	01 36 05	01 36 29				
1201	"	"	"	01 37 45	01 38 11	0 31 W			
1202	Comp							FeNe	60s
1203	bias (10)								
1204	bias (4)								
1205	Dark - 15m								
1206	"								
1207	"								

Spectr. T...  
 Focus...  
 Spectr. T...  
 Exp. M...  
 500  
 500  
 500  
 1500  
 1500  
 1500



Spectr. Temp. .... Dome Temp./Hum. 16.2 / 77.2 Transparency Conditions Clear ..... 200.

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Obj. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
3000	2.5	6.09	M I III ab		<del>1800</del> 52.7	250	5T40A	14a	MK STDS	SUM AVG ADU ~1500 (over 2 pixs)	
3000		"	"	"				15a			
3000								16a			
1500		4.57	KOIN					17a	MK STDS	SUM AVG ADU ~1100 (2 pixels)	
1500								18			
1500								19a			
All copied to WORM + Floppy											

201

Emulsion Batches:

Date 1991 August 22/23 Observers Tal/Pr

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CFO 1208	Comp							Fene Clear	60s
1209	HD <del>203156</del> 173297	18 39 20	-20 45	20 41 30	20 58 50	00 00			
1210	HD 173297	18 39 20	-20 45	20 59 40	21 22 45	00 24 W			
1211	"	"	"	21 23 19	21 47 49	00 49 W			
1212	Comp							Fene	60s
1213	bias (10)								
1214	HD 163917	17 53.5	-09 46	21 55 30	21 56 07	01 44 W			
1215	"	"	"	21 58 19	21 58 55				
1216	"	"	"	21 59 50	22 00 28				
1217	Comp								
1218	HD 156014	17 10.1	+14 30	22 07 00	22 08 19				
1219	"	"	"	22 10 09					
1220	"	"	"	22 11 36	22 13	02 44 W			
1221	Comp							Fene	60s
1222	HD 189319	19 54.3	+19 13	22 18 30	22 19 01	00 07 W			



Spectr. Temp. .... Dome Temp./Hum. 20.5/71.6 Transparency Conditions Clear ..... 202

Focus ..... 90 cm T<sub>ccd</sub> = -100°C

Spectr. Temp. .... Dome Temp./Hum. .... FORMAT 390 0 5 1024 12 1

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Fibered	1800/52.7	250μ	5160A				
2070	1"	✓ 7.48	GOIb						Rm/Pdr	AVG ADU 1500	
2000											
2000											
2500		B 366	KOIII	CN-1					MKstd	AVG ADU 2000	
2500											
2600											
2000		B 4.92	M3Ib-II								
2500										AVG ADU 1200 (at maximum)	
2500											
4000		P B 5.04	M0Ib							AVG ADU 1700	

20<sup>3</sup> p5#2

Date 1991 Aug 22/23. Observers Pds. - 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.
CF01223	HD 189319	19 543	+19 13	22 20 45	22 21 26	0 09W			
1224	"	"	"	22 22 30	22 23 15				
1225	Comp							Fe	
1226	HD 194317	20 19.9	+31 52	<sup>a</sup> 00 32	00 34 00	00 04W			
1227	"	"	"	22 35 40	22 36 53				
1228	"	"	"	38 10	39 17				
1229	Comp								
1230	HD 188119	19 48.5	+70 01	22 49 10	22 49 48	00 47W			
1231	"	"	"	22 51 15	22 51 50				
1232	"	"	"	22 52 35	22 53 18	00 51W			
1233	Comp								
1234	HD 8890A	01 22.6	+88 46	23 01 00	01 17	05 47E			17sec
1235	"	"	"	23 02 20	02 33				<del>25sec</del>
1236	"	"	"	03 30	23 03 49				
1237	Comp							FeNe Coul	60sec



Spectr. Temp. .... Dome Temp./Hum.  $+19^{\circ}\text{C}$  ...  $77\%$  Transparency Conditions ... *Fine* ... *204*

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
4000		<sup>B</sup> 5.04	MOLII						mk std-		
4800											
3000	4"	<sup>B</sup> 5.76	K3III						mk std	Avg HDU $\approx$ 1500	
3000											
3000											
		<sup>B</sup> 4.72	G7DL6CN-2						mk std		
5000		2	F						asm sp k/t		
										Avg HDU $\approx$ 3600	







207

Pg # 4

Date 1991. Aug 22/23. Observers Ter... 1 Pdr.....

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.
CF 0125A	HD 216386	22 47.4	-08 07	00 26 36	00 29 00	00 36E			
1255				29 20	31 30				
1256				32 15	35 10				
1257	Comp							Felt Clear	60s
1258	HD 216946	22 52.0	+49 12	00 42 00	45 00	00 24E			
1259	"	"	"	00 45 10	48 30				
1260				00 48 40	00 51 00				
1261	Comp								60s
1262	HD 23475	03 40.4	+65 13	00 58 10	01 00 20	05 02E			38s
1263				01 50	01 03 00				
1264				01 03 08	01 05 04				
1265	Comp								
FM 000390	HD 223094	23 41 23	28 08 54		01 46	0 13 E	28 47	'N' Mode	4s Int
1266	Comp							Felt Clear	
1267	HD 223094	23 41 23	+28 08 54	02 01 10	02 13 20	0 14 W			



Spectr. Temp. .... Dome Temp./Hum.  $+17.5^{\circ}C$   $83\%$  Transparency Conditions ... *Sl. 14.2g* ..... 208

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Pig. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
8000		<sup>B</sup> 5.38	M25IIa Fe-1							AVG ADU = 2700 ADU	
8500											
8700											
4500	3"	<sup>B</sup> 6.73	K5IIb							AVG ADU = 1600	
5200											
4400											
5000	4"	<sup>B</sup> 6.35	M2IIab							AVG ADU = 2200	
6000											
6000											
31x31 pix		✓ 7.45	K5IIA						seeing test	Dome pointing SSW slight wind from N Comp AFTER topup	
3000		✓ 7.45	K5II						std dev	ORA - 0.05 Ldc. 0.645 AVG ADU 1400	

209 pg 65

Date 1991 Aug 22/23 Observers Pdr./Tn

Emulsion Batches:

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

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time		Ending Time		Hour Angle End	Declination	Comparison	
				E.S.T.	E.S.T.	Type/Filter	Exp.				
CFO 1268	HD 223094	23 41 23	+28 08 54	02 14 55	02 26 45	0 28 W					
1269				02 27 35	02 38 01	00 39 W					
1270	Comp								FoNe CLEAR	60s	
1271	HD 26015	04 02.0	+14 54	02 45 20	02 51 20	03 28 E					
1272	"	"	"	02 52 10	02 58 06						
1273	"	"	"	02 59 20	03 05 07						
1274	Comp								FoNe CLEAR	60sec	
1275	bias(10)										
1276	flat(9)								TONG CLEAR	35	
1277	"								"	"	
1278	"								"	"	
1279	Bias(4)										
1280	DARK 15m										900s
1281	"										"
1282	"										"

FZAT9.35 batch

Spectr. T  
 Focus...  
 Spectr. T  
 Exp. Mir.  
 2500  
 2500  
 2500



Spectr. Temp. .... Dome Temp./Hum.  $+17.3^{\circ}$  ... 89% Transparency Conditions ..... 210....

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
3000		V 7.45	K5II	CCD FiberTel	1800/52.7	250 $\mu$	5160A		st/vel		
3000	2-3 $\mu$								u		
2500	3 $\mu$	B 6.4	F3V								
2500											
2500											
Backed up to 1278 on Worm & 35" floppy.											

AVG ADV = 1800  
has faint comp = 6" SW of primary

2<sup>nd</sup> py #1

Fri - Sat

Emulsion Batches:

Date 1991 AUG 23/24 Observers P.d.r. - 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.
CF 0 1283	bias (10)								
1284	Comp							FeA Clear	30s
1285	HD 161868	17 42 53	+2 45	20 26 18	20 27 22	00 30W			
1286	"	"	"	29 00	29 57				
1287	"	"	"	30 50	31 50				
1288	Comp								
1289	HD 182640	19 20.5	+2 55	20 41 00	20 41 18	00 55E			
1290	"	"		43 25	43 43				
1291	"	"		45 05	45 23				
1292	Comp							FeA	
1293	HD 199478	20 52.4	+17 02	21 03 30	21 07 00	01 59E			
1294	"			07 22	11 00				
1295	"			11 16	14 50				
1296	Comp							FeA Clear	
1297	HD 201156 B	21 02.7	+33 44	21 20 32	21 36 05				



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

Dome Temp./Hum. 71.9°C... 68%  
 Dome Temp./Hum. ....

Transparency Conditions .. 51... Hazy..... 212...  
 390 0 5 1024 12 1 CCD FMT  
 90 CGAIN

Comparison Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						1800/51.1*	25µ	4880F			* 51.1° from. Control page	
	3000	3"	3.75 <sup>B</sup>	A0V						UBUR1 std	1500 AVG ADU	
	2000	3"	3.68 <sup>B</sup>	F0IV						UBUR1 std	~ 1100 AVG ADU	
	2000											
	3400	3.4"	6.13 <sup>B</sup>	B8T9						mk std <sup>RG2</sup> 29	1400 AVG ADU	
	3500											
	3500											
	1000	2-3"	28.1 <sup>V</sup>	F						Asm Sp-KK	500 AVG ADU Two stars separated reasonably for guiding	

213 pg #2

Emulsion Batches:

Date 1991 Aug 23/24... Observers Pdr./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
CF01298	HD 201156 B	21 02.7	+33 44	21 36 30	21 51 50				
1299	"			21 52 22	22 07 28	01 08 E			
1300	Comp							FeA Clear	30s
1301	HD 201156 A	21 02.7	+33 44	22 12 20	22 33 17				
1302	"	"	"	22 33 47	22 51 17				
1303	"	"	"	22 57 30	23 23 50				
1304	Comp							FeA Clear	
1305	HD 8890 A	01 22.6	+88 46	23 35 30	23 35 53	05 07 E			
1306	"			23 37 00	23 37 27				
1307				23 37 55	23 38 55				
1308	HD 8890 B			23 47 45	00 00				
FM000391	HD 207754	21 46.2	+43 25	00 12		00 12 W	" mode	Int x 4	
1309	Comp			00 14 30				FeA Clear	30s
1310	BIAS(4)	from E: (Cass) Bias		00 17 30					
1311	HD 18884	0		00 31 50	00 33 05	04 38 E			



Spectr. Temp. ....

Dome Temp./Hum. +14.3°C 69%

Transparency Conditions Sl. hazy... some cloud...

Focus .....

214

Spectr. Temp. ....

Dome Temp./Hum. +16.2°C 76%

Comparison  
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1000		V 8.1	F	CCD Fiberfed	1800/51.1	25u	4880A		Asm Sp-kk		
1000	3"									seeing not so good here	
2000	3"	V 7.8	A2						Asm Sp-kk	1100 AUG ADU Brighter of pair	
2000	3-4"										
1956	4-5"									cloud at end	
5000		V 2	F						Asm Sp-kk	some cloud	
5000											
5000											
57										clouded in Dome Facing W	
31x31 pixels		7.32	KOIII			Fiber Fed Head			Seeing Test	cloud (un form)	
5000	5"	V 2.53	M15Wa						M Type Std 60/	1000 ADU AVG	

215 #3

## Emulsion Batches:

Date 1991 Aug. 23/24. Observers Pdr 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.
CF01312	HD18884	02 57.1	03 42	00 34 47	00 35 45	04 35 E			
1313	"	"	"	00 37 20	00 48 46	04 22 E			
1314	Comp							FeA	30s
1315	HD 116 36	01 49.1	+20 19	00 55 00	00 56 00				
1316	"			00 58 00	00 58 40	03 05 E			
1317	"			01 00 00	01 01 00				
1318	Comp							FeA CLEAR	30s
1319	HD 27397	04 14.3	+13 48	01 08 50	01 20 50	E			
1320	"	"	"	01 21 10	01 30 00				
1321	"	"	"	01 30 20	37 34	4 51 E			
1322	Comp							FeA CLEAR	30s
1323	HD 26015	04 02.0	+14 54	01 43 50	01 53 10	04 23 E			
1324	"	"	"	01 53 20	02 03 50				
1325	"	"	"	02 04 00	02 14 00				
1326	Comp							FeA CLEAR	30s



Spectr. Temp. ....

Dome Temp./Hum. ....

Transparency Conditions ... *Cloudy* ..... 2/6 ...

Focus .....

Spectr. Temp. ....

Dome Temp./Hum. *415.6°C* ... *81%*

Comparator Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	5000		✓ 2.53	M15 III				4880		st. vel		
	6000		B= 4.19							"	cloud at end	
3/3	5000		B 2.78	A5 V						UBVRI STD	2600 AUG ADU	
	5300									"		
	6000									"	some cloud	
3/3	2600	6"	B 5.87	F0 IV						MK std	BT CARDS part cloudy	
	2700											
3/3	2970	4"	B 6.41	F3 V						MK std	BT CARDS 1500 AUG ADU	
	3000											
	2157										more cloud	







219

SAT - SUN

Emulsion Batches:

Date . 1991. Aug. 24/25. Observers Pdr. / Tn. ....

2 Large Tours looked at Saturn.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
CF0133A <sub>FFS</sub>	BIAS(10)								
1335	Comp							FeA CLEAR	30s
1336	HD8890B	01 22.6	+88 46	22 40 48	23 14 48	5 24 E			
1337	"	"	"	23 15 40	23 45 40	4 53 E			
1338	"	"	"	23 46 45	00 16 45	4 22 E			
1339	Comp							FeA CLEAR	30s
1340	HD8890A	01 22.6	+88 46	00 20 25	20 51				
1341	"	"	"	21 20	21 37				
1342	"	"	"	21 54	00 22 12	4 18 E			
1343	Comp							FeA CLEAR	30s
1344	HD208501	21 51.3	+56 08	00 30 20	00 36 50	0 36 W		9ci	
1345	"	"	"	00 37 20	00 46 00			10ci	
1346	"	"	"	00 46 10	00 54 00			11ci	
1347	Comp							FeA CLEAR	30s
1348	HD223094	23 41.5	+28 09	01 04 20	01 18 40	00 32 E		Rc	



Spectr. Temp. ....

Dome Temp./Hum. +1.7°C... 77/76

Transparency Conditions ... CLEARING by 2nd TOUR ...

Focus .....

All settings including CCDT unchanged from previous night

Spectr. Temp. ....

Dome Temp./Hum. ....

90 CGAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Fibreg Red 1800/511	1800/511	25µc	4880A				
1150	3"	9?	F?						Asm Sp Kk	Avg ADU ~ 700	
994											
930										Avg ADU ~ 600	
5000		2	F						Asm Sp Kk	Avg ADU 2500	
"										"	
"										"	
4730	3"	B 6.53	B8T6						Mk std- <sup>RG</sup> Kk	Avg ADU = 1800	
4900	3'-4'								"		
4600									"		
		✓ 7.45	K5LJ						std vel		
2840	5"	✓ 7.45	K5LJ						std vel	Avg ADU = 900	

221 pg #2

Date 1991 AUG 24/25 Observers T.G. / P.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.
CF01349	HD223094	23 41.5	+28 09	01 19 10	01 35 20	00 16 E		13c:	
1350	"	"	"	01 36 27	01 53 30	00			
FM000392	<del>Comp</del> HD223094	"	"		01 57	00 05W	4 frames	"N" made FeA Clear	4x Int 30s
1351	Comp	<del>00 11 52</del>	<del>+38 28</del>						
1352	HD1280	00 11 52	+38 08	02 02	02 04 05	00 17 E			
1353	"	"	"	02 04 20	02 06 46				
1354	"	"	"	02 07 43	02 10				
1355	Comp			#6				FeA Clear	
1356	HD23630	03 41 32	+23 48	02 16 54					
1357	"			02 17 50	02 18 24				
1358	"			02 18 40	02 19 12	03 33 E			
1359	Comp								
1360	bias (10)								
1361-63	flat (9)							LONG Clear	65



Spectr. Temp. .... Dome Temp./Hum.  $+15^{\circ}\text{C}$  ..... 83.7% Transparency Conditions ... Sl. Hazy ..... 222

Focus .....

Spectr. Temp. .... Dome Temp./Hum.  $+14^{\circ}\text{C}$  ..... 85% Clouding in

Exp. Mtr.	Seeing	Pig. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
3075	4"	7.45	K5 III	CCO Filter-Fel	1800/51.1	252	4880A		SH Vel		
3000	"	"	"						"		
31x3/pics	"	"	"	Dome	S W	Above Fiber Hole	Light East Wind		Seeing Test	FAPS on AFTER TOUR at 0 hrs	
4000		B 4.67	A2 V						UBVRI std	2000 AVG ADU 2000	
1000											
3100											
5000		B 2.78	B7 III						UBVRI std	dbl Emission in HB (Know I guess)	
5000									AICyone		
<del>3000</del> 15000											
All To worm and Floppy											





Spectr. Temp. .... Dome Temp./Hum.  $+21^{\circ}\text{C}$  75% Transparency Conditions ... Sl. Hazy .....

Focus .....

Full Moon 224

Spectr. Temp. .... Dome Temp./Hum.  $+19^{\circ}\text{C}$  90%

90 CGAIN CCDT = -100 set

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD FF	600/30.6		4300A		CCD FMT	300 0 20 1024 2 1 RANGE	
25000	2-3"	B 5.19	B3V	CCD Fiber Red	600/30.6	25 $\mu$	4300A		SB-Bln	* 3970A $\rightarrow$ 4550A using "Control" 2. 22K ADU SUM AVG 5cols 3. = 90K photons	
3080	2-3"	B $\approx$ V 8.3-9.0	B5V						EB Bln		
	2-3"	B 5.07	F8V						Std Vol	$\approx$ 5 K ADU SUM AVG 6 cols	
25000	<2"	B 5.94	09V (cn)						Bln pgm	comp to SW easily resolved 2-3" sep $\approx$ 22K SUM AVG ADU 11.6 resolution stars <del>X = 130.544 near center</del> X = 130.544 = 5 cols near center	
31x31						Below Fiber Head					
25330	2"	B 5.965	06V						Bln pgm		
31x31	2"	V $\approx$ 7.32	K0 III			Below Fiber Head			seeing Test Bln pgm	Dome WEST	
25,200	2"	B 5.83	065V						Bln pgm	15K SUM AVG ADU 5cols	

225 #2

Date 1991 Aug. 25/26. Observers Th... [Bl.]

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.
CFO1377fts	Comp							Felie Clear	40s
1378	Comp							FEA Clear	100s
1379	FLAT							TUNG Clear	13sec
1380	FLAT							"	"
<del>1381</del>	<del>FLAT</del>							"	"
1381	BIAS (4)	1ci							
1382	DARK 30min	3ci							
1383	DARK 30min	4ci							
1384	DARK 30min	5ci							

Stronger and with lines at red end

FLAT 9.13s (each an Average of 9 flats @ 13sec each)

CASS\ DARK 30.BAT









Spectr. Temp. .... Dome Temp./Hum.  $+26^{\circ}\text{C}$  66% Transparency Conditions *S! Hazy* ..... 228...

Focus .....

Spectr. Temp. .... Dome Temp./Hum.  $+22.5^{\circ}\text{C}$  77% 90 CG4IN, CCD FMT 300 0 20 1024 21

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
31x31		$\checkmark$ 7.73	G8111	CCD FF	600/?	250 $\mu$	F2809		seeing Test	Light SW wind DOME SW from controll pgm 31.0 gives 4551.875 Å	
							RANGED 23915 Å → 4600 Å		/	CCDT @ 2036 = $-101.7^{\circ}\text{C}$	
2400	3"	$\checkmark$ 7.73	G8111						std vel	21800 Å sum AVG	
24000	3-4"	<sup>B</sup> 6.24	075 Iaf						Blk pgm	~ 18k sum AVG of 6 cols	
7,000	3"	<sup>B</sup> 7.65	090 III						Blk pgm	~ 5k sum AVG of 5 cols Thick haze	
18,200	2-3"	<sup>B</sup> 6.27	0916-II						Blk pgm	~ 11k sum AVG of 8 cols ~ 2k sum AVG of 5 cols	
										CCDT = - °C	











Spectr. Temp. .... Dome Temp./Hum.  $+26^{\circ}\text{C}$  ...  $70\%$  Transparency Conditions .. *Hazy* .....  $2.22$  .....

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

CCD2A

*Hot too*  
 $90\text{CGAIN} - \text{CCD7} \rightarrow -101^{\circ}\text{C}$   
~~2 sec ahead of Astro Clock~~

Comparison Filter	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	31x31 pixat		5.46	F5II-II			FF Head				Dome SW-no wind	
					CCD FiberFed	500/1000				CCDFORMAT	279 0 5 1024 121	
	5000	3"	5.46	F5II-III							MK std Bt deck	
											(seems like condensation) growing on chip window. Then decreasing?	
									6ci			
				B9II						UBVRI std		
	5000		B=3.20	B9III					7ci		AVG ADU 2500	
	"								8ci			
	"								9ci			
									10ci			
	5000			B9III					11ci		AVG ADU 4500	

235 M#2

Emulsion Batches:

Date 1991. Aug 29/30. Observers Pdr.-Ta.....

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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.	
OFO 1419	Flat 9							TUNG clear	6S	
1420	"							"	"	
1421	"							"	"	
1422	comp							FelNe clear	30s	
1423	Comp [after drying chip window]								"	"
1424	BIAS (4) before exp									
1425	HD 210839	22 08 07	+58 55	22 49 40	22 53 43	01 03	E	16ci		
1426	"	"	"	23 00 05	23 04 14					
1427	"	"	"	23 05 25	23 09 16					
1428	comp							FelNe clear	30s	
1429	BIAS (4)									
1430	HD 1280	00 11 50	+38 08	23 21 50	23 24 57	02 37	E	14ci		
1431	"			23 26 16	23 30 22			20ci		
1432	"			23 30 52	23 33 57			21ci		
1433	comp							FelNe clear	30s	
143A	HD 432	00 03 50	+58 36	23 38 25	23 39 15					





235 pg 3

Date 1991 Aug 29/30 Observers T.n. / P.d.r.

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.
1435	HD 432	00 03 50	+58 36 <del>23 40 10</del>	23 40 10	23 40 40			22	
1436	"		<del>23 42 42</del>	23 42 40	23 43 20	02 11 E		23ci	
1437	Comp								
1438	BIAS(4)								
1439	HD 6582	01 01 37	+54 26	23 53 13	00 00 43	02 53 E		24ci	
1440	"			00 01 11	00 08 45			25ci	
1441	"			00 09	00 16 15			26ci	
1442	Comp								
1443	HD 11636	01 49 07	+20 19	00 24 00	00 25 00	03 15 E		27ci	
1444	"			00 26 45	00 28 30			28ci	
1445	"			00 29 30	00 30 38			29ci	
1446	Comp							Fine Clear	30s
1447	BIAS(4)								
1448	HD 2905	00 27 19	62 23 00	00 47 55	00 49 44	01 29 E		30ci	
1449	"	"	"	00 51 00	00 52 29			31ci	
1450	"	"	"	00 53 20	00 55 20			32ci	



Spectr. Temp. .... Dome Temp./Hum. *123.5C. 77%* Transparency Conditions *Haze clearing und Humidity dropping with N w breeze.* 236  
 Focus .....  
 Spectr. Temp. .... Dome Temp./Hum. ....

Companson Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	$\approx 6500$		<sup>B</sup> <del>2.53</del> 2.5	F2 III-IV			25u	3915-4500A		UBVRI std	3200 AVG ADU	
	$\approx 6000$											
	5000	4"	<sup>B</sup> <del>4.48</del> 5.87	G5 Vb						UBVRI std	OK $\approx 2000$ AVG ADU	
	6000											
	$\approx 6000$											
	6000		<sup>B</sup> 2.78	A5 V						UBVRI std	$\approx 3000$ AVG ADU	
	8,900											
	6600											
	4000		<sup>B</sup> 4.30	B1 Ia						UBVRI std	$\approx 2300$ AVG ADU	

237

Pg #4

Emulsion Batches:

Date ... 1991 Aug 29/30 Observers P. Dr. - T<sub>n</sub> .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CF01451	Comp							FeNe Clear	30 <sup>s</sup>
1452	HD 8890 A	01 22.6	+88 46	01 18 15	01 20 20	03 00 E			
1453	"	"	"	01 21 30	01 22 33				
1454	"	"	"	01 23 15	01 24 31				
1455	Comp							FeNe Clear	30 <sup>s</sup>
1456	HD 8890 B	01 22.6	+88 46	01 32 20	02 02 50	E			
1457	"	"	"	02 04 10	02 32 20				
1458	"	"	"	02 34 30	03 04 30	01 14 E			
1459	Comp							FeNe Clear	30 <sup>s</sup>
1460	HD 212 78	03 20 56	+48 43	03 13 50	03 17 07	01 56 E			
1461	"	"	"	03 18 55	03 22 06				
1462	"	"	"	03 22 55	03 26 10				
1463	Comp								
1464	HD 22484	03 31.8	+00 05	03 33 45	03 38 20	01 48 E			
1465	"	"	"	03 39 35	03 43 40				
1466	"	"	"	03 44 45	03 48 39				











241 Fri/Sat

Date 1991 Aug 30/31 Observers .....

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.
TD00001	Hartmann - M							FeNe	20 <sup>s</sup>
TD00002	Hartmann - OUT								
TD00001	Comparison							FeNe	5 <sup>s</sup>
TD00002	Flat			14:15				Tung	1 <sup>s</sup>
TD00003	Comparison							FeA	30 <sup>s</sup>
TD00004	Dark			16:25				—	—

Spectr. Te  
 Focus ...  
 Spectr. Te  
 Exp. Mtr.



Spectr. Temp.  $72^{\circ}\text{F}$ 

Dome Temp./Hum. ....

Transparency Conditions ..... 242...

Focus  $17.40$ 

Spectr. Temp. ....

Dome Temp./Hum. ....

~~0~~ gain  $T = -100^{\circ}\text{C}$ Comparison  
Filter Exp20<sup>s</sup>5<sup>s</sup>1<sup>s</sup>A 30<sup>s</sup>

-

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					1800/60°	254 $\mu$				00 1024 20 12	
										0 gain	
					1800/62°	250 $\mu$			N=30	00 1024 1 1 4	
					"	"			"	"	5200
					"	"			"	"	
					—	—					

243

Date 1991 Aug 31 / Sep Observers Mki / Pdr

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.
TD00005.FTS	Comp			20 58 40				FeNe Clear	5 <sup>s</sup>
TD00006.FAH D	174638	18 46 23	+33 15	21 05 10	22 46 23	2 18 W			60 <sup>s</sup>
TD00007.FTS	"	"	"	22 49 50	00 33 46	4 06 W			"
TD00008.FTS	Comp							FeNe Clear	5 <sup>s</sup>
00009	Flat			~ 00 44	<del>00 48</del>	4 10 W	+33	TUNG Clear	1 <sup>s</sup>
00010	Flat			00 50	<del>00 50</del>	4 16 W	"	TUNG Clear	1 <sup>s</sup>
00011	HD 19356	03 01 40	+40 34	01 15 04	02 56 13	1 49 E			60 <sup>s</sup>
00012	"	"	"	03 02 24	04 44 34	00 01 E			60 <sup>s</sup>
00013	Comp							FeNe Clear	5 <sup>s</sup>
FM000397	HD 19509	03 03.1	36 55		04 57	0 11 W	4x Int	1N' Mode	
00014	Dark							-	5 <sup>s</sup>
00015	flat					0 14 W	+37 23	TUNG Clear	1 <sup>s</sup>
00016	flat							"	"
00017-19	Dark				<del>05 24</del>			-	5 <sup>s</sup>
00020	Comp				05 24			FeA Clear	10 <sup>s</sup>
00021	Dark							-	60 <sup>s</sup>



Spectr. Temp. .... Dome Temp./Hum. 18.0 / 46.9% Transparency Conditions Clear

Focus ..... Dome Temp./Hum. 10.2 / 62.2% = 0 gain T = -100°C 244

Spectr. Temp. .... Dome Temp./Hum. 10.2 / 62.2% = 0 gain  
0 0 1024 1 1 4

Comp. of Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Ne 5S					CCD FF TDI	1800/62°	250μ	~H2		N=30	62° = 80 on vernier moved manually to 85	
6S		~5" ✓	3.45-4.3	Bpe						N=100	β Lyr	
"	2.4 × 10 <sup>5</sup>	~3" 5"								N=100		
Ne 5S										N=30		
NG 1S										N=100	2900 AVG ADU MAX	
NG 1S										"		
6S	1.05 × 10 <sup>6</sup>	~4" ✓	2.2	B8 V						N=100	Algol	
6S	7.8 × 10 <sup>5</sup>	~5" ✓	"	"						N=100	Algol	
Ne 5S										N=30	Fe - Ne	
"	31 × 31 pix		7.1 ✓	Ko III						N=30	Dome printing w ligh wind from N	
UVB 1S										N=100		
UV 1S										N=100	Turning dome while doing this flat	
" 5S										N=30		
" 10S										N=30		
" 10S										N=100		

Copied to worm + Perseus  
to TD00021, FTS







247

#2

Emulsion Batches:

Date 1991 Sep 1/2 Observers Pdr [KK]

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.....  
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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.
CF01490	HD 18 51 44	19 32 36	+69 29	23 28 38	23 30 08				
1491	"			23 30 50	23 32 20	2 26 W			
1492	"			23 32 46	23 34 12				
1493	Comp								
1494	Bias (10)			23 52 00					
1495-97	Flat (9)			00 11		00 h	00°		4 <sup>s</sup>
1498	Bias (4)								
1499	Dark								900
1500	Dark								900
1501	Dark								900

Spectr. T

Focus...

Spectr. T

Exp. Mtr.

2500

2500

2500

900

900

900





24A

Date 1991 Sept 2/3 Observers Pdr / [KK] - checking

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.
CF01502	Bias (10)								
1503	Comp			21 08 40				Fe Ne Clear	60s
1504	HD 173297	18 39 20	-20 45	21 13 40	21 25 45				
1505	"	"	"	21 26 00	21 36 39	01 21 W			
1506	"	"	"	21 37 00	~21 46				
1507	Comp							Fe Ne Clear	60s
1508	HD 8890A			22 11 21	11 51				
1509	"			22 13 00	13 36	5 51 E			
1510	"			22 14 51	15 27				
1511	Comp			22 22 30				Fe Ne Clear	60s
1512	HD 199305	20 51 18	+61 50	22 41 45	23 00 04	00 36 W			
1513	"	"	"	23 00 29	23 18 23	00 53 W			
	"								
1514	Comp							Fe Ne Clear	60s
1515	HD 204867	21 26.3	-06 01	23 25 49	23 <del>25 49</del> <sup>26 09</sup>	<del>26 09</del>			



Spectr. Temp. .... Dome Temp./Hum. 16.9/70.9% Transparency Conditions .. Clear ..... 250 .....

Focus .....

90 again Tccd = -100

Spectr. Temp. .... Dome Temp./Hum. ....

0 0 1024 6 16 ccdfmt

Comparison  
Filter Exo

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD FF	1800/52.9	250 $\mu$	5130 $\text{\AA}$			chip rotated (TDI setup)	
							$\uparrow$ from [FeA]				
1000	3"	$\sqrt{48}$ <del>59</del>	GOIb					3ci	Rm/Pdr	$\sim$ 1100 AVG ADU (3 rows)	
1000	"	"	"					4ci			
700								5ci		$\sim$ 900 AVG ADU (3 rows)	
10,000										$\sim$ 8000 AVG ADU (3 rows)	
									KK		
15 <sup>30</sup> <del>50</del>	2.4"	$\sqrt{0.50}$	M2V					11ci	KK	Brightly of pair (southern) $\sim$ 1000 AVG ADU (3 rows) *	
1500								12ci			
3000		$\sqrt{2.91}$	GOIb					14ci	Std Vel	$\sim$ 3000 AVG ADU (3 rows)	

No  
Star 6"

No  
Star 6"

No  
Star 6"

No  
Star 6"

25<sup>1</sup>

#2

Emulsion Batches:

Date 1991 Sep 2/3 Observers [dr/[KK]]

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CF01516	HD 204867	21 26.3	-06 01	23 26 35	23 26 56				
1517	"	"	"	23 27 20	23 27 43				
1518	Comp							FeNe Clear	60 <sup>s</sup>
1519	Comp							FeA	60 <sup>s</sup>
1520	bias (10)								
1521-23	flat (9)					00 <sup>h</sup>	00 <sup>o</sup>	TUNG Clear	4 <sup>s</sup>
1524	bias (10)			00 12					
1525	bias (4)								
1526	Dark 15m								900 <sup>s</sup>
1527	"								"
1528	"								"

Spectr. Te

Focus...

Spectr. Te

Exp. Mr.

9000

9000



Spectr. Temp. .... Dome Temp./Hum. 15.7/.74.8% Transparency Conditions ... Clear .....

252

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
3000		2.91	60Ib	CCD FF	1800/52.9	250	5130A	15ci	Std Vel	~3000 AVG ADU (3 rows)	
3000								16ci			
								17ci			
								18ci			
										6900 ~7400 MAX AVG ADU (1 row)	
All copied to worm + floppy to CF01524.FIS											
Copied to worm + floppy to CF01528.FIS											

Comparison  
Filter Exp.

Ne  
60s  
A  
60s

NG  
45

900s

253 P9#1

Wed Thurs

Date ... 1991. Sep. 4/5. Observers ... M.K.I. ... J.V. ... P.d.r. ....

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.
CF01529.FTs	Comp (Long) during afternoon							FeA Clear	*
1530.FTs	Comp							FeA Clear	300s
1531	HD169691	18 20.8	-01 44	19 52 25	20 52 25	1 <sup>h</sup> 04 <sup>m</sup> W		6ci	
1532	HD169691	"	"	21 03 19	22 03 19	2 <sup>h</sup> 16 <sup>m</sup> W		6ci	
1533	HD169691	"	"	22 04 40	23 04 40	3 17 W		7ci	
1534	Comp						FeA Clear	8ci 850	300s
1535	Comp						FeA Clear	9ci	300s
1536	BIAS (4)			2					
1537	flat 9.	(FLAT 9.60s)		23 39				TUNG Clear	60s
1538	Comp			23 54				FeA Clear	200s
1539	HD 272368	23 34.8	+05 05	00 00 00	00 05 05	00 57 E			
1540	"	"	"	00 06 47	00 12 55				
1541	"	"	"	00 14 50	22 53				
1542	Comp							FeA Clear	200s
FM000390	HD 218525	23 03.35	+44 01.4	00 41		00 10 W		" Nimode	In tx 4

CCD Temp = -116° when Observer's  
Arrived. (Was Long FeA at this temp)

Spectr. T.

Focus ...

Spectr. T.

Exp. Mir.

Exp. Mir.

2353

2005

1840

-300

-500

800

1370



Spectr. Temp. .... Dome Temp./Hum.  $+19^{\circ}\text{C} \dots 65\%$  Transparency Conditions ... *Mostly Clear* ..... 254

Focus ..... *16.95* .....

CCDFMT 513 0 8 1024 6 1

Spectr. Temp. .... Dome Temp./Hum. ....

CCD Temp  $-100^{\circ}\text{C}$  CGAIN = 30

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
* Hauler say 52 sec exp				CCD Fiber Opt	1200/58 <sup>+</sup>	25 $\mu$	4481A			2nd ORDER used BG 39 filter before slit	
2383	A <sup>B</sup>	384	A1V						ed Bin EG 5ex		
2205									"		
1840	3-4"								"		
14200	A <sup>B</sup>	4.64	F7V						std vel	1300 SUM AVG ADU	
15300									"		
14000									"		
3x3 pixels	✓	6.34	A0	4 frames					Seeing test	No wind Dome pointer w/du	

$\sigma = 176.5$   
MAX ADU = 2400  
Average of 9 60sec flats





Spectr. Temp. .... Dome Temp./Hum.  $+15.4^{\circ}C$  ...  $68.7^{\circ}$  Transparency Conditions .... *Fine* ..... 256

Focus ..... *16.95* .....

Spectr. Temp. .... Dome Temp./Hum. .... *Top up done before CF 015 43*

Comparison  
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD FF	1800/	250 $\mu$	6550A			Filter Removed from before slit	
3000	3-4"	$\checkmark$ 5.0	F0I $\alpha$						JLT p $\mu$ m	$\approx$ 2000 sum AVG ADU	
2000		$\checkmark$ 7.0	B6I $\beta$						JLT p $\mu$ m		
2617	4"	$\checkmark$ 8.59	M I					7ci	JLT p $\mu$ m	$\approx$ 2600 ADU sum AVG of 2 cols	
								8ci	<del>JLT p<math>\mu</math>m</del>	<del>* 23 on fld</del>	
900	3-4"	$\checkmark$ 9.5	B1I $\alpha$					9ci	JLT p $\mu$ m	* 23 on fld	
3000	4"	$\checkmark$ 5.0	F0I $\alpha$						JLT p $\mu$ m		
5000		$\checkmark$ 2.53	M 1.5 III						std vel		
5000		$\checkmark$ 4.28	F8I $\gamma$						std vel		

25 pg #3

Date 1991 sep. 4/5... Observers J.L.T./J.H./P.d.w.....

Emulsion Batches:

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 .....  
 .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
CF01558	FLAT (9)							TUNG CLEAR	3 sec.
1559	"							"	"
1560	"							"	"
	<del>B</del>								
1561	BIAS(4)							1c	
1562	DARK_30m							3c	
1563	"							4c	
1564	"							5c	
1565	BIAS(4)							6c	

} E: Cassl dark 30. bat

Spectr. T  
 Focus...  
 Spectr. T  
 Exp. Mtr.









Spectr. Temp. .... Dome Temp./Hum.  $+21^{\circ}\text{C}$  57% Transparency Conditions .. PART. Cloudy .. 260

Focus .... 270 .....

Spectr. Temp. .... Dome Temp./Hum. ....

17.70 x grating

CGAIN = 90 CCD FMT 0.0.256 1274 4 1

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Echelle	0.435 4000Å	600μm 90μ	3934Å			Echelle tilt 17.90°	
										CCDT = -101.7°	
977		V 5.12 B 4.07 <del>G9III</del>	K2III						wrong star Srt pgm	V mag = <del>3.07</del> 5.12 TV guider Int can be all the way down for guidance sky hazy but clear	
1100	4.5"	V 5.12 B 4.07 <del>G9III</del>	K2III						wrong star Srt pgm	image dia sl & cap slit length	
870		V 5.12	K2III						wrong star	RA is 2 min East of OP is 1914	
10400	4"	B 4.07	G9III						Srt pgm	V mag = 3.07 - can be guided with IntE bottom CCDT = -101.6°	
10,050	3.4"	B 4.07	G9III						Srt pgm		

261 pg #2

Emulsion Batches:

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

Date 1991 Sep 6/7... Observers Sot/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.
ce03441	HD 193237	20 14 06	+37 43 19	22 48 10	23 08 10	W		3ci	
3442	Comp							THA	10s
3443	Comp						5ci	THA	10
3444	HD 3712	00 34 50	+55 59 20	23 24 25	23 39 30	02 15 E		6ci	
3445	Comp						7ci	THA	10s
3446	<del>BIAS</del> BIAS(4)							<del>THA</del>	
3448	HD 206859	21 39 47	+16 53 28	23 49 54	00 19 54	01 21 W		THA	10s
3450	HD 206859	"	"	00 21 49	00 41 49	01 14 W		THA	10s
3452	"	"	"	00 43 45	01 04 30	02 06 W		THA	10s
3454	"	"	"	01 08 03	01 36 05	02 38 W		"	4
ce03456 → 3461	FLATS (6 of them)					02 52 W	+17 17	TUNG	90s
3463	HD 10700	01 39 25	-16 27 51	02 08 30	02 21 54	00 35 E		THA	10s
3465	BIAS(4)			02 06				THA	10s
ce03466 3469	FLATS (4 of them)					02 W	+2°	TUNG	90s



Spectr. Temp. .... Dome Temp./Hum.  $18.3^{\circ}\text{C}$  69% Transparency Conditions  $S_1$  h42a ..... 262

Focus ..... 270

Spectr. Temp. .... Dome Temp./Hum.  $17.5^{\circ}\text{C}$  69.5%

→ cloudy

Comparison  
of Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1975	2-3"	B 5.23	B2pe	Echelp CCD	4000A	90 $\mu$	3934A		Pcgg for Fds	$V_{mag} = 4.81$ [Int up slightly for guiding image] ie TV guider? Int adjustment slightly turned up	
14000		B 3.40	KOIII						std vel		
3,214	2"	B 5.51	G5Ib					3ci	srt pgm		
2083		"	"					5ci	"		
2050	2"	"	"					1ci	"	$V_{mag} = 4.34$ TV guider needs Int adj up = 30% from bottom	
2536	2.5"	"	"						"	some cloud at end	
1045	2"	B 4.22	G8V			90 $\mu$ slit H: 600 $\mu$ 90 $\mu$			srt pgn	some cloud - Focut = 17.5 $^{\circ}$	
						1000 $\mu$ height 90 $\mu$ width					
										Backed up → CEO 3425 - <del>3479</del> To Perseus 3472	







25 pg#1 Sun - Mon

Date 1991 Sep 8/9... Observers MKi... JLT... 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.
ce03473	Comp							ThA	10s
ce03474	HD172167	18 3333	+3841	20 2445	20 3200	0048W		ThA	10s
ce03475	Comp							ThA	10s
ce03476	Comp.							ThA	10s
ce03477	HD 169691	18 20 48	-01 44	21 26 16	22 21 16	0249W		ThA	10s
ce03478	Comp							ThA	10s
ce03479	BIAS(4)								
ce03481	HD 169691	18 <sup>h</sup> 20 <sup>m</sup> 48 <sup>s</sup>	-01 <sup>o</sup> 44'	22 32 00	23 06 00	03 34 W	ce03480	ThA	10s
							ce03482	ThA	10s
ce03483	Comp BIAS(4)						ce03484	ThA	10s
03485	HD172167	18 3333	+38 41	23 1807	23 2900	0346 W	ce03486	ThA	10s
ce03487	FLATS.					0310W		TUNG	30s
3489									
ce 3490	FLATS					0320W		TUNG	120
3492									
3494	HD7902	01 13.6	+57 40	00 2725	01 0725	01 20E	ce03493	ThA	10s
							ce03495	ThA	10s
3496	HD7927	01 13.8	+57 42	01 18 00	02 08 07	00 18E	ce03497	ThA	10s
3498	"	"	"	02 19 22	02 49 22	00 23W	ce03499	ThA	10s



Spectr. Temp. ....

Dome Temp./Hum. ... +22°C 65%

Transparency Conditions ... Partly cloudy - hazy

Focus ... 270

CGAIN = 90

266

Spectr. Temp. ....

Dome Temp./Hum. ....

Echelle Grating Tilt = 19.10

Comparison Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD	* 1200 / 340	120μ 600L	4481A		120μ = 253 set	* xgrating 4000 ln grating CCD T = -10.7°C	
20K	??	0	AO			slit L = 0.205					
Prob N/A out 12	2"	B 8.4	AIV						EG SER JLT pgm	CCD FORMAT 0 0 256 1024 4 1 √ ≈ 8.2 thin cloud TV guide Int near top for easy guiding	
N/A	2-3"	B 8.4	AIV							T <sub>dome</sub> = 20.0°C CCD FORMAT changed to 0 0 256 256 4 4 Dome T = +19.5°C	
1600D		0	AO			120μ width 1000 slit H .165 1600μ height				MAX ≈ 9000 ADU 0 0 256 1024 4 1 CCD Fmt	
152	4"	7.0	B6Ia			120μ width 600μ H		3ci	JLT pgm	cloudy (thin)	
415	3"	5.0	F0Ia					4ci	JLT pgm	cloudier	
1272	"	"	"					5ci	"	not as cloudy	

267 Py #2

Emulsion Batches:

Date 1991 Sep 8/9... Observers J.L.T./Tn.....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
ce03500	COMP							ThA	10sec
ce03501	HD 3712	00 34.8	+55 59	03 08 34	03 28 34	W			20min
ce03502	Comp							ThA	10s
ce03503	BIAS (4)								
ce03504	BIAS(4)	1ci							
05	DARK 30	3ci							
06	"	4ci							
07	"	5ci							
08	BIAS(4)	6ci							

Batch DARK30.BAT

Spectr. T  
 Focus...  
 Spectr. T  
 Exp. Mr.

285



Spectr. Temp. .... Dome Temp./Hum. .... Transparency Conditions *Hazy* ..... 268 .....

Focus ..... Clouding in again

Spectr. Temp. .... Dome Temp./Hum. *+18°C 90%* .....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						100 $\mu$	4481A				
12285		$\beta$ 3.40	KOIIIa	Echelle CCD					std vel		
										Dome T = +18.1°C	
Backed up to CEO 3503 on Perspex and WORM											
Echelle tilt should have been $\approx 17.00$ instead of $19.10^\circ$ for <del>per</del> better signal at optimum blaze angle $T_u$											
(Established with a fast Flat test)											

269

Mon Tues

Date ..1991..Sep. 9/10... Observers .S.r.t...P.d.r...T.h.p.....

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.
ce03509 3510	BIASCA) 2								
3511	DARK						ce03512	THA	10s
3513	HD180711	19 12 32	67 29 08	22 05 14	22 20 14	2 05 W	ce03514	THA	10s
3515	HD180711	"	"	22 23 12	22 38 12	2 23 W	ce03516	THA	10s
3518	HD185144	19 32 33	+69 29 28	22 45 26	23 00 26	2 26 W	ce03517 ce03519	THA THA	10s 10s
3520	"	"	"	23 03 30	23 18 30	2 43 W	ce03521	THA	10s
3524	HD 206859	21 39 47	16 53 28	23 27 08	23 47 14	1 00 W	ce03522 ce03525	THA	10s
3523	BIAS(4)			23 49 37					
3526	HD 206859	"	"	23 49 37	00 09 37	1 23 W	ce03527		
3529	HD 3712	00 34 50	55 59 20	00 22 33	00 32 33	1 11 E	ce03528 ce03530		
3532	HD 10700	01 39 25	-16 27 51	00 41 28	01 01 28		ce03531 ce03533	THA	10s
3534	BIAS(4)								
3535	Flat (9)							TH LUNG	6 <sup>s</sup>
3536	BIAS(4)								
3538	DARK								
3539	<del>BIAS(4)</del>								
		} Batch		<del>DARK 30. BAT</del>		<del>DARKS. BAT</del>			
								15 mins	22 min



Spectr. Temp. ....

Dome Temp./Hum. +22.0°C 74%

Transparency Conditions ... V... Hazy ...

Focus .....

210

Spectr. Temp. ....

Dome Temp./Hum. .... 90%

90CGAIN

Companion  
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD	5000 <sup>Å</sup> /600 In/In	90 <sup>μ</sup> W 600 <sup>μ</sup> L	5175A		xgrating tilt. 40'	Echelle set to 16.70°	
A 10S A 10S 622	3"	B 4.07	G9III						Srt pgn	V = 3.07 ≈ 22K ADU above bkgnd over 10 cols @ 5170A	
L 10S L 10S A 10S 696	3.4"	"	"						"		
A 10S A 10S 150		B 5.47	KOU						"	V = 4.68	
A 10S A 10S 37	3"	B 5.51	G5Ib						"	≈ 4.7 K ADU above bkgnd	
A 10S 42		B 5.51	G5Ib							↑ ≈ 11.3 K ADU	
A 10S 2083	2.3"	B 3.40	K0IIIa						RV Std Srt pgn	≈ 12.3 K ADU clouds	
										Dome T = +21.2°C	
										Backed up to Perseus & Ursa M TO 003535.fts	

271

Date 1991 Sept 10/11 Observers Srt / Pdr

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.
CE03537	Bias (4)			18:41					
3538	Bias (4)			18:58					
3539	dark 15m								900 <sup>s</sup>
3540	bias (4)			22:58					
3541	Comp			23:17				ThAr	10 <sup>s</sup>
3542	HD 193237	20 14 06	37 43 19	23:24:52	23:54:52	2 38 W			
3543	Comp							ThAr	10 <sup>s</sup>
3544	Comp							"	"
3545	HD 3712	00 34 50	55 59 20	00:06:13	00:26:00	1 13 E			
3546	Comp							ThAr	10 <sup>s</sup>
3547	<del>Comp</del> Flat (9)							TUNG	50 <sup>s</sup>
3548	bias (4)								
3549	Comp							Th-a2	10 <sup>s</sup>
3550	HD 10700	-01 39 25	-16 27 51	01 29 17	01:59:19				
3551	Comp							Th-a2	10 <sup>a</sup>











275

We/Thu

Emulsion Batches:

Date 1991 Sept 11/12 Observers Srt/Pdr

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
F100039	HD 176844	18 57 02	40 32 36	~ 20:00	19 58	00 03 W		IN Mode	
ce03555	bias (4)			18:17					
3556	bias (4)			18:20					
3557	Dark-15 m			18:23					
3558	bias (4)			00:46					
3559	comp			01:15				thA	10 <sup>s</sup>
3560	HD 10700	01 39 25	-16 27 51	01:20	01:50			thA	10 <sup>s</sup>
3561	Comp	"	"	<del>01:52:18</del>					
3562	HD 10700	"	"	01:52:18	02:22:18	0 15 E			
3563	Comp							thA	10 <sup>s</sup>
3564	Comp							"	"
3565	HD 20630	03 14 07	03 00 13	02:29:47	02:59:46	01 57 E			
3566	Comp								
3567	HD 20630	"	"	03:04:14	03:34:14	0 30 E			
3568	Comp							thA	10 <sup>s</sup>









Spectr. Temp. .... Dome Temp./Hum. 11:7 / 71.7

Transparency Conditions ... Clear ... 278

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

Companion  
pe Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
0		B 5.51	G5V	Echelle CCD	4000/1200	90μ 600μ (.205)	3934A		x grat. 422	echelle tilt 16.55	
0	5"	11	4			90μ 1000μ					
All copied to WORM + Persens											

hA 10<sup>s</sup>

UVG 50<sup>s</sup>

216<sup>s</sup>

2A pg#1

Date 1991 Sept 12/13 Observers Pdr/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.
3495	Bias (4)								
3496	Comp							FeA Clear	60 <sup>s</sup>
3497	HD 173297	18 39 20	-20 45	20 33 20	20 46 53	1 11 W			
3498	"	"	"	20 47 05	20 56 00				
3499	"	"	"	20 56 16	21 06	7 30 W			
3500	Comp (FeA)							FeA Clear	60 <sup>s</sup>
3501	Comp (FeNe)							FeNe Clear	20 <sup>s</sup>
3502	Comp (FeNe)							"	20 <sup>s</sup>
3503	Comp FeA							FeA Clear	60 <sup>s</sup>
3504	HD 203156	21 15.4	+37.49	21 22 05	21 24 12	0 46 E			
3505	"			21 26 30	21 28 50				
3506	"			21 29 15	21 31 30				
3507	Comp							FeA Clear	60 <sup>s</sup>
3508	Comp							"	"
3509	HD 187691	19 46.2	10 10	21 46 50	21 48 20	01 06 W			



Spectr. Temp. .... Dome Temp./Hum. 16.5/62.2 Transparency Conditions ..... 280...

Focus .... 6:60 ..... 90 gain Tccd = -101

Spectr. Temp. .... Dome Temp./Hum. .... 555 0 15 1024 5 1 ccd full

Comparison  
eFilter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass ccd	* 1800/469	250 $\mu$	5155A		* G=5000		
2000	4"	V 7.48	GOIb					4u	Rm/Pdr	* 3840 AVG ADU (over 8pix)	
1100		"	"					5u		2400 AVG ADU (over 6pix)	
1010		"	"					6u			
										Telescope moved to E by ~30 min	
3000	3	V 5.89	GOIb						Rm/Pdr	4800 AVG ADU (over 4pix)	
3250		"	"						"		
3000											
3500		5.11	F8V					13u		6000 ADU SUM AVG of 4 cols	

1st  
2nd  
3rd  
4th  
5th  
6th  
7th  
8th  
9th  
10th

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9th  
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1st  
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3rd  
4th  
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6th  
7th  
8th  
9th  
10th

281

pg #2

Emulsion Batches:

Date 1991 Sep 12/13... Observers Petr - 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.
CCO 3510	HD 187691	19 46.2	+10 10	21 50 36	21 52 07	01 10 W			
3511	"			21 52 45	21 54 13				
3512	Comp							Felt Clear	60
3513	bias (4)								
3514	Comp							FeNo Clear	20s
3515	HD 8890B	01 22.6	+88 46	22 14 20	22 31 41	4 54 E			
3516	"	"	"	22 32 05	22 48 51				
3517	"	"	"	22 49 17	23 08 25				
3518	Comp							FeNo Clear	20s
3519	HD 8890A	01 22.6	+88 46	23 13 50	14 15				
3520	"	"	"	15 22	16 22	04 10 E			
3521	"	"	"	17 10	18 13				
3522	Comp							FeNo Clear	20s
3523	Comp							FeNo Clear	20s
3524	HD 201156B	21 02.7	+33 44	23 33 23	23 57 23	02 00 W			
3525	Comp							FeNo Clear	20s



Spectr. Temp. .... Dome Temp./Hum. *+15.8°C 66.4%* Transparency Conditions *Some Cloud coming*

Focus .....

282

Spectr. Temp. .... Dome Temp./Hum. ....

Comparison  
of Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	<del>Emulsion</del>	P.H.	Program	Remarks	Quality
3700	3"	V 5.11	F8V	CASS CCD	1800/469	250 $\mu$	5155H	14a	StdVel		
3500								15a	"		
										Dome T = +15.7°C	
2000	2-3"	B 29.6	F						Asm Sp-kk	3200 Avg ADO (over 4 pix)	
2000									"		
2000									"		
									"		
12500		B 2	F						"		
12500									"		
12,500									"	23500 Avg ADO over 5 pixels	
1600	1"	8.1					Fainter & NE of Pair	23c	Asm Sp-kk	ADU 3,100 SUM Avg over 7 cols nice separation of Pair	

243 P9#3

Thurs - Fri

Emulsion Batches:

Date ..1991.. Sept 12/13 Observers ..P.d.s. / T.G.....

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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.
CC03526	HD201156A	21 02.7	+33 44	00 04 45	00 14 45	02 18'W			
3527	"	"	"	00 15 12	00 24 50				
3528	"	"	"	00 25 05	00 34 50	02 38'W			
3529	Comp							FeNe Clear	20 <sup>sec</sup>
3530	HD201156B	21 02.7	+33 44	00 40 50	01 00 30	03 04'W			
3531	"	"	"	01 03 30	01 28 25				
3532	Comp							"	"
Fm000400A	HD 3765	00 35.3	+39 40	01 42		00 12'W		N <sup>o</sup> male	Int x4
CC0353A	HD 3765	"	"	01 46 29	02 00 09	00 29'W	CC03533	FeNe	20 <sup>sec</sup>
3535	"	"	"	02 02 02	02 22 34	00 53'W	<del>CC03535</del>	<del>Clear</del>	<del>20<sup>sec</sup></del>
3536	"	"	"	02 24 12	02 35 48				
3537	Comp						CC03538	FeNe FeNe	20 <sup>sec</sup> 20 <sup>sec</sup>
3539	HD 18884	02 57.1	+03 4.2	02 46 30	02 46 54	01 04'E			
3540	"	"	"	48 50	49 14				
3541	"	"	"	02 50 10	02 50 34				
3542	Comp							FeNe Clear	20 <sup>sec</sup>

Spectr. Te

Focus...

Spectr. T

Exp Mtr

2500

2580

2630

1600

113

2570

2000

1000

100

100

100

100

100



Spectr. Temp. .... Dome Temp./Hum. +14.8°C... 67% Transparency Conditions .. Part cloudy .....

Focus .....

Spectr. Temp. .... Dome Temp./Hum. +14.4°C... 69.3% FANS on since sundown 284

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2500	1"	7.3	A2	CASS CCD	1800/489	250 $\mu$	5155A	22ci	Asm Sp-kt	Brt end of pair	
2580								24ci		46025 SUM AVG of 5 cols	
2630								25ci		OR 51 L 4000 ADU above bkgrnd.	
1600		8.1						27ci	Asm Sp-kt	2850 SUM AVG AN (over Sp-kt)	
1613	1-2"										
31x31 pixels		V 7.36	d/K5	A frames		below 250 $\mu$ slit			seeing test	Light East Breeze Pond W SW	
3000	1-2"	"	"			250 $\mu$			std vel		
3000										cloud now	
3000											
10K		B 4.19	M15 III						std vel	31K ADU SUM AVG of 5 cols	
10K									"		
10K									"		

286

Pg #4

Date ... 1991 Sep 12/13 ... Observers Th. / Pdr .....

Emulsion Batches:

Note f1.8 and Dr. Huser  
in for sources .....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC03543fts	BIAS(4)								
3544	FLAT <sub>2</sub> (9)	Average of 9 flats @ 6sec each						TUNG A = 1/4	6 sec
3545	Bias(4)								
3546	Dark_15m								
3547	Dark_15m								
3548	Dark_15m								
In Sept 13 = sundown after putting slit back in uncovering spectrograph									
CCF00118/119	Focus test	Comp	Stellar			0 0		FeNe Clear	40/40
CCF00120/121	"	"	"			0 0		FeNe Clear	40/40
In Sept 14	after tour					0 0	+7	FeNe Clear	120/120
CCF00122	Focus test	Comp	posn sci			0 0	+7°	"	"
CCF00123	Focus test	Stellar	posn sci	5450 15 1024 51	CCF FMT	0 0	+7°	"	"



Spectr. Temp. .... Dome Temp./Hum. ... 14.3°C ... Transparency Conditions ..... 286

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

Comparison  
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality	
				CASS CCD	1800/46.9					CCD = -101.6°C		
1/6 1/4 6se				All copied to WORM + Pegasus T							CC03544.fts	
										→ CC03548.fts		
				CASS CCD	1800/46.9	250μ	5155Å	slit	short	set 6.60 from last night		
				"	"	"	"	"		set 6.67		
				CASS CCD	G=6015 1800/	short slit 250μ	Hα	s		Backed up too. T <sub>2</sub>		
										set 6.67		
										stellar slit Red = 0.3 pixels		
										0 shift of blue end		

40/40  
40/40  
50/50

Dome T = +19°C  
+19°C

Dome T = +19.5°C







259 #1 Tues - wed

Date 1991 Sep 17/18... Observers Fds. - 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.
ce03602 3603	BIAS(4) 2			18 14		0 0	+40°		
ce03604 3609	FLATS 6			.		0 0	+40°		20s
3610	BIAS(4)			18 28		0 0	+40		
3611 3616	FLATS 6					0 0	+70°		20s
3617	BIAS(4)			18 41		0 0	plaforn		
3619	HD147394	16 16 44 <del>20 14 06</del>	+46 33 05 <del>+37 43 19</del>	19 00 45	19 17 35	02 26 W		ce03618 THA ce03620 THA ce03621 THA ce03623 THA ce03624 THA ce03626 THA	30s 30s 30s 30s 30s 30s
ce03622	HD193237	20 14 06	+37 43 19	20 01 07	20 28 15	02 21 E			
ce03625	HD180554	19 11 55	+21 12 49	20 34 32	21 13 26	01 26 W			
3628	HD213420	22 26 10	42 36 39	21 19 48	21 50 18	01 12 E		3627 3629 3630	" "
3631	HD180554	19 11 55	+21 12 49	21 57:09	22 32 52	02 47 W		3632	"
3633	BIAS(4)			22 36 20					
3635	HD 1932 37	20 14 06	+37 43 19	22 41 03	23 41 00	2 54 W		ce03634 THA ce03636 THA ce03637 THA ce03639 THA	30s 20s 15s 15s
3638	HD213420	22 26 10	+42 36 39	23 47 33	00 18 28	1 17 W			
3641v	HD16908	02 37 35	+27 16 54	00 24 56		E		3640 3642	
3643	BIAS(4)								
3644	DARK	20 14 06	+37 43 19	01 45		0 0 W			20min



Spectr. Temp. .... Dome Temp./Hum. +20°C ... 55% Transparency Conditions . Part. Clear. .... 290

Focus ... 270 but we noted that

Spectr. Temp. < 250 would be ... more to the point

Dome Temp./Hum. +14.6°C 74%

CGAIN = 90  
xgrating 5000Å = 600 l/mm

Companson Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					Echelle CCD	5000Å/4570	100 0.261	4481			CCDT = -102.0°C	
25											SI H for Flats 800Å = 0.185	
											Dome T = +19.3°C	
20											Dome T = +19.1°C	
30	3000	3"	V 389	B5 IV			Slit H = 600Å = 0.205			Tau Her fid's pygm		
30	1600	3-5"	488	B2pe						p Cyg 1 Vul	some cloud	
30	1500	4"	477	B4 IV						1 Vul	Some cloud	
30	2000		451	B2 IV						GLAC		
30	2000	4"	477	B4 IV						1 Vul		
30											Dome T = 15.5°C	
30	1368	3"	488	B2pe						P Cyg	Cloudy	
30	2350	4-5"	451	B2 IV						6 Lac		
30		3"	466	B3 V						35 Ar	thin cloud	
30	Backed up on persons worm to CE 03643.fts											
30	DNR slide closed. still pointing at P Cyg (line on) Cloudy CCD T = -120.0°C											

201

p9#2

Emulsion Batches:

Date 1991 Sep 17/18 Observers .. Fds..Tm.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CE03645	Fts BIAS(4)			02 08 39		2 42W	+38°		
3646	"			02 11 02		"	"		
3647	BIAS(4)			02 49	T=14.2 Re/H=75%			of CR resetting	
3649	HD 213420	22 26 10	+42 36 39	02 53 11	03 23 37	CE03648 Th A		CCDT back to -102°	50
3650	Comp					<del>CE03650</del> Th A		15s	
3652	HD 26912	04 10 06	+08 38 31	03 30 38	04:07:30	3651 3653	"	15s	2000
3654	HD 16908	02 37 55	27 16 54	04 14 35		3654 3656	"	15s	1880
3657	Comp					(01 33W)	Th A	15c	
3658	HD 26912	04 10 06	+08 38 31	04 51 13	05 14 28	00 29W	Th A	15c	
3659	Comp						Th A	15s	
3660	BIAS(4)			05 16 54					
3661	BIAS(4)			05 18 50					



Spectr. Temp. .... Dome Temp./Hum. +13.9°C... 756% Transparency Conditions... part cloudy.....

Focus .....

292

Spectr. Temp. .... Dome Temp./Hum. +13.2°C... 84%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
										on default central $\bar{x} = 152.676$ Box	
										$\bar{x} = 152.651$	
										Also incl in last Exabyte file	
										Now all backed up to Perseus & warm to <u>3646.fts</u>	
1500	3"	4.57	B2IV			100	4481A		6 Lac		
2000		4.29	B3IV						Mu Tau		
1880	3.5"	4.66	B3IV						35 Ari		
	5"	4.29	B3IV						Mu Tau		
										$\bar{x} = 152.243$	
										$\bar{x} = 150.916$	
										Now To Perseus warm to <u>3661</u>	

208  
Pg 41

Thurs - Fri

Emulsion Batches:

Date 1991 Sept 19/20 Observers Fds/Pdr/Tm

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
003662	Bias (4)			18:26					
3663	Bias (4)			18:28					
3664-3669	6x flats			18:30		0	+40°		23s
	Bias (4)			18:38					
3671-3676	6x flat			18:42:50		0	+80°		23s
3677	Bias (4)			18:50					
3678	Bias (4)			18:52					
3679	Comp			19:07:48					
3680	HD 124897	14 11.1	+19 42	19:09	19:13:18	$\frac{1}{4}$ 40W			
3681	Comp			19:14:24				THA	15s
3682	Comp			19:16:49					
3683	HD 147394	16 16 44	46 33 05	19:19:12	19 35 57	02 52W		ce03684 THA	15s
3686	HD 193237	20 14 06	37 43 19	19 40 47	20 29 23	00 12E		ce03685 THA	"
3689	HD 180554	19 11 55	+21 12 49	20 35 33	21 15 <del>33</del>	01 36 W		ce03687 THA ce03688 THA ce03690 THA	"
3691	BIAS (4)			21 15 10					
3693	HD 147354	16 16 44	46 33 05	21 23 17	24 38 43	04 56W		3692 THA 3694 THA	15s









Spectr. Temp. .... Dome Temp./Hum. 8.8/71.6% Transparency Conditions Clear - cloudy

Focus 245

Spectr. Temp. .... Dome Temp./Hum. 7.5°C 75%

Comparison Filter	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Ar 15	2000	4.5"	4.51	B2IV	Echelle CCD	600/18.85	100μ .261	4481 Å		Slit H = 600μ .205	x grating tilt = .4570	6 Lac
"	2000	4"-5"	4.88	B2pe					3ci	P Cyg		
"	1850	"	4.77	B4V					4ci	I Vul		
											Dome Tc +7.1°C	
		4"	4.66	B3V						35, A1	some cloud	
											Dome Tc 67	
	450 @ 0105											
	803 total	5"	4.88	B2pe						P Cyg	part cloudy mostly clear by 0105	
											CCD T = -102.2°	
	All backed up to WORM & PERSONS to ce 03713.fts											

297

Emulsion Batches:

Date 1991 Sept 20/21 Observers Fds/Pdr

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
ce03714	bias (4)			18:28					
3715	bias (4)			18:30					
3716-3721	6x flat					0h	+40°		6 <sup>s</sup>
3722	bias (4)			18:42					
3723	bias (4)			18:46					
3724-3729	6x flat			18:48		0h	+20°		
3730	bias (4)								
3731	bias (4)			18:59:45					
3732	bias (4)			00:42:04		4h W	+38°		
3733	comp			00:42:44				PhA	15 <sup>s</sup>
3734	HD 193237	20 14 06	37 43 19	00:44:30	01:16:25	4 40W	3735	"	"
3737	HD 213420	22 26 10	42 36 39	01:22:26	02 04 39	3 16 W	3736 3738	"	4
3740	HD 26912	04 10 06	08 38 31	02:11:19	02 50 13		3739 3741	"	"
3742	bias (4)			02:54:34					
3743	bias (4)			02 57 00					



Spectr. Temp. .... Dome Temp./Hum. 8.3/69.0

Transparency Conditions Part cloudy

Focus .....

Spectr. Temp. .... Dome Temp./Hum. 7.1/70.3

gain = 90  
0 0 256 1024 4 1 CCD77Comparison  
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD	600/ 18.85	100μ .261	4981A			slit H=600μ .205 x grating tilt = .4570 T=11.2 x=149.860 T=11.2 x=149.860	
6 <sup>s</sup>										slit = 800μ .185 T=11.0 x=149.233 T=11.0 x=	
										T=10.9 x=149.044 T=10.9 x=148.881 T=8.3 x=146.693	
15 <sup>s</sup>										slit H=600μ .205 P Cyg	
"	2000	3'-4"	4.88	B2pe							
"	2000	3"	4.51	B2IV							
"	479	4"	4.29	B3IV						clouded in T=7.1 x=148.539 " x=144.391	
										all copied to WORM + Persen to ceo 3743.fcs	

249

Sat/Sun

Emulsion Batches:

Date 1991 Sept 21/22 Observers Fds/Pdr

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CE03744	bias			21 33 00		0h	-13°		
3745	bias			21 39 27		1 06 W	+38		
3746	comp			21 41 12				Th Ar	15s
3747	HD 193237	20 14 06	37 43 19	21 43 45	21 58 45	1 26 W	3748	"	"
3750	HD 180554	19 11 55	21 12 49	22 07 20	22 34 27	03 03 W	3749 3751	"	"
3753	HD 213420	22 26 10	42 36 39	22 40 24	22 53 49	00 08 W	3752 3754	"	"
FM000401	HD 214199	22 31.6	36 15	23 04		00 17 W		" Mole	
3755	BIAS								
3757	HD 193237	20 14 06	37 43 19	23 13 22	23 31 50	02 59 W	3756 3758	Th Ar	15s
3760	HD 180554	19 11 55	21 12 49	23 41 11	00 05 46	04 35 W	3759 3761	"	"
3763	HD 16908	02 37 35	27 16 54	00 13 09	00 35 48		3762 3764	"	"
3766	HD 193237	20 14 06	37 43 19	00 41 44	01 04 44		3765 3767	"	"
3764	HD 213420	22 26 10	42 36 39	01 10 20	01 25 49		3768 3770	"	"
3771	BIAS(4)			01 27 56					
3773	HD 26912	04 10 06	08 38 31	01 33 28	02 54 34	2 35 E	3772 3774	"	"



Spectr. Temp. .... Dome Temp./Hum. 10.4/60.6 Transparency Conditions Clear ..... 300...

Focus .....

Spectr. Temp. .... Dome Temp./Hum. .... slit  
Height

Companson Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit width	Emulsion	P.H.	Program	Remarks	Quality
					ESTELLE CCD	600/18.85	100μ .261	.4570 4481A	600μ .205	1	T <sub>dome</sub> = 10.7 X = 148.579	
											T <sub>Dome</sub> = 10.6 X = 149.278	
fr	15c											
"	"	2000	2"	4.88	B2pe					P Cyg		
"	"	2000	3"	4.77	B4IV					1 Vul		
"	v	2000	1.5-2"	4.57	B2IV					6 Lac		
code		31x31 pix								Seeing test	Dome printing w No wind Fans off	
fr	15c	2000		4.88	B2pe					P Cyg		
"	"	2000	2"	4.77	B4IV					1 Vul		
"	"	2500		4.66	B3V					35 Ari		
"	"	2000		4.88	B2pe					P Cyg		
"	"	3000		4.51	B2IV					6 Lac		
											T = 9.0 X = 148.675 11:05.2%	
		2000	3"	4.29	B3IV					MTAU		

301

#2

Emulsion Batches:

Date 1991 Sept 21/22 Observers Fds/Pdr

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CE03776	HD 16908	02 37 35	27 16 54	02 01 47	02 18 01	0 40 E	3775 3777	Th A	15 <sup>s</sup>
3779	HD 213420	22 26 10	42 36 39	02 23 38	02 39 37	03 55 W	3778 3780	"	"
3783	BIAS HD 26912	04 10 06	08 38 31	02 45 36	03 03 18	01 26 E	3782 3784	"	"
3781 3786	HD 16908	02 37 35	27 16 54	<del>02 03 18</del> 03 09 09	03 33 09	00 35 W	3785 3787	"	"
3789	HD 35149	05 17 35	03 26 54	03 38 48	04 12 34	01 24 E	3788 3790	"	"
3792	HD 29139	04 30 12	16 19	04 17 30	04 19 10	00 31 E	3791 3793	"	"
3795	HD 26912	04 10 06	08 38 31	04 23 10	04 51 59	00 22 W	3794 3796	"	"
3798	HD 16908	02 37 35	27 16 54	04 56 20	05 19 01	02 21 W	3797 3799	"	"
3800	bias					0 <sup>h</sup>	+40		
3801-3805	5x flat			05 25 24		0 <sup>h</sup>	+40	TUNG	23 <sup>s</sup>
3806	bias			05 32 56		"	"		
3807-3811	5x flat			05 34 47		0 <sup>h</sup>	+20	TUNG	23 <sup>s</sup>
3812	bias			05 34 50		"	"		



Spectr. Temp. .... Dome Temp./Hum. *9.5 / .66.1* Transparency Conditions ... *Clear* .....

Focus .....

302

Spectr. Temp. .... Dome Temp./Hum. ....

*slit  
height*

Comparison  
Filter Exp

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/Tilt	Slit width	Emulsion	P.H.	Program	Remarks	Quality
<i>15<sup>3</sup></i> 2500	<i>2"-3"</i>	4.66	B3V	Echelle CCD	600/18.85	100μ 1261	.4570 4981	600μ .205	35 Ari		
<i>"</i> 3000		4.51	B2IV						6 Lac		
<i>"</i> 3000		4.29	B3IV						μ Tan		
<i>"</i> 2500	<i>3"-4"</i>	4.66	B3V						35 Ari		
<i>"</i> 1500	<i>3"</i>	5.00	B1V						23 Ori		
<i>"</i> 4000		0.85	K5III						RV Sld		
<i>"</i> 3000	<i>3"</i>	4.29	B3IV						μ Tan		
<i>"</i> 2500	<i>3"</i>	4.66	B3V						35 Ari		
<i>15<sup>3</sup></i>										<i>T<sub>Dome</sub> = 7.9 x = 145.155</i>	
<i>15<sup>3</sup></i>							<i>800μ .185</i>			<i>T<sub>Dome</sub> = 7.9 x = 144.678</i>	
<i>15<sup>3</sup></i>										<i>T<sub>Dome</sub> = 8.0 x = 144.546</i>	
<i>All copied to WORM + Persius to ceo 3012.fits</i>											

303

Date 1991 Sept 23/24 Observers Fds/Pdr

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.
ce03813	bias (4)			19 23 00		0h	+20		
3814	bias (4)			19 50 30		0h	+40		
3815-3820	6x flat			19 53 30			<del>3815</del> 3817	TUNG	23 <sup>S</sup>
3821	bias (4)			20 05 00			F		
3822-3827	6x flat			20 11 15		0h	+20	TUNG	23 <sup>S</sup>
3828	bias (4)			20 18 37					
3829	Comp			21 20 35				ThAr	15 <sup>S</sup>
3830	HD 19 32 37	20 14 06	37 43 19	21 25 40	22 25 40	2 01 W	3831	"	"
3833	HD 21 34 20	22 26 10	42 36 39	22 30 43	23 17 07	0 39 W	3832 3834	"	"
3836	HD 22 9 28	03 35 48	47 28 00	23 27 40	00 08 04	3 42 E	3835 3837	"	"
3838	Bias (4)			00 16 38		0h	-27°		
3839	Bias (4)					"	"		
3841	HD 19 32 37	20 14 06	37 43 19	01 21 10	02 03 11	5 59 W	3840 3842	ThAr	15 <sup>S</sup>
3844	HD 16 50 8	02 37 34	27 16 54	02 09 04	02 49 15	0 0	3843 3845	"	"
3847	HD 29 13 9	04 30 12	16 19 00	02 58 06	03 01 46	1 40 E	3846 3848	"	"



Spectr. Temp. ....

Dome Temp./Hum. 13.4/56.8

Transparency Conditions *part cloudy*

Focus .....

304

Spectr. Temp. ....

Dome Temp./Hum. ....

Comparison  
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD	600/ 18.85	100μ .261	14570 4481A	600μ .205		$T_{DOME} = 13.4$ $\times 7 = 153.525$ $rh = 57.6$	
NG 23 <sup>s</sup>								800μ .185		$T_{DOME} = 12.8$ $\times 7 = 151.661$ $rh = 60.7$	
NG 23 <sup>s</sup>										$T_{DOME} = 12.7$ $\times 7 = 151.646$ $rh = 61.4$	
Ar 15 <sup>s</sup>								600μ .205		$T_{DOME} = 12.6$ $\times 7 = 151.496$ $rh = 62.4$	
" "	1275	2"	4.88	B2pe					P Cyg		
" "	1400	3-4"	4.51	B2IV					6 Lac	Cirrus	
" "	1368		2.99	B5III					5 Per		
										$T_{DOME} = 9.9$ $\times 7 = 146.840$ $rh = 73.2$	
										$\times 7 = 146.515$	
Ar 15 <sup>s</sup>	1000	3"	4.88	B2pe					P Cyg		
" "	1314	4"	4.66	B3V					35 Ar.		
" "	4000		0.85	K5III					R V Std		











Spectr. Temp. .... Dome Temp./Hum.  $+11^{\circ}C$  65% Transparency Conditions ... PART ... cloudy ... 30%

Focus ..... 6.80 .....  $T_{ccd} = -101$  90 c/min CCDT  $\rightarrow$  -100

Spectr. Temp. .... Dome Temp./Hum. .... 0 6 12 10 24 12 1 4 ccd/mt

Exp. Mtr.	Secing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Case (C)	600/250	250 $\mu$	4100 $\text{\AA}$		G-2595	Chip rotated by 90°	
4060		4.88	B2pe						PCyg	ins out of thick cloud	
4500	4"									" "	
										TDI attempt - no 90	
										Back to 0 6 12 10 24 12 1 4 ccd/mt	
approx 300	4"	B=7.8	GIV					4ci	ERVUL [120 OBS]		
300								5ci	"	120 OBS	
								4ci		start of MunTDI-BAT	
								5		of 15 exposures	
								6			
								7			
								8			
								9			
								10			
								11			
								12			





Spectr. Temp. .... Dome Temp./Hum. *6°C 73%* Transparency Conditions *part cloudy* ..... 310

Focus *6.80* .....

Spectr. Temp. .... Dome Temp./Hum. ....

Compass  
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	<i>4"</i>	<i>B 7.8</i>	<i>G/V +G2V</i>		<i>6001</i>		<i>4100P</i>	<i>13</i>	<i>ER VUL</i>		
								<i>14</i>			
								<i>15</i>			
								<i>16</i>			
								<i>17</i>			
								<i>18</i>		<i>End of Batch</i>	
								<i>19c</i>			
								<i>4c</i>			
								<i>5</i>			
								<i>6</i>			
								<i>7</i>			
								<i>8</i>			
								<i>9</i>			
								<i>10</i>			
								<i>11</i>			

*Total after 15 exps = 5900 counts*





Spectr. Temp. .... Dome Temp./Hum. 5.3 / 74.8 Transparency Conditions .....

Focus .....

312

Spectr. Temp. .... Dome Temp./Hum. ....

Comparison  
Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	4"	7.8	G1V +G2V						12 <sup>a</sup> ER VUL		
									13		
									14		
									15		
									16		
									17		
									18		
									19		
	4"	7.8	G1V +G2V						4		
									5		
									6		
									7		
									8		
									9		
									10		

(<sup>a</sup> End of batch 3874 counts)

the  
Mar 26

313

py 44

Emulsion Batches:

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

Date 1991 Sept 26/27 Observers mki, ta, Rtr.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
CC03602	HD 200391	20 58.1	+27 24						120s
03									n
04									n
05									n
06									n
07									n
08									n
09					23 42	02 45W			n
CC03610	comp							FeNe Clear	20s
3611	BIAS(4)			23 50					
CC03612									120s
CC03626	HD 200391	20 58.1	+27 24	23 52 30	00 23 06	03 26W			120s
CC03627	Comp						clear	FeNe	20s
CC03628				01 12 30					120s
3642	HD 200391	20 58.1	+27 24	<del>00 26 30</del>	01 43	00 04 4 W			120s
CC03643	comp							FeNe	20s
CC03644									
03658	HD 200391	20 58.1	+27 24	01 45 40	02 16 16	05 19 W			
3659	comp							FeNe	20s





35

Pg #5

Emulsion Batches:

Date ..1991..Sept. 26/27 Observers MKI/Pdr

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC03660	bias (4)			02 19				TUNG	
3661-63	flat x3							A=1/2	5 <sup>s</sup>
FH000402 <sub>pr</sub>	HD 13013	02 02 18	43 59 07	02 45	<del>00 30 00</del>	00 55 W		'N' Mode	4x int
3664	Comp			03 21 15				FeNe Clear	20 <sup>s</sup>
3665	MWC 560	7 21 01	-7 32 12	03 32 00	04 02 00	3 18 E			
3666	Comp							FeNe Clear	20 <sup>s</sup>
3667	flat							TUNG A=1/2	5 <sup>s</sup>
3668	MWC 560	"	"	04 08 07	04 38 07	2 42 E			
3669	Comp							FeNe Clear	20 <sup>s</sup>
3670	bias (4)			04 40 50					
3671	<del>HD 29139</del> Comp							al	"
3672	HD 29139	04 30 12	16 19 00	04 52 15	04 52 35	0 23 W			
3673	<del>Comp</del> Bias (4)			04 54					





Pg#1

Fri - Sat

r G Tour looked at Saturn

Emulsion Batches:

Date 1991 Sep 27/28

Observers M.Ki... / T.m.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC03674.FTS	BIAS(4)								
<del>CC03675</del>	Comp							FoNo Clear	20sec
CC03676									
CC03690	HD200391	20 58 06	+27 24	19 35 30	20 06	00 48 E	+27 47 39	each	120s
3691	Comp							FoNo Clear	20sec
3692	FLATS							TUNG A=1/4	20sec
3693						00 43 E			
3694	FLAT							"	20s
CCF00130									
CCF00131	Focus Test	Comp/stellar		21 35		00 40 E	-13°	FoNo Clear	20/20
3695	BIAS(4)								
3697	HD193237	20 14 06	+37 43 19	23 51 55	23 53 25	03 45 W		FoNo Clear	20sec
3698	"	"	"	23 55 32	23 57	03 50 W		"	"
CC03700	FLAT						+38°	TUNG A=1/4	20sec
3701	"						"	"	10sec
3702	BIAS(4)								
3703	Comp	for LRVUL						FoNo Clear	20sec
CC03704									
3718	HD200391	20 58 06	+27 24	00 11 30	00 42	03 48 W		each	120s
3719	Comp							FoNo Clear	20s



Spectr. Temp. .... Dome Temp./Hum.  $+6^{\circ}\text{C}$  ..... 68% Transparency Conditions .. P.A.R.T. Cloudy ..... 31%

Focus .... 6:80 .....

Spectr. Temp. .... Dome Temp./Hum.  $+5^{\circ}\text{C}$  ..... 76%

FORMAT 0 612 1024 12 1 4 CCDFAST  
90 CGAIN

Companion Filter Exp.  
10  
ap. 300  
200  
100  
40  
20  
10  
5  
2  
1  
0.5  
0.2  
0.1  
0.05  
0.02  
0.01

Exp. Mtr.	Seeing	Pig. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	600/25 <sup>*</sup>	(SHORT SLIT) 250 $\mu$	4100A				CCD T = -100.3 $^{\circ}\text{C}$
3041	4"	B 7.8	G1 V +G2 V					4ci +18ci	ER VUL	Thick cloud by 1952 BATCH of 15 130 OBS	
										MAX ADU <u>210K</u>	
Focus set 6:80		Dome T = +6.9 $^{\circ}\text{C}$		CASS CCD	600/25 <sup>*</sup>	SHORT SLIT 250 $\mu$	4100A	22ci 23ci	Focus Test	Stellar comp slit + filter $\approx$ 1 pixel!	
4000		4.88	B2 pe						P Cyg		
4000		"	"						"		
										MAX ADU $\rightarrow$ 14K	
										$\approx$ 141 ADU/pixel	
5900	3"	B 7.8	G1 V +G2 V						ER VUL	Batch of 15 (120 OBS)	

















Spectr. Temp. .... Dome Temp./Hum. +9°C...70% Transparency Conditions ... Excellent ..... 324

Focus .. 235. [Love did not change it]

Spectr. Temp. previous set was 245 Dome Temp./Hum. +5.8°C...73%  
 150000, T<sub>2</sub> CENTRAL

Tel Focus 220 for ecidelle focus  
 FANS on after TOUR 90CBAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Edalle CCD	600/19.87	W 100μ = 261 H 600μ = 205	4481A		5000A grating Xgrating .4577	FORMAT 0 0 256 1024 1 CCDT set to -100°C	
3000	2"	4.86	B2pe						P Cyg		
3000	2"	5.07	B3V						17 Vul		
3000	2.3"	4.57	B2IV						6 Lac		
2800	2.3"	4.88	B2pe						P Cyg	Some T = +5.3°C	
2336		5.07	B3V						17 Vul	Some cloud	
3000	2.3"	4.57	B2IV						6 Lac	" "	
										" " increasing Dome T = +5.3°C	
1516	3.4"	4.66	B3V						35 Ari	VERY cloudy at end Dome T = 5.6°C	
						H = 800μ					
						H = 800μ = 185 set				CCDT = -101.9°C	
All to Perseus [Number omitted (3854-75)]										To warm with heaters elited.	

Comparison of Filter Exp

7/1 53

7/1 53

7/1 53

53

53



25 pgs

Sun / mon

Date 1991... Sep. 29/30. Observers Fds...-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
ce03892 3893	BIAS(4) x2					0 0	+20		
ce03894 3898	FLATS x5					"	"	TUNG	25s
3899	BIAS(4)								
ce03900 3904	FLATS x5					0 0	+40	TUNG	25s
3905	BIAS								
3907	HD147394	16 16 44	+46 33 05	18 45 46	19 01 37			ce03906 ce03908 T/A	15s
3910	HD190993	20 02 36	+23 19 34	19 11 40	19 51 40			ce03909 ce03911 "	"
3913	HD193237	20 14 06	+37 43 19	19 58 30	20 30 00	00 28 W		3912 3914 "	"
3916	HD190993	20 02 36	+23 19 34	21 10 41	21 50 41			3915 3917 "	"
3918	BIAS(4)			21 52 40					
3920	HD213420	22 26 10	+42 36 39	21 55 47	22 17 42			ce03919 ce03921 T/A	15s
3923	HD193237	20 14 06	+37 43 19	22 22 04	22 52 03	02 50 W		ce03922 ce03924 T/A	15s
3926	HD190993	20 02 36	+23 19 34	22 56 00	23 30 26	03 40 W		ce03925 ce03927 "	"
3929	HD213420	22 26 10	+42 36 39	23 35 13	23 52 55	01 39 W		ce03928 ce03930 "	"
3931	BIAS(4)			23 54 56					



Spectr. Temp. .... Dome Temp./Hum. ... +8°C ... 53.8% Transparency Conditions ... Fine ... sl/hazy ... 326

Focus ... 235 .....

Spectr. Temp. .... Dome Temp./Hum. ....

90CGAIN

Computer  
per/Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Central Emission $\lambda$	P.H.	Program	Remarks	Quality
				Echelle CCD	600/18.87		4481A		5000Å x grating x grating = 4577		
						W=100µ H=800µ					
						W=100µ H=800µ					
						W=100µ H=600µ				$\bar{x} = 146.036$	
3000		3.89	B3V						Tau Her		
1620		5.07	B3V						17 Vul		
3000		4.88	B3pe						P Cyg		
1827		5.07	B3V						17 Vul		
										$\bar{x} = 146.428$	
3000	4.5"	4.57	B3V						6 Lac		
3000	5"	4.58	B3pe						P Cyg		
17000	3"	5.07	B3V						17 Vul		
2000	2.3"	4.51	B2V						6 Lac		
					(default Box starts)				35A	Bios = 10000 higher row CCD T = -102.2°C	
					$\bar{x} = 159.717$				Dome T = +3.9°C	Telescope moving	



37

Pg #2

Emulsion Batches:

Date 1991 Sep 29/30... Observers F.d.s./Vinko/.Tq.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CE03933	HD 16908	02 37 35	+27 16 54	23 59 44	00 19 42	E	CE03932 CE03934	ThA	15sec
3935	BIAS(4)			00 23 10					
3937	HD 193237	20 14 06	+37 43 19	00 28 36	01 05 20	05 04 W	CE03936 CE03935	ThA	15s
3939	BIAS(4) (at HD 193237 pos'n)			01 09 00		4	+38P		
3941	HD 213420	22 26 10	+12 36 39	01 14 13	01 40 49	03 27 W	CE03940 CE03942	ThA	15s
3943	BIAS(4)	no tel movements	ThA	01 44 source off *		03 31 W	+430		
3945	HD 16908	02 37 35	+27 16 54	01 51	02 29 18	00 03 W	CE03944 CE03946	ThA	15s
3948	HD 26912	04 10 06	+08 38 31	02 34 40	03 11 20		CE03947 CE03949	"	"
3951	HD 16908	02 37 35	+27 16 54	03 18 27	03 55	01 29 W	CE03950 CE03952	"	"
3954	HD 29139	04 30 12	+16 19	03 59 33	04 02 31	00 16 E	CE03953 CE03955	"	"
3957	HD 26912	04 10 06	+08 38 31	04 06 26	04 35 38	00 38 W	CE03956 CE03958	"	"
3960	HD 16908	02 37 35	+27 16 54	04 40 48	05 12 00	02 46 W	CE03959 CE03961	"	"
3963	HD 26912	04 10 06	+08 38 31	05 15 15	05 33 55	01 37 W	CE03962 CE03964	"	"
3965	BIAS(4)					2 1/2 W	180		
3966	BIAS(4)					"	"		



Spectr. Temp. .... Dome Temp./Hum.  $+04.1^{\circ}\text{C}$  ... 69% Transparency Conditions ... FINE ... 32.8 ...

Focus ... 235 ...

Cloud at dawn

Spectr. Temp. .... Dome Temp./Hum.  $+1.2^{\circ}\text{C}$  ... 76%

Comparison Filter Exp.	Exp. Mtr.	Seeing	Pig. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2A 153a	2000	2.3"	4.66	B3V	Eclerk CCD	600/1887	100 $\mu$	4481R		35 Ari	$\bar{x} = 159.282$ Tel moving to P Cyg	
18	2000	4"	4.85	B2pe					2ci	P Cyg	CCDT = -100.0 $^{\circ}\text{C}$ T = +36 $^{\circ}\text{C}$	
15	2000	4"	4.51	B2IV						3ci	6 L4C	
18	2000	4"	4.66	B3V					4ci	35 Ari	$\bar{x} = 159.363$ * past Bross had comp source on	
	2000	4.5"	4.29	B3IV						Mu Tau		
	2000	"	4.66	B3V						35 Ari		
	2000		0.85	K5IV						std vel		
	2000	3"	4.29	B3IV						Mu Tau		
	2000	3"	4.66	B3V						35 Ari		
	1022	4"	4.29	B3IV						Mu Tau	cloud @ end T = 1.30 RH = 76.4% AS = 156.967 CCDT = -81.5 $^{\circ}\text{C}$ @ 05 40	
All to PERSUS 5:20 AM												
											TOPUP proceeding	

329

Mon - Tues

Date 1991 Sep 30 / Oct 1. Observers F.d.s. P.d.r. 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.
CE0 3967 3968	BIASCA) x2			18 13		0 0	+40°		
CE0 3969 73	Flats x5					0 0	+40°	TUNG	255
3974	BIASCA)								
CE0 3975 3979	FLATS x5					0 0	+20°	TUNG	255
3981	H0193237	20 1406	+374319	18 53	19 0555	<del>0 0</del>	CE0 3980	THA	155
3982	BIASCA)			<del>+8 53</del>	<del>19 0555</del>	01 E	+38°		
3983	H0193237	20 1406	+374319	19 3000	20 0418	00 06W	<del>CE0 3984</del>	<del>THA</del>	<del>155</del>
3984	comp							THA	155 <sub>2</sub>
~~~~~									
CE00132 00133	1991 Oct 1/2 FOCUS TEST		WxL/Pdr						
		comp stellar		~ 20 20		0 h	+33°	FeA Clear	60



Spectr. Temp. .... Dome Temp./Hum. +9.7°C 75% Transparency Conditions ... Clouding 11 330

Focus ..... 235

Spectr. Temp. .... Dome Temp./Hum. ....

C.G.H. = 90

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				celebs CCD	600/18.87	100μ	4481A		5000Å x grad 4:17 = .4577	147068 / 147077 CCOT = -101.52 @ 1830	
						100μ H=800μ					
34		V 4.88	B2pe			H=600μ			P Cyg	cloudy Dome T = +9.7°C @ 7430	
67	5"	V 4.88	B2pe						P Cyg	part cloudy	
<p>All backed up to Perseus + WORM to ce0398A</p>											
<hr/>											
Focus: 6.75				13.7/67.7%		30 cygn		Overcast			
focus set: 6.75	DOM T = 13.7		case CCD		1800/46.1 250μ 5019A (2nd long)		G=4900		518 0 7 1024 16 / 10000 NO SHIFT between Comp + stellar		
<p>Copied to WORM + Perseus</p>											





Spectr. Temp. .... Dome Temp./Hum.  $+16^{\circ}\text{C}$  ... 90% Transparency Conditions ... PART. Cloudy ... 332.

Focus ..... 6.75 .....

Spectr. Temp. .... Dome Temp./Hum. ....

CCDT  $\rightarrow -100^{\circ}\text{C}$   
 FORMAT 545 0 15 10.74 5 1 CCD=MT

Comparison  
 Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality	
				CASS CCD	$1800/46.8^{\circ}$	250u	5155 <del>41169A</del>			$\langle x \rangle = 169,222 \times G = 5000$	<u>30CCAIM</u>	
							(2nd longest slit length)					
1000	4"	2.707	GOIb						Cephed	Thin cloud		
1000		"	"						"	1600 ADU AVG over 6 pixels		
714	3"	"	"						"	cloud at end		
2500		5.89	GOIb							1950 ADU AVG over 3 pix		
2550												
2500												
										10 000 MAX ADU		
									$\langle x \rangle = 168,106$			

333

#2

Emulsion Batches:

Date 1991 Oct 3/4 Observers Per/Tm

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC03796	Comp							FeA clear	60s
3797	HD 187691	19 46 12	10 10 00	20 47 25	20 49 30	01 31 W			
3798	"	"	"	20 50 02	20 52 06				
3799	"	"	"	20 52 25	20 54 22	01 36 W			
3800	Comp							FeA clear	60s
3801	Comp							FeNe clear	60s
3802	HD 199305	20 51.3	+61 50	21 07 33	21 28 58	01 07 W			
3803	"	"	"	21 29 27	21 50 47	01 29 W			
3804	"	"	"	21 51 00	22 10 46	01 49 W			
3805	Comp							FeNe clear	60s
3806	BIAS(4)					01 53 W	+62 12		
3808	HD 223094	23 41.23	+28 08 54	22 27 30	22 33 30		CC03807	FeNe clear	60s
3809	"	"	"	22 34 00	22 39 50				
3810	"	"	"	22 40 15	22 45 37		CC03811	FeNe clear	60s
3812	BIAS(4)							<del>FeNe</del> <del>clear</del>	
Fm000404.Tm	HD 223094	23 41.23	+28 08 54	22 50		00 24 E		I <sub>4</sub> x4	



Spectr. Temp. .... Dome Temp./Hum. ... 14.6 / 85.3 Transparency Conditions .... Hazy... cloudy.....

Focus .....

Spectr. Temp. .... Dome Temp./Hum. .... +13.7°C 90%

- Foggy

334

Comparison  
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800/46.8	250 $\mu$	5155A				
2000		5.11	FBV					12 $\mu$	RV Std	2400 AVG ADJ (over 6 $\mu$ )	
2000								13	"		
2000								14	"		
1500	2-3"	V 8.50	M2V						Asm Sp - KK	30CGAIN still brightest SE of pair	
1500									V		
1540									u	CCDT = -10.0°C	
1750	2-3"	V 7.45	K5 III						CX7 = 167.398	Pome T = +13.9°C 1900 ADJ SUM AVG (6 $\mu$ = 3) CCDT = -10.1°C	
1850									Std vel		
1700											
31x31		V 7.45	K5 III						CX7 = 166.420	Seeing Test Done SW	
										no wind.	







331 py #1

SAT SUN

2 Large Tours, earlier, but too cloudy,

Emulsion Batches:

Date 1991 Oct 5/6... Observers Pdr./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.
CC03817	fts Comp			≈ 22 09				FeNe	60s
3818	BIAS(4)								
3819	BD+45° 3310	20 49.3	+45 44	22 16 03	22 50 26	2 38 W	3820	FeNe	60s
3822	HD 21 51 82 <sup>BC</sup>	22 38.3	+29 42	23 02 20	23 59 00	1 56 W	3821 3823	"	"
3825	?	03 15 58 <sup>TR1 at</sup>	+26 13 45	00 15 18	00 31 00	2 05 E	3824	"	"
3827	BD+25 522	03 11 24	+25 57 00	00 44 25	01 29 00	1 08 E	3826	"	"
3830	HD 18 88 4	02 57 06	+03 42	01 42 05	01 42 50	0 39 E	3828 3829 3831	"	"
3833	DM+53 935	05 33 2	+53 26	01 53 10	02 42 05	2 19 E	3832 3834	"	"
3836	HD 22 48 4	03 31 48	+00 05 00	02 52 35	02 55 28	00 01 E	3835 3837	"	"
3838	bias (4)								
3840	HD 29 58 7	04 34 30	+41 57 00	03 05 02	03 18 00	00 43 E	3839 3841	FeNe	60s
CC03842	FLATS X5			03 39		00 20 E	+42°	TUNG A=1/2	
3846	FLATS X5								
FM 405	HD 29 58 7	04 34 30	+41 57	03 45		00 14 E	"	Int XA	"
3847	bias (4)								
3849	HD 26 96 5 C ?	04 10 42	+7 49	≈ 04 06	04 51 10	01 17 W	3848 3850	FeNe clear	60s



Spectr. Temp. .... Dome Temp./Hum.  $\pm 1.1^\circ\text{C}$  ... 70% Transparency Conditions *PARTIAL CLOUDING* .....

Focus *6.75* ..... CCDT  $\rightarrow -100^\circ\text{C}$  90 gain 338

Spectr. Temp. .... Dome Temp./Hum. .... 545 0 15 1024 5 1 CCD FMT

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						CASS CCD	1800/ <i>26.0</i>	250u	G=4983 5140A		(5-11 pixels)	3rd longest slit	
												$\langle x \rangle = 113,620$ $T_{\text{dome}} = 10.5^\circ\text{C}$	
		1500	$\approx 6''$	9.1	68V					3ci	Asm Sp-kk	3000 SUM AVG ADD (8 pixels)	
		860	$\approx 5''$	10.1						4ci	"	1800 SUM AVG ADD 6 pixels colours faint compact	
		3500	5"							5ci	mistake	Flid drawn } identical	
		180	6"	11.72	M0					6ci	Asm Sp-kk	" " } Too faint	
		10000		4.19	1711.5 III					7ci	std vel		
		888	6"	9.78	dm2					8ci	Asm Sp-kk		
		5000		4.85	F8V					9ci	std vel		
												$\langle x \rangle = 103,820$ $T_{\text{dome}} = 7.9^\circ\text{C}$	
		2040	6"	7.29	dG2					10ci	std vel		
								250u longest slit				11 K max	
		47x17		7.29	dG2	<i>check</i>		500u below slit no check			seeing test	Point SW 2nd window	
												$\langle x \rangle = 102,95$ $T_{\text{dome}} = 7.2^\circ\text{C}$	
		316	*6"	11.18	dm4e		1800/	250u	G=6045 6607A	11ci	Asm Sp-kk	North of faint pair	
					Hot in emission			slit			*The pair	is resolved OK	

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Emulsion Batches:

Date ..1991..Oct..5/6... Observers ..Pds...Ty.....

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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.
CC03851	HP26965 B	04 10 42	-7 49	04 55 41	05 31 10	01 57W			
3852	Comp							FeA Clear	60sec
3853	bias(4)								
3854	FLATS x5					00 00	-7 35	JUNIS A=1/4	10s
3858									
CC03859	BIAS(4)								
3860	DARK 30min								
3861	"								
3862	"								
3863	BIAS								

~~05 35~~  
 Left Running  
 started @  
 06 06

Spectr. Ter  
 Focus.....  
 Spectr. Ter  
 Exp. Mtr

613





341 pg #1

Thurs Fri

Emulsion Batches:

Date 1991 Oct 10/11 Observers [KK] Tn / Pels.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
cef00079/90	Focus tests					01 44W	+30 39	ThA	5/5
<del>ce000000</del>	<del>Comp</del> BIAS(4)			19 12		02 04W	"		
ce03986	Comp							ThA	10s
ce03987	HD165908	18 03.2	+30 33	19 17 40	20 04 15	02 56 W			
3988	Comp							ThA	10s
3990	HD182640	19 20.5	+2 55	20 13 40	20 33 40	02 07 W	ce03989	"	"
3993	HD202109	21 8.7	+29 49	20 42 05	21 02 05	00 48 W	ce03992	"	"
3996	HD215182	22 38.3	+29 42	21 09 35	21 26 25	00 17 E	ce03994	"	"
3998	BIAS(4)					00 13 E	ce03997		
4000	HD209790A	22 00.9	+64 08	21 39 00	22 19 30	01 15 W	ce03999	"	"
4003	HD8890A	01 22.6	+88 46	22 29 15	23 10 00	02 25 E	ce04002	"	"
4005	BIAS(4)			23 13		02 22 E	ce04004		
4007	HD34029	05 09.8	+45 54	23 47 15	00 11 15	04 05 E	ce04006	ThA	10s
4009	"	"	"	00 17 15	00 32 00	03 44 E	ce04008	"	"
4011	BIAS(4)					02 15 W	+20°		



Spectr. Temp. Dome T = +9.5 Dome Temp./Hum. +10°C 67%

Transparency Conditions ... Fine ... 312

Focus ... 2.35 ... stayed with this set as temp will drop.

0 0 256 1024 4 1 CCD FWHM

Spectr. Temp. ~~set~~ ... Dome Temp./Hum. +7.2°C 68%

8 to 1 binning for a focus test

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
(No expander for Inbound)				CCD	1200/17.0	600W	1st Blue ORDER		Focus test	1200 lines/mm 4000A gratings +9.5°C x gratings t./t = .230 CCD Temp = -101.2°C	2.35 set focus
		B			1200/17.0	600W	4340A			Continuum red of 4340A	
1080	2"	5.5	F7V						Asm Sp - KK	thin cloud coming	
										Continuum red of 9 cols above bkgnd 32286 ADU	
1460	3"	3.68	F01V						3ci Asm Sp KK	some cloud	
2160	2"	3.2	G8II						4ci "	3500 ADU above bkgnd sum avg of 10 cols	
2623	1.7"	3.8	G8II?						5ci "		
										CCD T = -101.7°C Dome T = +8.5°C (x) = 147.874	
1285	2"	4.63	A3m						6ci Asm Sp KK	3000 ADU sum avg above bkgnd of 10 columns	
1345	3"	1.9	F						7ci "	cloud clouded in	
		B = 6.8II?								CCD T = -101.8°C	
		+0.84								Dome T = +8.0°C (x) = 146.841 or 1.227	
3000	3.5"	B	G8II?						2ci Asm Sp KK	cloudy clear → end of exp	
850	"	"	"						1ci "	cloud clear	
										CCD T = -101.8°C	
										x̄ = 145.682	

343 pg#2

Emulsion Batches:

Date 1991. Oct. 10/11..... Observers [K.K.]... T.G./P.L.R.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
C04012	FLATS(6)	average of 6 flats		005A		02 15W	+20°	TUNG	50s
4013	FLATS(6)	"	"	0105		02 E	+30°	"	"
4014	bias (4)								
4015	bias (4)								
4016	dark 30m								
4017	"								
4018	"								
4019	bias (4)								
4020	7.2 hour dark (no case running)					41	ADU		



Spectr. Temp. ....

Dome Temp./Hum. ....

Transparency Conditions ... *Cloudy* ... 344...

Focus ... *235* ...

Spectr. Temp. ....

Dome Temp./Hum. ....

*Topup* .0045 - 01

Comparison  
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
-----------	--------	-----------	-----	-------	------------------	------	----------	------	---------	---------	---------

1/6 505

				<i>Echelle CCD</i>	<i>17.80°</i>	<i>w=60μ H=800μ = 0.855e1</i>					
				"	"	"					

*during Topup*

*All copied to WORM + Perseus to ce04014*

*Copied to WORM + Perseus to ce04020*

*chip temperature -101.7*

#1 Sun/Mon  
 345 Date 1991 October 13/14 Observers Srt/Pdr

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
ce04021	bias (4)			17 43					
4022	dark 15m								900s
4023-4028	flat					2 38W	+12		90s
4029	bias (4)			18 36					
4031	HD 185144	19 32 33	69 29 28	18 39 54	19 09 59		ce04030 ce04032	Th A	10s
4033	"	"	"	19 11 38	19 41 38	1 20 W	ce04034	"	"
4036	HD 206859	21 39 47	16 53 28	19 47 37	20 17 51	0 15 E	ce04035 ce04037	"	"
4038	"	"	"	20 20 05	20 50 05	0 17 W	ce04039	"	"
4040	"	"	"	20 53 02	21 23 02	0 50 W	ce04041	"	"
4043	bias (4)			21 36					
4044	HD 3712	00 34 48	55 59 20	21 39 09	21 59 12		ce04042 ce04045	Th A	10s
4046	"	"	"	22 01 44	22 21 44	0 10 7 E	ce04047	"	"
4049	HD 10700	01 39 25	-16 27 51	22 33 09	23 03 09	0 1 29 E	ce04048	"	"
4051	"	"	"	23 08 16	23 38 16	0 0 54 E	ce04050	"	"
4053	"	"	"	23 41 15		0 0 09 E	ce04052	"	"









Spectr. Temp. .... Dome Temp./Hum. *2.4 / 72.4* Transparency Conditions *Clear* *318*

Focus .....  
 Spectr. Temp. .... Dome Temp./Hum. *2.0 / 73.2* *clouds came in at the end of night*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
136		<sup>B</sup> 4.22	GBV	Eshelle CCD	<del>16.65</del>	90 $\mu$	3934 Å	.205 600 $\mu$	X-grating 0-418		
108	4"	"	"								
120	2"	<sup>B</sup> 5.51	GSV						K Cete		
111											
85											
49											
<i>All copied to WORM &amp; Perseus          to ce04069</i>										<i>clouded in</i> <i>T<sub>D</sub> = 2.2 °C (X7) = 158.80</i> <i>T<sub>exp</sub> = -99</i>	

Waltham ~~TR~~ P3 #1

349 Date 1991 Oct 16/17 Observers [Fds]/Tm/Pdv

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.
CC03864							clear	FeA	60sec
\$ 3865	HD 184915	19 31 31	-07 15	18 27	18 39 40	0 26 W	CC03866	"	"
↑ 3868	"	"	"	18 49 15	19 02 30	0 49 W	CC3869	"	"
↳ 3867	BIAS (4)			18 40					
3871	HD 212943	22 22 48	04 12	19 11 30	19 18 45	-1 46 E	CC03870 CC03872	"	"
3873	BIAS (4)			19 25		0 08 E	0°		
CC03874 3879	FLATS 6			19 30		0 0	0°	TUNG A=1/2	13sec
3880	BIAS (4)			19 32					
← 3881	FM000406 Pdv HD 207784 BIAS (4)	21 46 12	43 25		19 53	0 43 E		Intx 4	" mod
3882-87	FLATS x 6				20 51 30	"	"	TUNG A=1/2	13c
3888	BIAS (4)			20 53					
3890	HD 48879	06 40 31	67 40 56	21 11 40	21 30 37	7 56 E	CC03889 CC03891	FeA	60s
3892	"	"	"	21 37 12	21 53 15	7 34 E	CC03893	"	"
3895	HD 218537	23 03 43	+63 06	22 06 30	22 36 10	0 52 W	CC03894 CC03896	"	"



Spectr. Temp. .... Dome Temp./Hum. 8.1 / 57.8% Transparency Conditions Clear ..... 350.....

Focus 6.75 .....

Spectr. Temp. .... Dome Temp./Hum. ....

30 c gain  $T_{CCD} = -109$   
 [510 0 80 1024 2] (slight off netly)

Companso Filter Etc	Exp. Mtr.	Secing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
A 6052					CASS CCY	1400*	250 $\mu$	6610A			*G=6098	
	30 500	3"	V 4.95	B05 III	(HOUSE LIGHT WERE ON)					Fds pgn	18700 ADU SUM OVER 11 PIX	
	30 500		u	B05 III	(250 $\mu$ width mid length slit)						ABOVE BACKGROUND	
	20 000		V 4.79	K0 III-IV						std vel	X=166.377 $T_{DOME} = 7.9^{\circ}C$	
						250 $\mu$ (Longest slit & deker posn)					MAX ADU @ 10 000	
	31x31 pix		7.32	K0 III	[FANSON by 19EST]					To CCO 3880 $\rightarrow$ per sears @ 2030	X=165.408 $T_{DOME} = 7.3$	
						250 $\mu$ (Longest SLIT)				SETTING TEST (VERY High S wind)	Top up @ 20:15] X=164.67 $T_D = 6.9$	
	30 500		V 5.14	B4 IV							MAX ADU ~ 10 000	
	30 500					(3rd Longest slit)					X7 = 164.711 $T_{DOME} = 6.9$	
	30 500										16500 ADU SUM OVER 11 PIX	
	30 500	2"	V 6.26	B3 V					5ci	Telluric standard	CCD Temp = -110.0 $^{\circ}C$	
											perhaps not best choice perhaps not necessary either	



Wofth #2 ~~Wofth~~

35) Date 1991 Oct 16/17. Observers [Fds]/Pdr/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.
cc03897	bias (4)			22 39 40					
3899	HD 26912	04 10 06	08 38 31	22 49 43	22 58 53	03 53 E	cc03898 cc03900	FeA	60s
3902	HD 36822	05 29 20	09 25 19	23 10 10	23 25 45	04 45 E	cc03901 cc03903	"	"
3905	HD 26965 B	04 10.7	-7 49	23 34 20	00 14 40	02 37 E	cc03904 cc03906	"	"
3907	HD 26965 C	"	"	00 20 55	01 06 00	01 46 E	cc03908	"	"
3909	BIAS (4)			01 10		01 41 E	-7° 35'		
3911	HD 45546	06 23 01	-04 42 01	01 19 27	01 40 25	03 24 E	cc03910 cc03912	FeA CLEAR	60s
3914	HD 49567	06 43 54	01 06 51	01 49 25	02 41 44	02 43 E	cc03913 cc03915	"	"
3917	HD 55879	07 09 44	-10 08 38	02 50 00	03 44 50	02 05 E	cc03916 cc03918	"	"
3920	HD 35149	05 17 35	03 26 54	03 53 12	04 05 06	00 07 W	cc03919 cc03921	"	"
3923	HD 42545	06 06 17	+16 09 11	04 13 13	04 23 31	00 23 E	cc03922 cc03924	"	"
3925	bias (4)					00 28 E	+16'		
cc03926 → 3928 3929	BIAS DARK'S BIAS (4)			04 53					30min



Spectr. Temp. .... Dome Temp./Hum. 6.2/59.1% Transparency Conditions Clear 352

Focus .....

Spectr. Temp. .... Dome Temp./Hum. ....

Comparison  
Filter Exp

Exp. Mtr.	Secing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1400/	250m (3rd longest slit length)	6610R			x = 165.689 T <sub>Dome</sub> = 6.2	
60	30500	4"	4.29	B3IV				6ci			
"	30000		4.41	B0III				7ci			
"	912		9.52	DA				8ci	Azm Sp	Southern Star : Brighter Hd emission too	
"	513	3"	11.18	dM1Ae				9ci	"	NORTH STAR of pair	
										Dome T = +5.3°C	
50	30,500	3.5"	5.06	B2V				10ci	Fds pgrm		
"	30000	5"	6.15	B3III					"		
"	30000	4"	6.03	B0III					"		
"	30000		5.00	B1V					"	Ind priority	
"	30000	2.3"	4.95	B5V					"	"	
										x = 176.785 T <sub>Dome</sub> = 8.8	

5<sup>3</sup> pg #2 Thurs - Fri

Date 1991 Oct 17/18 Observers P. Dr. / J. M.

Emulsion Batches:

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

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
<del>CC03930</del> 3930	BIAS(4)						-20° 35'		
3932	HD 173297	18 39 20	-20 45 00	18 18 36	18 25 26	01 07 W	CC03931 <del>CC03932</del>	FeA clear	60s
3933	"	"	"	18 26 08	18 32 54	" W			
3934	"	"	"	18 32 58	18 39 41	01 23 W	CC03935	"	"
3937	HD 203156	21 15.4	+37 49	18 49 08	18 51 03	01 02 E	CC03936	"	"
3938	"	"	"	18 51 50	18 54 06				
3939	"	"	"	18 54 35	18 56 32	00 56 E	CC03940	"	"
3942	HD 187691	19 46.2	+10 10	19 05 04	19 06 48	00 42 W	CC03941 CC03943	"	"
3945	HD GCRV 12836	20 29.2	+65 05	19 21 29	20 07 07	01 03 W	CC03944 CC03946	FeNe clear	60s
3947	comp	"	"			"			
3949	HD 199305	20 51.3	+61 50	20 17 45	20 42 45	01 16 W	CC03948 CC03950	"	"
3951	bias (4)			20 47 30					
3953	BD +45 3310	20 49.3	+45 44	20 53 25	21 12 40	01 47 W	CC03952 CC03954	FeNe clear	60s
CC03956	HD 215182 BC	22 38.3	+29 42	21 20 05	22 05 05	00 49 W	CC03955 3957	"	"
3958	HD 215182	"	"	22 08 55	22 09 45	01 00 W	CC03958	"	"



Spectr. Temp. .... Dome Temp./Hum.  $12.6^{\circ}\text{C}$   $H=53\%$  Transparency Conditions .... *sl. hazy* ..... 3561 .....

Focus ..... *unchanged from previous night*

Spectr. Temp. .... Dome Temp./Hum. ....  
*central*

30 CGAIN  
545 0 15 1024 5 1 CCDROT  
CCDT  $\rightarrow -100^{\circ}\text{C}$

Companion  
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS (C1)	G=4933 1800/467	250 $\mu$ width 3rd largest slit				CCDT = $-101.7^{\circ}\text{C}$	
1200	3"	7.48	G0J6				5140A		Rm pgr	700 ADJ SUM over 7 pixels above background	
1200									"		
1200									"		
3000		5.89	G0J6							1800 ADJ SUM over 6 pixels above background	
3600	2"										
3000											
5000	2"	B 5.7	F8V					10ci	Std vel		
1190		V 10.43	dM3					11ci	Asm Sp-kk	$\approx 400$ ADJ SUM over 4 pixels field check OK too for 4 cols	
3475	<2"	V 8.50	M2V					12ci	Asm Sp-kk		
										$(x7 = 162.355)$ $T_{\text{excess}} = 10.5$	
2150	<2"	VAB 9.1	G8V					13ci	Asm Sp-kk	2150 ADJ SUM over 4 pixels for 4 cols	
1900	>2"	3.10	<del>G2II-III</del>					14ci	"		
14000		B 3.8	G0II-III					15ci	"		



35 Pg #2

Date 1991 Oct 17/18..... Observers Tn./Pdr.....

Emulsion Batches:

...Dome T = +10°C

...Rel. H = 68%

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Ex
CC03961	BD+25 522	03 11.4	+25 57	22 22 15	23 07 15	2 42 E	CC03960 CC03962	FeNe Clear	60s
3963	"	"	"	23 15 29	00 00 29	1 49 E	CC03964	"	
3965	BIAS(4)			00 04 30		1 45 E	+26 23		
3967	DM+53 935	05 33.2	+53 26	00 12 25	00 57 25	3 16 E	CC03966 CC03968	FeNe Clear	60s
3969	BIAS(4)	after Topup		01 20					
3970	FLATS x6					00 30 E	+53 31	TUNG H=1/2	97s
3976	BIAS(4)					01 35 E	+42°		
3978	HD 29587	04 34.5	+41 57	01 44 48	01 57 00	01 17 E	CC03977 CC03979	FeNe Clear	60s
Fm000407, Tn	"	"	"	02 02		01 12 E	"N" mode	Int x 4	
CC03981	HD 35149	05 17 35	+03 26 54	02 28	02 42 35	01 12 E	CC03980 CC03982	FeA Clear	60s
CC03983 3985	BIAS(4) x3			02 45		01 E	+3 37		
CC03987	HD 42545	06 06 17	+16 09 11	02 51 12	03 05 27	01 38 E	CC03986 CC03988	FeA Clear	60s
3990	HD 26162	04 09.3	+18 21	03 14 04	03 21 10	00 40 W	CC03989	"	"
3993	HD 35149	05 17 35	+03 26 54	03 30 30	03 45 00	00 09 E	CC03990 CC03997	"	"
3995-96	BIAS(4)					00 05 E	+3 37		



SAME Instr settings as previous page.

Exp meter	Seeing	Mag V?	SP	
358 373	3"	$\begin{bmatrix} .10.1 \\ 12.8 \end{bmatrix}$	M0	16ci 17ci CCDT = $-100.3^{\circ}\text{C}$ $\approx 180 \text{ ADU sum AVG above background for 4 columns}$
1430	2.4"	9.78	dm2	<del>18ci</del> CCDT @ 0035 = $-100.2^{\circ}\text{C} \approx 10 \text{ hrs since last topup}$ $\approx 500 \text{ ADU sum AVG above background for 4 cols.}$ CCD Temp @ 01 EST = $-99.5^{\circ}\text{C}$ ; Then topup started  18-23ci 10 K ADU/pixel max for Flats  Bias $\bar{x} = 159.665$ Dome T = $+9.4^{\circ}\text{C}$
3400 31x31 pixels		7.29	d62	ST0vel seeing test 4 frames. Dome SW <del>strong</del> SW wind
40000 Dome T = $+9.2^{\circ}\text{C}$	3.4"	5.00	B4V	Fds - pgm Now 1800/ G=4578 Central $\delta$ 4530A 510 0 80 1024 2 1 CCD FMT CX7 = 167.696
40000	4"	4.95	B5V	Fds pgm
10000 40000		5.50	K1 III	std vel
		5.00	B1V	Fds pgm

T<sub>Dome</sub> = 9.2

Night cont next Book.

CX7 = 166.620









