

PARTIAL Index

FF spectles PCS examples — July 30 - Aug 3 1991

Flexure Tests — none

TDI Pdr mki Aug 30 / sept 1 / 91

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3

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

Focus

Spectr. Temp.

Transparency Conditions

4

Spectr. Temp.

Dome Temp./Hum.

[illegible]

SAT - SUN

Emulsion Batches:

DIFF IN
c f 18 Stop IN

[illegible]

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 10 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=4.290 1800/40.5	250u	4100A			$\bar{x} = 175.369$ 15.5° CCDT = -101.7 65.3%	
						2nd longest Slit					
39000	<3"	B 6.13	B8Ia					3ci	rG pgm	SUN+HUG ADU 5258 20cd/s. thin cloud $195/71$ ADU	
36500	3"	6.13	B8Ia					4ci	rG pgm		
										$\bar{x} = 176.473$ 14.9° CCDT = -101.5 $^{\circ}\text{C}$	
38800	3"	6.53	B8Ib					5ci	rG pgm		
										$\bar{x} = 175.833$ Dome T = 14.5 CCDT = -101.6 $^{\circ}\text{C}$	
						250u longest Slit Length				7280 MAX ADU/Div/s	
									To 2967 to Perseus & WORM		
									Note CC02951.TST - CC02970.TST (Bias from night before)		
									Left on AST for now. TA		

7 pg#1 SUN - MON

Date 1.9.91. NUNE 23/24 Observers J. ty. & J. n. [KK]

Emulsion Batches:

..... DIFF IN
..... R.F. 18 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 ⁰⁰⁰ 367.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	20s
2971	BIAS(4)			21					
2973	HD 134439	15 0448	-15 53	22 12	22 52	01 31W	CC02972 CC02974	FeNe Clear	20s
2975	BIAS(4)					01 34W	-16°		
CC02977	HD 144287	16 00.0	+25 30	23 03 36	23 11 30	00 57W	CC02976 CC02978	FeNe Clear	20s
2979	BIAS(4)					01 W	CC02979 +15° 46°		
2981	HD 147379	16 16.6	+67 28	23 21 00	23 54 15	01 27W	CC02980 CC02982	FeNe Clear	20s
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	20s
2988	HD 173740	18 41.8	+59 29	01 12 00	01 40	00 47W	2987 2989	n	n
2990	HD 173739	n	n	01 12 10	01 58	01 05W	2991	n	n
2992	BIAS(4)					01 06W	+59°		
2994	HD 199305	20 51.3	+61 50	02 05	02 26	00 37E	2993 2995	FeNe Clear	20s
2997	HD 215182 BC	22 38.3	+29 42	02 38	03 19 25	01 32E	2996 2998	n	n

Spectr. Temp. Dome Temp./Hum. $+18.3^{\circ}$... 45% Transparency Conditions ... *Fine* 8
 Focus ... 6.70
 Spectr. Temp. Dome Temp./Hum. $+16.5^{\circ}$... 50%
note Almost FULL MOON $\approx 25^{\circ}$ from 1st 2 stars gone, 90 CGAIN

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emission	P.H.	Program	Remarks	Quality
					1800/AT	250u nodal				no wind DOME NW	
1800 ?	3"	10.28	K2 V	CCD CASS	G = 4990 1800/	250u (2nd largest slit)		3ci	Asm Sp-KK	South star of pair of 2 cols ≈ 1500 sum AVG ADU	
					CCDT = -100.5° C, Dome	T = $+18.2^{\circ}$ C				CCD FORMAT to here 5300 ADU 10^{29} 10 1	
2100	3"	9.81	K0 V			250u $\approx 10''$ long	5140 Å			New CCD FORMAT = 5400 10^{29} 15 5 1	
										CCDT = -100.5° C, Dome T = $+18.0^{\circ}$ C	
4770	2.3"	7.62	G8 V					5ci	Asm Sp-KK	3 cols SUM AVG ADU 7500 ADU	
										CCDT = -101.5° C, Dome T = $+17.5^{\circ}$ C	
5030	2"	10.1	M0 V					8ci	Asm Sp-KK	South s Br test of pair	
										CCDT - Dome T = $+17.5^{\circ}$ C	
5330	4.2"	9.22	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	
1768	4.2"	8.90	dM4					15	"	fainter and south of pair sum AVG $\approx 3 = 1680$ ADU	
	4.2"	8.50								NORTH of pair	
										Dome T = 16.9° C	
1700	4.2"	8.50	M2 V						Asm Sp-KK	fainter one NORTH of pair	
1383	4.2"	10							"	NW of pair 1-2 are hazy here	

9

H2

Date 1991 JUNE 23/24 Observers J. & J. T. n.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC02999	B/H5 (4)					01 30E	+30°		
3000 comp 3000	HD 212943	22 22.8	+04 12	03 27	03 27 38	01 10 E		FeNe clear	20s
3002 comp								FeNe	20s
3003	BIAS (4)					1 11E			
CLO3003 CCO3011 CLO3012	FLATS 89			03 46		0 0	+46°	TUNG clear	8 sec
	"					"	"		
CC03013 3019	FLATS					0 0	-16	TUNG clear	8 sec
CC03020 - 3027	FLATS see Remark					0 0	-16	"	4 sec
CC03028	BIAS (4)							"	4 sec
CCF00106 CCF00107	Focus Test		Comp/Stellar			0 0	-16	FeNe clear	20/20
CC03029	DARK	40 min		04 28					
CEF00075	Hartmann - in			F = 0.250	T = + 22.7			Sh A	30s
76	- out							"	"
77	- in			F = 0.260				"	"
78	- out							"	"

11

Mon - Tues

FITS header times in error by 12^h

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.
FMOO 368.1m ce02942 2943	HD128718 BIAS(4)	14 33.4	+48 39	21 17 21 22 21 26		00 30 W	"N" mode	Int x4	
2944	DARK			21 32			15 min	Exp	
2946	HD131156	14 46.46	+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 30.51	+56 58.08	23 36.35	00 06.35	00 32 E	ce02950 ce02953 ce02955	ThA ThA "	10s 10s "
2954	" Lost	"	"	00 12.13	00 42.45	00 05 W	ce02955	"	"
2954	"	"	"	00 48.18	01 18.30	00 40 W	ce02955	"	"
2956	HD2048 BIAS(4)					02 00 E	-5 36 ce02957		
2958	HD204867	21 26.18	-06 00.40	01 28.53	01 53.53	01 43 E	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.

51st H

90 C Gain

2185

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FITS headers and DSS time
stamps off by 12 hours

Emulsion Batches:

Edited: Oct 96. To
To U.T. end...

Date 1991. JUNE 25/26 Observers S.F. - T.A.

Plate No.	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	Dome T 23.1°C				
2977				19 31	Dome T 23.0°C				
2978	DARKS 2			19 34					15min
2979				19 50					
Fin 000 369.16	HD 128718	14 33.4	+48 39	20 44		00 05W	"N" mode	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	Dome T 20.4°C	02 40E	CE02986	"	"
2989	HD 185144	19 32.33	+69 29.28	22 56 30	23 29 30	02 06E	CE02987	THA	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	+16 53.28	00 47 22	01 17 22	02 29E	CE02994	"	"
2998	"	"	"	01 19 27	01 49 27	01 57E	CE02995	"	"
CE03000	"	"	"	01 55 21	02 25 22	01 20E	CE02997	"	"
3002	"	"	"	02 27 30	02 57 30	00 48E	CE02999	"	"
3004	"	"	"	03 01 33	03 31 33	00 14E	CE03001	"	"
							CE03003	"	"
							CE03005	"	"

Spectr. Temp. Dome Temp./Hum. $+22.3^{\circ}\text{C}$ 50% Transparency Conditions Sl. hazy... PART... 14
 Focus 2.60 NO FAKS Tonight cloudy
 Spectr. Temp. Dome Temp./Hum. $+19.4^{\circ}\text{C}$ 52%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Echelle	16.55	90u 1265	39344 ⁰	600u		0 0 256 1024 4 1 CCD FMT X grating .4150 163.46 163.59	
23x23 pinel		6.7	F2	4 frames		off echelle	slit Had		Seeing test	Domo NW, no wind	
72		B 5.31	G8V						Slit pgm		
54	3"	"	"						"		
43	3"	"	"						"		
200?	2.3"	B 5.47	K0V						slit pgm	SETBOX 10 15 134 425 162.20 2K grad 172ADU 10 cols 920 ADU above bk grad 710 ADU 10 cols above bk grad	
135	2"	"	"						"		
104	3"	"	"						"	increasing haze	
78	3"	5.51	G5 Ib						9 Reg		
48		"	"						"		
49	3"	"	"						"	cloudy periods	
32		"	"						"	CCD T = -100.15 $^{\circ}\text{C}$	
61	2"	"	"						"		

pg #2

Emulsion Batches:

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[illegible]

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions 16

Focus 260

Spectr. Temp.

Dome Temp./Hum.

51st Height

[illegible]

1991 JUN 26/27 Observers ... Srt-Tn
 Date 1991 JUN 26/27 Observers ... Srt-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.
CE 03014 -03015	BIAS(4) 2			19 35 19 42	DOMET 24.6° 24.6°				
CE 03016 03018	DARKS 3			19 44 20 25					15min
Fm 000370.7	HD128714	14 33.4	+48 39	20 55		00 20W	4 frames	Int x4	Ninade
CE03020	HD131156	14 46 46	+19 30 57	21 15 23	21 45 50	00 56W	CE03019 CE03021	ThA	10s 10s
03022	"	"	"	21 50 38	22 20 38	01 30W	CE03023	"	"
03024	"	"	"	22 24 20	22 54 20	02 04W	CE03025	"	"
03027	HD171635	18 30 57	+56 58 08	23 01 39	23 31 39	01 01E	CE03026 CE03028	"	"
03029	"	"	"	23 35 53	00 05 53	00 25E	CE03030	"	"
03031	"	"	"	00 13 40	00 43 40	00 13W	CE03032	"	"
CE03033	Comp for	HD204867		00 49			CE	"	"
3034	BIAS(4)			00 50		02 39E	-05 37	"	"
3035	HD204867	21 26 18	-06 00 48	00 53 55	01 23	02 05E	CE03036	ThA	10s
3037	"	"	"	01 27	01 57	01 32E	CE03038	"	"
3040	HD209750	22 00 39	-00 48 21	02 05 26	02 35 26	01 28E	CE03039 CE03041	"	"
3042	"	"	"	02 37 21	03 07 30	00 55E	CE03043	"	"

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

Focus 20 Set by KK during DAY focus tests

Transparency Conditions ... *Hazy* 18

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

FANS on - Dome open
by 1950 CCALP-90

CGAIN = 90

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	Xgratig .4150	0 0 256 1024 41	
5 min												
made 10S 10S			V 6.7 B 5.31	FZ G8V			Echelle Slit Head 90u .265			seeing test Dome NW	Light S' wind [390 ADU above bkgnd.] VERY Hazy FOR 10 cols	
"	22 *	2"	" "	" "				600u Height	Srt pgn *Cn't rate	= 1/3 of previous rate	440 ADU above bkgnd	10 cols
"	18	"	" "	" "				4ci				
"	29	"	" "	" "							Sum Avg f10 cols = 500 ADU above bkgnd	
"	75	<2"	5.38	F7Ib					3ci		Sum Avg. f10 cols = 1000 ADU above BKGND	
"	70	"	" "	" "					5ci		" " " 1130 ADU above rods	
"	36	2-4"	" "	" "					1ci		thin cloud	
"											Dome T = 22.4°C	
"		3-4"									X = 163.146 x 11594.7 CCD T = -101.5°C Dome T = 22.4°C	
10S	50	3-4"	3.74	G0Ib								
"	57	3-5"	" "	" "								
"	65	4"	3.94	G2Ib								
"	69	"	" "	" "							CCD T = -101.6°C	

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[illegible]

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions *very hazy* 20

Focus

Spectr. Temp.

Dome Temp./Hum. 12/13°C.....64.8°C

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 CCDT = -10.6' Dome T = 21.3 °C	
										All to WORM [see notes on copy methodology] = To Pearson.	
										* Next night I noticed that Echelle Tilt was set Attn Ian Short at 16.45, not 16.55 for further reference.	

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Emulsion Batches:

Date JUNE 27/28 Observers Jr. Pr. 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.
CE03051	✓BIAS (4)			21 07 30		03 02W	+13 30		
<i>not written</i>	DARK 30 min			21 26		"	"		
3052	BIAS (4)			23 13		"	"		
	BIAS			7 06					
3053	BIAS (4)			9 15					
3054	"			9 25					
	"			9 27					
3054	BIAS (10)			9 30					
3055	BIAS (10)			9 34					
3056	BIAS (10)			9 37					
3054	BIAS 4+	summed (not averaged) bias							
3055	"								
3056	"								
3057	"								
3058	"								

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 & Dome closed				CCD & dome				$\bar{x} = 196.304$		Dome T = 25.4 CCDT = -101.6°C	
								3: 196.295 195.80		4.2 ADU = 37e ⁻ 18e ⁻ /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

Date 1991 June 30/1 Observers Tty/KK/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.
FM000371.Pdr	HD 128718	14 33.4	+48 39	20 54		0 35 W		Int x4 'N' mode	
CE03059F*	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
 Spectr. Temp. Dome Temp./Hum.
 → Clear

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 4523A	.205 600μ			
2904		B 3.93	F0p					600μ	β CrB		
								.185 800μ			
					19.0	.277 60μ	0.458 4482A	.105 800μ		T = 18.0°C Dome Setting is better now for "Fds std"	
1642		B = 3.93	F0p A5 III					.205 600μ			
5945	~4"	B = 2.2	A5 III						α Oph		
5172		B = 3.93	K2 III						β Oph	RV Std	

Date 1971 June 20/Jul Observers 179/VAC

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Exp. Mtr.

27

Date 1991 July 2/3 Observers Tty/Pdr/kh/PC

Emulsion Batches:

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[illegible]

29

Fri-SAT

Date 1991 JULY 5/6 Observers Tty/Tn

Emulsion Batches:

..... F1.8 stop in... for sources
..... 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.
CF00684.Hs	comp							FeNe 20's	
685	HD144287	16 ^h 00 00	25°30 00	21 50 20	21 54 20			clear	
686	"			21 55 30	22 00 30				
687				22 01 30	22 10 30				
688	comp							FeNe 20's	
689	comp							FeNe 20's	
690	HD144287	16 ^h 00 00	25°30 00	22 15 45	22 20 45	00 54 W			
691	"			22 22 15	22 27 45	01 01 W			
692	"			22 28 15	22 33 15	W			
693	comp							FeNe clear	20's
694	HD161096 comp	17 38.5	+04 37	22 38 00	22 38 40			FeNe clear	20 sec
695	"	"	"	38 02					20 sec
696	"	"	"		22 39 02	00 26 E			20 sec
697	comp				39 02			FeNe clear	20's
698	FLAT	(Avg of 9 x 6sec exps)							6 s
699	Flat (9)								7s

Spectr. Temp. Dome Temp./Hum. $20^{\circ}/87\%$ Transparency Conditions *Clearing - cloudy* ... 30

Focus

Spectr. Temp. Dome Temp./Hum. $19.5^{\circ}/90\%$: *24h* 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	^{250u} Vernier	089.0				
1021		^B 7.62	68V				5120A		Kk pgn	} 0 Cgain CCDT = -101.7°C	
1166											
2045											
										<u>90 Cgain now</u>	
1213	4"	7.62	68V						Kk pgn		
1208											
1020											
2000 2000		^B 3.93	K2 III						Std vel		
2000		"	"						"		
3000		"	"						"	in cloud	

3¹ pg #2

Date .1991.JULY.5/6... Observers .J.ty...-J.h.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CF00700	BIAS(10)	90		23 17 00					
701	BIAS (10)	0							
702	Flat(a)	0							25s
703	Dark 15m	90							15m
704	comp			00 29 00				Felre Clear	
705	HD146051	16 09.1	-03 26	00 32		02 56W			20s
706	"								
707	"				00 33 15	02 57W			
708	comp				00 45 00				20's
709	comp								20's
710	HD186791	19 41.5	+10 22	00 45	00 45 00				
711	"								
712	"				00 46 30	00 22E			
713	comp							Felre	20s
714	BIAS(10)			01 00 00					
715	Flat(10)								7s

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions ... *H429 - 699.4* *32* ..

Focus

Spectr. Temp.

Dome Temp./Hum.

Exp.	Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
										90CGAIN still	19.6° / 88.6% ~ III	
										<u>0 CGAIN</u>	Dome T 19.6°C	
SS 5 ^m										0 cgain		
										90 cgain		
20 sep	→ 2700		B 432	AAGSTH MO.5 ILL			29μ	5/20A		std vel		
	"									"		
	"									"		
26's												
26's	→ 3000		B 424	K3 III						std vel		
	"											
	"											
28's												
7s											19.5° / 91.1% ~ 1085	

33 Sun - Mon
Date 1991 JULY 7/8 Observers T. T. - T. n.....

Sun - Mon

Date 1991 JULY 7/8 Observers T. & T. S.

Emulsion Batches:

f18 stop IN
Diffuser out

Diffuser out

[illegible]

FORMAT 340 0 7 1024 20 1

[illegible]

2³⁵ pg#1

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			

[illegible]

31 pg #2

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

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.
CF00748.Hs	HD123782	14 04.6	+49 56	23 52 55	23 56 20	04 38 W	CF00749	FelNe Clear	20s
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 06	07 09 W	CF00753	FelNe Clear	20s
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	FelNe Clear	20s
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'node	
761	Bias (4)			03 44					
762	Comp								
763	Flat (9)			04 03 5				TUNG Clear	7s
764	Dark			04 06 15					900s

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

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[illegible]

Transparency Conditions... *Few clouds* 40

Dome Temp./Hum. 10.5 / 54.5[illegible]

u1 #2

Date 1991 July 9/10 Observers Tty./Pdr [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.
800779	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 ²⁵ 30	22 43	4 38 W			
782	Comp							FeNe Clear	20 ^s
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 ^s
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 ^s
792	HD158633	17 25 18	67 24	00 52 30	00 56 30	2 25 W			
793	"	"	"	00 57 00	01 01	2 29 W			

42

[illegible]

#3

Date 1991 Jul 9/10 Observers Ttg/Pdr [KK]

Emulsion Batches:

[illegible]

Comparison	Exp.
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Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	1908		D 7.09	69V	CCD Fiberfed	1800/53.9	250μ	5120A				
20												
	800	2.11	V 9.7	dmf								
	800											
	800											
20												
	1000		V 8.9	dmf								
	1000	3.11										
	1000											
20												
	31x31 pix				Fiber Head	Seeing test		FANS OFF			No wind Dome printing WSW	
7						all to WORM & Floppy						

45

Wed/Th

Date 1991 July 10/11

Observers

Tty / Pdr [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.
CF00806	BLAS(10)				20:05				
807	Flat (9)				20 07			Tung Clear	7 ^s
808	# Comp							FeNe	20 ^s
809	HD103095	11 47 12	+38 26 00	20 41 00	20 47 20	3 51 W			
810	"	"	"	20 48	20 52 32	3 56 W			
811	"	"	"	20 53	20 58 10	4 02 W			
812	Comp							FeNe Clear	20 ^s
813	HD124752	14 10 18	68 03	21 11 15	21 25 47	2 10 W			
814	"	"	"	21 26 00	21 41 15	2 25 W			
815	"	"	"	21 41 30	21 58	2 42 W			
816	Comp							FeNe Clear	20 ^s
817	HD137107	15 19 06	30 39	22 04	22 05 45				
818	"	"	"	22 06	22 07 37	1 42 W			
819	"	"	"	22 08	22 08 40	1 44 W			
820	Comp								

47

#2

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.
400821	HD 140538	15 39 06	02 50	22 16 00	22 19 30	1 32 W			
822	"	"	"	22 20 00	22 23 10	1 36 V			
823	"	"	"	22 23 30	22 27 05	1 41 W			
824	Comp							FelNe clear	20s
825	HD 173739	18 41 48	59 29	22 39	22 59 30	0 46 E			
826	"	"	"	23 00	23 21 15	0 25 E			
827	"	"	"	23 21 30	23 41 30	0 4 E			
828	comp			2				FelNe clear	20s
829	HD 173740	18 41 48	59 29	23 45 00	00 16 18	0 31 W			
830	"	"	"	00 16 50	01 47 42	01 02 W			
831	"	"	"	00 48 00	01 19 50	01 34 W			
832	Comp							FelNe clear	20s
FM000374	HD 195047	20 23 54	47 35	01 22		00 01 E	4X Int	N ¹ mode	
833	BIAS (10)								

Spectr.

Focus.

Spectr.

Exp. Mtr.

1500

500

1500

1200

"

"

050

900

903

31x31

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions ... Clear 48[illegible]

49

#3

Emulsion Batches:

Date 1991 July 10/11 Observers Tty/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.
cf00834	HD 186791	19 45 51	10 35 32	01 38					10 ^s
835	"	"	"						10 ^s
836	"	"	"		01 39 40	0 52 W			10 ^s
837	Comp							FeNe Clear	20 ^s
838	HD 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							FeNe Clear	20 ^s
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							FeNe Clear	20 ^s
846	HD 222368	23 29 31	05 34 49	04 09 11					
847	"			04 09 50					
848	"			04 10 25					

[illegible]

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions *Clear* 52

Comparison	Filter	Exp
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100		

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				QD Fibered	1800 53.9	250	5120				
										15.7/85.3% ⁷⁰⁶ 106.5	
~~~~~ All to WORM + Floppy ~~~~~											



53

Th/Fri

Emulsion Batches:

Date 1991 July 11/12 Observers T. G. / P. 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.
cf00 852	BIAS (20)			20 20 00					
853	Flat (9)						Tung	Felto Clear	6 ^s
854	Comp							Felto Clear	20 ^s
855	HD 137107	15 19 06	+30 39	20 38 15	20 39 30	0 19 W			
856	"	"	"	20 41 15	20 42 20				
857	"	"	"	20 42 40	20 43 45	0 21 W			
858	Comp							Felto Clear	20 ^s
859	HD 140538	15 39 06	+2 50	20 51 00	20 54 50	0 13 W			
860	"	"	"	20 55 30	20 59 26	0 16 W			
861	"	"	"	20 59 45	20 03 30	0 20 W			
862	Comp							Felto Clear	20 ^s
863	HD 158633	17 25 18	67 24 00	21 14 40	21 18 05	01 06 E			
864	"	"	"	21 19 10	21 21 50				
865	"	"	"	21 22 05	21 24 47	01 00 E			
866	Comp								

Spectr. Temp. .... Dome Temp./Hum. 19.5°C 54.8% Transparency Conditions .. Clear ..... 54

Focus .....

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

[illegible]



54

#2

Date 1991 July 11/12 Observers Tly / 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 867	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 ^s
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 ^s
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 ^s
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 ^s





51

#3

Emulsion Batches:

Date 1991 July 11/12 Observers Ttg. / 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.
CS00883	HD 2129 43	22 27 26	04 39 10	01 18 45	01 20	02 06 E			
884	"	"	"	01 20 20	01 21 25	02 04 E			
885	"	"	"	01 21 45	01 22 54				
886	Comp							Fe Ne Clear	20s
887	HD 216899	22 51 42	+16 02	01 30 20	01 45 07	02 10 E			
888	"	"	"	01 45 40	02 01 10	01 54 E			
889	"	"	"	02 01 30	02 18	01 36 E			
890	Comp							Fe Ne Clear	20s
FM000375	HD 2017 50	21 06 30	36 24	02 30		01 21 W	4x Integr.	'W' mode	
891	BIAS(20)			02 26 00					
892	HD 8890 B ^{Polaris}	01 22 36	88 46	02 55	03 05 07	4 26 E			
893	"	"	"	03 05 30	3 14 30	4 17			
894	"	"	"	03 15 00	3 24 00	4 7			
895	Comp								

Dome Temp./Hum. ....

[illegible]



44

### Emulsion Batches:

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[illegible]

Spectr.

## Focus

Spectr

Exp. M.

0450

4

4



0071

400

500

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

panson Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
10 ^s	n 4500	1.5"		F	CCD Fiberfed	1800/ 53.9	250μ	5120A		KK		
10 ^s	"											
10 ^s	"											
20 ^s	<del>1600</del>											
20 ^s	1600		✓ 4.13	F7V							RV Standard	
20 ^s	1600											
20 ^s	1500											
20 ^s												
											17.4°/57.1% ^{40g} 106.5	
7 ^s												
					All to worn & Floppy							



61

Date 1991 July 13/14 Observers Ttg/Pdr [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.
800906	bias (10)								
907	Flat (9)								13 ^s
908	Comp								30 ^s
	HD 146051 *	16 09 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 ^s
913	HD 123782 *	14 04 36	49 56	<del>02 07 20</del>	02 17 15	7 19 W			
914	Comp								
915	HD 201156	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 Clea	30 ^s

Spectr. Temp. . . . .

Dome Temp./Hum. 18.3 82/

## Transparency Conditions

Partly Cloudy... 62.

Focus . . . . .

Spectr. Temp. . . . .

Dome Temp./Hum. ....

→ Clear

[illegible]



#2

Date 9/07/13-14 Observers Tty/Pdr [HH]

### Emulsion Batches:

[illegible]

Spectr. Temp. 4860 Å Dome Temp./Hum. 17.5°/76.5% Transparency Conditions Clear 64

Focus . . . . .

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

[illegible]



65

Date July 14/15 1991 Observers Fds - Frw - R

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.
CE03080.FB	Bias(4)			20:38					
CE03091-84	4x FLAT			20:40					
CE03085-88	4x FLAT			20:50					
CE03089	TH-AR			21:06:40				TL-AR	10s
CE03090	HD 18897	14 11 06	+19° 42' 32"	21:12:30	21:14:07	02 ^h 11 ^m W	+19° 20'	<del>TH-AR</del>	
03091	TH-AR			21:17:00		02 ^h 11 ^m W	+19° 20'	TH-AR	20s
03092	TL-AR			21:22:11				TH-AR	20s
03093	HD 188892	19:52:17	+38° 13'	21:27:13	22:07	2 ^h 36 ^m E	+38° 34'		162
03094	TH-AR			22:08:40					20s
03095	TH-AR			22:12:43					20s
03096	HD 206672	21:38:33	+50° 43' 59"	22:16:30	22:46:13	3 ^h 43 ^m E	+51° 16'		
03097	TH-AR			22:47:00					20s
03098	TH-AR			22:54					80s
03099	HD 207330	21:43:06	+48° 50' 48"	22:54:37	23:25:11	3 ^h 08 ^m E			
03100	TH-AR			23:26:00					20s
03101	TH-AR			23:31:00					20s

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

[illegible]



61 #2

Date July 14/15 1991 Observers Eds - R1

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
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 4 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 4		
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 4 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	02 4 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%

Exposure	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	1435		4.94	B5IV	CCP Echelle	18.85	.277 60μ	.4570 4481A			CLOUDS	
20s					"	"	"	"				
20s					"	"	"	"				
	2000		4.88	B2pc	"	"	"	"				
20s					"	"	"	"				
20s					"	"	"	"				
			4.69	B3IV	"	"	"	"				
20s					"	"	"	"				
					"	"	"	"				
20s					"	"	"	"				
			4.23	B3III	"	"	"	"				
20s					"	"	"	"				
20s					"	"	"	"				
	1800		4.94	B5IV	"	"	"	"				
20s					"	"	"	"				
20s					"	"	"	"				



69 II 3

### Emulsion Batches:

Date July 14/15 1991 Observers Eds - R.

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[illegible]

Spectr. Temp. .... Dome Temp./Hum. .... Transparency Conditions ..... 70.

Focus . . . . .

Spectr. Temp. . . . .

Dome Temp./Hum. 16.3°C / 62.3%

Exp.	Mir.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1800		4.67	B3IV	ECHERR CCD	18.85	60L .277	.4570 4481A					
205				"	"	"	"					
205				"	"	"	"					
		4.23	B3III	"	"	"	"					
205				"	"	"	"					



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	8 FLATS @ 25 SEC		19:51:46					
03139	BIAS (4)			20:02:30					
03140	TL - 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	1° 43' W	+19° 18'		
03143	TL - Ar								20s
03144	TL - Ar								20s
03145	HD 188892	19 52 17	+38° 13' 15"	20:54:30	21:28:36	3° 11' E	+38° 28'		
03146	BIAS (4)			21:29:06					
03147	TL - Ar			21:30:34					20s

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

Focus .....

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

00256 1024 4 1 CCD FMT

90 cgain

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				ECHELLE							
				CCD	18.85	277 60μ	4570 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	B51V	"	"	"	"				
				"	"	"	"			T = 21.4°C	
				"	"	"	"				



73 #2

Date July 15/16 1991 Observers Fds - R1

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	TL-Ar			21:33:18					20s
03149	HD 206672	21 38 32	+50°43'59"	21:41:17	22:05:14	44 20 E	+51°10'		
03150	TL-Ar			22:06:21					20s
03151	TL-Ar			22:08:53					20s
03152	HD 207330	21:43:06	+48°50'48"	22:10:30	22:36:50	3"53 E	+49°17'		3000
03153	Bias (4)			22:37:09					
03154	TL-Ar			22:38:30					20s
03155	TL-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'		2000
03157	TL-Ar			23:08:45					20s
03158	TL-Ar			23:10:52					20s
03159	HD 188892	19 52 17	+38°13'15"	23:13:00	23:46:22	0"53 E	+38°30'		2000
03160	TL-Ar			23:47:08					20s
03161	Bias (4)			23:48:29					
03162	TL-Ar			23:51:29					20s
03163	HD 206672	21 38 32	+50°43'59"	23:53:58	00:24:47		+51°11'		2000

Spectr. Temp. .... Dome Temp./Hum.  $21.2^{\circ}\text{C}$  5537 Transparency Conditions ... *good* ... 74...

Focus .....

Spectr. Temp. .... Dome Temp./Hum.  $19.6^{\circ}\text{C}$  ... 59.7%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20x				ECHELLE CCD	18.85	.277 60 $\mu$	.4570 4481A				
2000		4.67	B3IV	"	"	"	"				
20x				"	"	"	"				
20x				"	"	"	"				
3000		4.23	B3III	"	"	"	"				
				"	"	"	"			$T = 20.8^{\circ}\text{C}$	
20x				"	"	"	"				
20x				"	"	"	"				
2000		4.88	B2pe	"	"	"	"				
20x											
20x											
2000		4.94	B3IV								
20x											
20x										$T = 19.7^{\circ}\text{C}$	
20x											
2000		4.67	B3IV	"	"	"	"				



15 23

Date July 15/16 1997 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.
3164	Th-Ar			00:26:12					20s
3165	Th-Ar			00:29:00					20s
3166	HD 207330	21:43:06	48°50'48"	00:31:35	00:57:39	01°32'E	+49°17'		
3167	Bras (4)			00:58:00					
3168	Th-Ar			00:59:22					20s
3169	Th-Ar			01:03:08					20s
3170	HD 188892	19 52 17	38°13'15"	01:05:48	01:36:28	0°58'W	+38°29'		
3171	Th-Ar			01:37:26					20s
3172	Th-Ar			01:40:00					20s
3173	HD 206672	21 38 32	50°43'59"	01:43:54	02:03:05	0°22'E	+51°11'		
3174	Bras (4)			02:03:29					
3175	Th-Ar			02:04:48					20s
3176	Th-Ar			02:07:03					20s
3177	HD 207330	21 43 06	+48°50'48"	02:08:54	02:26:11	0°03'E	+49°17'		
3178	Th-Ar			02:26:57					20s
3179	Th-Ar			02:29:03					20s

Spectr. Temp. .... Dome Temp./Hum. .... Transparency Conditions . *EXCELLENT* ..... 76 ...

Focus .....

Spectr. Temp. .... Dome Temp./Hum. *19.3°C... 56.9%*

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>4481A</i>				
<i>3000</i>		<i>4.23</i>	<i>B3III</i>								
										<i>T = 19.4°C</i>	
<i>3000</i>		<i>4.94</i>	<i>B5IV</i>								
<i>2000</i>		<i>4.67</i>	<i>B3IV</i>							<i>T = 19.5°C</i>	
<i>2600</i>		<i>4.23</i>	<i>B3IV</i>								





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

Dome Temp./Hum. . . . .

Transparency Conditions EXCELLENT ..... 78

Focus . . . . .

Spectr. Temp. . . . .

Dome Temp./Hum. 18°C 62.3%

[illegible]



19

Date July 16/17 1991 Observers Eds - R

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.
CR03190, FTS	BIAS (4)			18:35:17					
3191	BIAS (4)			18:38:19					
3192	DARK 15 MIN								
3193	DARK 15 MIN								
3194	DARK 15 MIN								
3195	BIAS (4)			19:34:10					
3196-3203	8 * Fkt	slit height = 550 $\mu$ (-210)							25s
3204	BIAS (4)			19:58:06					20s
3205	Tr-Ar			20:43:11					20s
3206	HID124897	14 11 06	19 42 30	20:46:10	20:47:39	1 ^h 52 ^m W	+19°17'		
3207	Tr-Ar			20:48:08					20s
3208	Tr-Ar			20:52:51					20s
3209	HID188892	19 52 17	38° 13 15	20:56:43	21:36:43	3 ^h 00 ^m E	+38°28'		
3210	BIAS (4)			21:37:13					
3211	Tr-Ar			21:38:30					20s
3212	Tr-Ar			21:41:34					20s

Spectr. Temp. .... Dome Temp./Hum. 23.7°C .... 58.6% Transparency Conditions Sol ..... 80

Focus . . . . .

0 0 256 1024 4 1 CCDFMT

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

90 cgain

[illegible]



42

Emulsion Batches:

Date July 16/17, 1991 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.
3213	HD 206672	21 38 33	+50 43 59	21:41:04	22:24:00	3° 57 E	+51° 10		
3214	Th - Ar			22 24 56					20 sec
<del>3215</del>	<del>Th - Ar</del>			<del>22 27:08</del>					20 sec
3215	HD 207330	21 43 06	+48 50 48	22 30 12	23:00:10	3° 26 E	+49 17		
3216	Bins (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	Bins (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° 56 E	+51° 10		
3227	Th - Ar			01:25:06					20 sec

82

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

[illegible]



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					205K
3229	HD 207330	214306	+48:50:48	01:29:20	01:59:20	00 ^h 26 ^m E	+49° 16'		
03230	Bins (4)			01:59:40					
03231	TL - Ar			02:01:00					205K
03232	TL - Ar			02:03:38					205K
03233	HD 188892	1952 17	+38 13 15	02:05:22	02:48:28	02 ^h 15 ^m 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	01 ^h 09 ^m W	+51° 10'		
03237	TL - Ar			03:30:08					205K
03238	Th - Ar			03:32:03					205K
03239	HD 207330	2143 06	+48 50 48	03:34:30	04:09:25	01 ^h 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. *19.6°C... 71.7%*

Impersonator	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2052					ICHUUE CCD	18.85	.277 60	.4570 4481A				
	2742 2500		4.23	B3IV								
											$T = 120.50^{\circ}\text{C}$	
2052												
2052												
	1500		4.98	B3IV								
	2000		4.67	B3IV								
2052												
2052												
	2000		4.23	B3IV								
											$T = 119.6^{\circ}\text{C}$	
											$T = 119.6^{\circ}\text{C}$	



## Emulsion Batches:

Date July 17/18, 1991 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.
CEP3243.FS	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 - 0303256	FLATS		8 FLATS @ 20s	19:35:58					
03257	BIAS (4)			19:47:00					
03258	TL-Ar			20:33:53		+01 46 CORRECT TO 92			20s
03259	HD 124897	14:11	119	20:34:53	20:37:50	14 40 W x 14	+19° 18'		20s
03260	TL-Ar			20:58:12					20s
03261	TL-Ar			20:42:15					20s
03262	HD 188892	1952 17	38° 15' 13"	20:44:32	21:24:32	03° 5' E	+38° 28'		20s
03263	TL-Ar			21:25:45					20s
03264	TL-Ar			21:28:07					20s
03265	HD 206672	21 38 32	+50° 43' 59"	21:32:30	22:11:30	4° 06' E	+51° 10'		20s

Spectr. Temp. .... Dome Temp./Hum. 24.5°C 72.5% Transparency Conditions ..... 86.  
 Focus .....  
 Spectr. Temp. .... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				FEHLE C10	18.85	.277 60 $\mu$	.4570 4481 A			T = +24.6°C	
										T = 24.6°C	
										T = 24.7°C	
8000		0.66	KOTI								
1014		4.94	B5 IV								
1700		4.67	B3 IV								



61 #2

Date July 17/18 1991 Observers Eds R.

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.
03266	Bias (4)			22:11:51					
03267	Th-Ar			22:13:31					20s
03268	Th-Ar			22:15:04					20s
03269	HD 207330	21 43 06	48 50 48	22:17:38	22:46:08	3 ^h 36 E	+49° 16'		
03270	Th-Ar			22:49:15					20s
03271	Th-Ar			22:51:36					20s
03272	HD 188892	19 52 17	+38° 13 15	22:54:26	23:34:36	0 ^h 56 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 ^h 40 W	+38° 00		
03276	Bias (4)			00:13:39					
03277	Th-Ar			00:15:00					20s
03278	Th-Ar			00:17:00					20s
03279	HD 206672	21 38 32	+50° 43 59	00:27:40	01:04:24	1 ^h 13 E	+51 10		
3280	Th-Ar			01:05:06					20s
3281	Th-Ar			01:07:26					20s

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

[illegible]



81 #3

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

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	0° 43 E	+49 15		
3283	Bras (4)			01:39:24					
3284	Th - Ar			01:40:44					23
3285	TL - Ar			01:43:55					205
3286	<del>TL - Ar</del> ^{HD 188592}	19 52 17	+38° 13	01:45:06	02:25:06	+38 28'	1° 54 W		
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	0° 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	0° 53 W	+51 10'		
3296	TL - Ar			04:10:38					
3297				04:12:45					
3298				04:14:31					





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.
CE03999	Bias (4)					# 2 ^h 30 ^m W +42°			
3300	Bias (4)					"	"		
3301-3308	8x flat			20:27:46					20 ^s
3309	<del>Bias</del> Comp					0 ^h	-35°		
3310	<del>HD 124847</del> Comp			<del>20:46:33</del>				Th Ar	20 ^s
3311	HD 124847	14 11 06	19 42 30	20:46:33	20:50:45				
3312	Comp			20:52				Th Ar	20 ^s
3313	Comp			20:57					
3314	HD 207330	21 43 06	48 50 48	21 01 48	21 35 26				
3315	Comp							Th Ar	20 ^s
3316	Comp							Th Ar	20 ^s
3317	HD 206672	21 38 32	50 43 59	21 46 59	22 21 13	3 ^h 52 ^m E			
3318	Comp			22:22:22				Th Ar	20 ^s
3319	comp							Th Ar	20 ^s
3320	HD 188892	19 52 17	38 13 15	22 29 50	23 01 17	1 26 E			

slit  
Height

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					Echelle CCD	18.85	.277 60μ	.4570 4481Å		$\bar{x} = 168.533$	Dome T = 25.8 rH = 74%	
										$\bar{x} = 168.292$	" "	
20 ^s									550μ .210			
										$\bar{x} = 166.949$	Dome T = 25.7 rH = 75.9%	
20 ^s									450μ .220			
	8000				K0 III							
20 ^s												
	2000		V = 4.23		B3 III							
20 ^s												
20 ^s												
	2000		V = 4.67		B3 IV							
20 ^s												
20 ^s												
	2000		V 4.94		B5 IV							



93

#2

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

Spectr. Temp. .... Dome Temp./Hum.  $24.6^{\circ}\text{C}$   $79.7\%$  Transparency Conditions *Clear* ..... 94...

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 ced	18.85	.277 60 $\mu$	.4570 44B1A	.220 450 $\mu$	$\bar{X} = 167.733$	Dome T = 24.6 rH = 79.6%	
2000	~3"	$\sqrt{e}$ 4.88	B2	pe						P Cygni	
2010	~2"	$\sqrt{e}$ 4.23	B3	<u>III</u>							
2030	2"	$\sqrt{e}$ 4.67	B3	<u>IV</u>							
2000		$\sqrt{e}$ 4.94	B5	<u>IV</u>						$\bar{X} = 166.608$ Dome T = 24.3 rH = 80.5%	
2060		$\sqrt{e}$ 4.23	B3	<u>II</u>							



95

#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	ThAr	20s
3340	Comp							ThAr	20s
3341	HD206672	21 38 32	50 43 59	2 15 06	02 57 53	0 45 W		ThAr	20s
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							ThAr	20s
3344	Comp							ThAr	20s
3345	HD207330	21 43 06	48 50 48	03 15 01	03 47 32	1 30 W		ThAr	20s
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		ThAr	20s
3349	Comp							ThAr	20s
3350	Bias					2 ^h 52 ^m W	+51		
3351	Bias					2 ^h 52 ^m W	+51		

Spectr. Temp. .... Dome Temp./Hum.  $23.4^{\circ}\text{C}$   $84.5\%$  Transparency Conditions *Hazy* ..... 96.

Focus .....

Spectr. Temp. .... Dome Temp./Hum.  $22.8^{\circ}\text{C}$   $86.9\%$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD	18.85	.277 60 $\mu$	.4570 4481A	.220 450 $\mu$			
										$\bar{X} = 165.895$ Dome T = $23.5$ rH = $83.7\%$	
1900	2"	$\checkmark$ 4.67	B3 IV								
23x23 pix		FAVS ON $V=7.32$ [2] [14]		(KOTII Forgot to type star name + observer)			Echelle Head		Seeing test	Dome printing W No wind <del>from</del>	
2000		$\checkmark$ 4.23	B3 III								
1000	2.5"	$\checkmark$ 4.67	B3 IV								
All copied to worn + Persen										Dome T = $22.7$ rH = $86.9$	
										Dome T = $22.7$ $86.9$	



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 ^s
3362	Comp							ThAr	20 ^s
3363	HD 124847	14 11 06	19 42 30	21 04 40	21 07 38				
3364	Comp							ThAr	20 ^s
FM00037	HD 144579	16 01 30	39 25 36		21 18	0 46 W		IN ¹ mode	
3365	Comp							ThAr	20
3366	HD 188892	19 52 17	38 13 15	21 29 00	22 09 00	2 15 E			
3367	bias (4)								
3368	Comp							ThA	20
3369	HD 207330							"	"
3370	HD 207330	21 43 06	48 50 48	22 17 58	22 57 38				
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			

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD	18.97	.277 60μ	.4570 4477	.185 800μ	$\bar{X} = 170.005$	Dome T = 27.6 RH = 66.9%	
									$\bar{X} = 170.049$		
8000								.195 700μ	Arcturus		
23x23 pix		V 6.66	68IV	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						π Cyg		



99

#2

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.
ce03374	bias (4)			23 46 28		2 22 E	+51°		
3375	Comp							ThA	205
3376	Comp							"	205
3377	HD193237	20 14 06	37 43 19	23 55 50	00 35 52			ThA	205
3378	Comp							"	"
3379	Comp							"	"
3380	HD188892	19 52 17	38 13 15	00 43 47	01 27 30	1 04 W			
3381	bias (4)			01 28 08		1 00 W	+38		
3382	Comp							ThA	205
3383	Comp							"	"
3384	HD206672	21 38 32	50 43 59	01 34 10	02 14 10	0 04 W			
3385	Comp								
3386	Comp								
3387	HD207330	21 43 06	48 50 48	02 27 26	03 07 26	0 54 W			
3388	Comp								
3389	Bias								
3390	Bias								

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

[illegible]



### Emulsion Batches:

Date 11/6/21 Observers 13/2dr

[illegible]

slit  
Height

371



103

Sun/Mon

Date 1991 July 21/22

Observers Tty 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.
603396	Comp							Th Ar	20 ^s
3397	HD 137909	15 23 42	29 27	20 33 30	21 03 30				
3398	Comp							Th Ar	20 ^s
3399	Comp							"	"
3400	HD 159561	17°30' 18"	12°38'	21 29 00	21 35	0 19 19 E			
3401	Comp							Th Ar	20 ^s
3402	Comp							"	"
3403	HD 165908	18 03 12	30 33	21 43 30	22 23 30	0 03 E			
3404	Comp							Th Ar	20 ^s
3405	Comp							"	"
3406	HD 182640	19 20 30	02 55	22 38 00	23 18 00	0 27 E			
3407	Comp							Th Ar	20 ^s
3408	<del>HD 182640</del> bias (10)					0 23 E	03 11		
FM 000378	<del>Comp</del> HD 176844				23 39	0.19 W		LOG Mode	
3409	Comp							Th Ar	20 ^s

Dome Temp./Hum. ....

5. Few clouds  
→ Partly cloudy 12

[illegible]



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	Comparison Type/Filter	Exp.
Co03410	HD 196529	20 32 54	14 15	23 49 45	⁰⁰ 24:12:45	0 44 E			
3411	Comp								
3412	<del>HD</del> 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	64 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 ⁵
3420	flat(a)			01 45 00				Tung	15 ⁵
3421	BIAS(10)			01 50 00					
3422	comp							R Ar	20 ⁵
3423	HD 204867	21 31 07	(1991.5) -05 36 32	02 00	02 27 30				
3424	Comp							Th Ar	20 ⁵
CCF 00108 - 109 Hartmann focus test, Cass T + 25.2 F = 6.60									

Spectr.  
Focus.  
Spectr.

Exp. Mtr.

736

807

697

Spectr. Temp. .... Dome Temp./Hum. 22.5°C 84.5% Transparency Conditions Few clouds

**Focus** . . . . .

Spectr. Temp. . . . .

Dome Temp./Hum. 22.0 °C 87.7 %

→ Overcast

Exp.	Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
736			V 3.78	F5 IV	CcD Echelle	18.85	.277 60μ	.4570 4983Å	.220 450μ			
807			V 2.72	K3 III								
697			S=	Bm							Clouds.	450μ
			4.63								22°0/86.1% $\bar{r} = 163.107$	
								.200 650μ			For 3416	
											For Re rest	
											22°2/86.1% $\bar{r} = 162.804$	
			V	Go I6				.220 450μ			Clouds	
			2.91		All to WORM + Pursey							



107

Tue/Wed

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.
CC03030	Comp							FeAr clear	30 ^s
3031	bias (4)								
	<del>V361 Lyr</del>	(1950) 19 01 06	+46 54	NOT SAVED					
3032	Comp							FeAr	30 ^s
• 3033	1E1806+70*	(1950) 18 06 03	+69 45	23 54 00	00 14 00	1 58 W			
• 3034	Comp							FeAr	30 ^s
• 3035	1E1806+70	"	"	00 18 50	00 38 50	2 22 W			
• 3036	comp							FeAr	30 ^s
• 3037	1E1806+70	"	"	00 42 40	01 02 40				
3038	comp							FeAr	30 ^s
• 3039	1E1806+70	"	"	01 07 00	01 27 00				
3040	comp							FeAr	30 ^s
3041	1E1806+70	"	"	01 30 00	01 50 00	3 34 W			
3042	comp							FeAr	30 ^s
3043	1E1806+70	"	"	01 53 45	02 13 45	5 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  $1800 + 831 \text{ ln}/\mu$ ) 30 c/gain 105  
 Spectr. Temp. .... Dome Temp./Hum. .... ccd fnt: 4:20 0 34 1024 2 1

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
305					CCD Cass	831/ 34.2	250 $\mu$	G=3600 6544 A			Focus also good for 831 $\text{ln}/\mu\text{m}$ grating	
305			V 13.5								Failed attempt to observe, too faint ( $\sim 1$ count/minute)	
305	192		V 10.5	F9	* telescope E of pier				3ci		AST clock is	
									4ci		12 hours off	
305	200	5"	"	"					5ci		forgot to check it! at the beginning	
									6ci			
305	214		"	"					7ci		Header times should be corrected by subtracting 12 hrs & adding 3 secs.	
									8ci			
305	228		"	"					9ci			
									10ci			
305	236		"	"					11ci		Previous Echelle data also have time off by 12 hrs.	
									12ci			
305	214		"	"					12ci			



109

#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.
CC03049	comp							FeAr	30 ^s
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 ^s
3047	Comp			<del>02 47 05</del>					
3048	1E1806+70	"	"	02 47 05	03 09 05	04 52 W		FeAr	30 ^s
L3049	Comp								
3050	1E1806+70	"	"	03 12 15	03 32 ²⁹ 15	05 16 W			
3051	Comp							FeAr	30 ^s
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 ^s
FM000379	HD 223094	23 41 23	28 08 54		04 08	0 11 W	1N' mode	x4 inter	
3056-3060	Flats x 5					0 13 W	+28 38	TUNG A=1/4	45

110

Dome Temp./Hum. 15.7°C/77.2%

[illegible]



iii  
Date 1991 July 24/25 Observers WxL / 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.	
CC03061	bias (4)			23 07		0 h	+47		
FM000380	HD 176844	18 57 03	40 32 36		23 20	0 12 W		1N' mode	x4 Int
3062	Comp			23 40				FeAr clear	30s
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	30s
3066	Comp							"	"
3067	HD 194071	20 18.5	+27 55	00 02 25	00 07 45	0 22 E			
3068	Comp							FeAr clear	30s
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?  $\searrow$  30 gain .....  
 Spectr. Temp. .... Dome Temp./Hum. .... 372 0 34 1024 21 ccd fnt *

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		$\bar{x} = 184.130$	Dome T = 21.0 rH = 55.5	
31x31	$\sim 2''$	$\checkmark$ 6:65	M2 <u>II</u>	Cass Head					seeing test	Dome printing W No wind	
								3ci			
2500		$\checkmark$ 5:11	F8 <u>V</u>					4ci	RVstd	* Why did origin of format changed	
2836								5ci		so much compared to last night?	
1400								6ci	RVstd		
233	3"	$\checkmark$ 10:5	F9					7ci		Telescope on E side of pier,	
236		"	"					8ci			
229		"	"					9ci			



113

#2

Date 1991 July 24/25 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.
3075	comp		(1950)					Fair clear	30s
3076	1E1806+70	18 06 03	+69 45	01 34 30	01 50 30	03 38 W			
3077	Comp							"	"
3078	1E1806+70	"	"	01 53 30	02 09 30	03 57 W			
3079	Comp							"	"
3080	bias (4)					04 02 W	69 31		
3081	1E1806+70	"	"	02 17 50	02 33 50	04 22 W			
3082	Comp							"	"
3083	1E1806+70	"	"	02 37 50	02 53 50	04 42 W			
3084	Comp								
3085	1E1806+70	"	"	02 57 15	03 13 15	05 01 W			
3086	Comp							"	"
3087	1E1806+70			03 17 40	03 33 40	05 21 W			
3088	Comp					05 22 W	+69 38		
3089	bias (4)					05 22 W	+69 39	TUNG A=114	4s
3090-94	Flat x5					0h	+20 00	"	"
3095-99	HP								

Spectr.

Focus.

Spectr.

Exp. Mtr.

269

317

337

352

346

391

Spectr. Temp. .... Dome Temp./Hum. 19.1 °C 63.2% Transparency Conditions Clear ..... 114

Focus .....

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

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30 ^s				CCD	831	250	$\lambda = 3600$ 6544A				
269		V 10.5	F9	cas	34.2			10 ci			
317		"	"					11 ci			
837	2.4	"	"					12 ci			
								12 ci	$\bar{x} = 181.852$	Dome T = 19.1	$rH = 63.3\%$
352		"	"					13 ci			
346	3"	"	"					14 ci			
291								15 ci			
									$\bar{x} = 181.580$	Dome T = 19.2	$rH = 64.6\%$
All copied to WORM & Persley								16-20 ci	ADU MAX = 9760		
								21-25 ci	" = 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 ^s
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 ^s
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 ^h	+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 ^V	G5IV	CCD CASS	831/34.2	250	G=3600 μ 6544 Å		seeing test	Dome printing W light wind from N	
									$\bar{x} = 180.795$	Dome T = 18.9 °C rH = 70.9	
36		13.5 ^V	?					3ci			
								4ci			
1528	3"	7.73 ^V	G8III					5ci	RV Std		
3041		5.16 ^V	G8IV					6ci	RV Std		
33		13.5 ^V	?					7ci			
									$\bar{x} = 177.967$	Dome T = 16.6 °C rH = 77.2	



K7

#2

Date 1991 July 25/26 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.
603114-3118	flat x5					0h	+20	TUNG A=1/4	4 ^S
3119-3123	flat x5 *					4 ^h W	+69 43	"	"
3124	Comp		(1950)	00 49				FeAr clear	30 ^S
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 28 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.  $16.4^{\circ}\text{C}$   $77.2\%$  Transparency Conditions *Clear* .....

Focus .....

118

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	250 $\mu$	G=3600 6548A	8-12 ci		MAX ADU=10670	
								8-12 ci		* Telescope on E side of pier. MAX ADU=10800	
201	4"	10.5 ^V	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			



#3

Date 1991 July 25/26 Observers WxL/Pdr

### Emulsion Batches:

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[illegible]

Spectr. Temp. . . . .

Dome Temp./Hum. ....

[illegible]



Date 1991 July 30/31... Observers Try/Pdv/KK.....

### Emulsion Batches:

fiber  $150^\circ$

[illegible]

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

Focus .....

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

E  #3 = A  
#4 = B

122

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
300 ^s				PTS	830						
900/500	3"	0.04	A0V	<del>Speckle</del>	39.8	300 $\mu$	H $\alpha$			NO F18 stop	
400/600										NDO.6 in place	
										" "	
700/400		3.24	K5II+B?								
										Clouded over e ~ 23:50	
1200/800				All copied to worn + Persen but 883 ?						 No signal transmitted when telescope is in park position. $\rightarrow$ Flat done with tel. printing up ✓	



123

Date 1991 July 31/Aug 1 Observers Ttg/Pdr [KK]

### Emulsion Batches:

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[illegible]

Spectr. Temp. .... Dome Temp./Hum.  $22.0^{\circ}\text{C}/66.9\%$  Transparency Conditions *Partly cloudy*  
 Focus ..... *#4 = B*  
 Spectr. Temp. .... Dome Temp./Hum.  $21.3^{\circ}\text{C}/66.9\%$  *#3 = A* *Rain!!*  
*4 in week 124*



Exp.	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		N 0.04	A0V		Last 10secs dome lights were ON					clouds @ 21:48 rain @ 22:00	
200	1400					All copied to Worm & Perseus W/8939884						
200	1500/500		~2" ← maximum	signal							observing through few clouds, clouded over @ 23:58	



125

Thurs / Fri

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

Emulsion Batches:

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Difuser 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.
FI00891	flat			14:50			F/18 A = 1/16	Tungsten	7200
FI00892	Comp			21 56			No F/18 stop	FeNe Clear	200
893	HD 183912	19 2641	+27 45	22 0330	23 03 30				3600 _{sec}
894	"	"	"	23 0910	00 09 10				3600 _{sec}
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>	<del>-</del>

Transparency Conditions ... *S. haze... thin cloud* .....

126

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

Inson Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emission	P.H.	Program	Remarks	Quality
7200	1300/480				FF PCS	831/39.8	None	H ₂				
200	1700/600				"	"	"	"				
3600 ₃₂	2000/600	* <del>A?</del>	V 3.24	K5II +B?	"	"	"	"		KK pgn	* based on 3.6" spackle hard die	
3600 ₃₂	1500/500 7200/→50	3-A	"	"	"	"	"	"		"	clouding in, Thick by 2320	
200	1800/650											
7200	1350/420											
					All copied to WORN & Perseus to <del>895</del> 897							
600	? ?										(For Lower Syn/Rate)	
	B A 1900/50				NO = .6 → 1.2 PCS	1800/46.3		7100R				









129 pg #1 Sun - mon

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

Emulsion Batches:

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..... Di. Fuser. 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.
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 +45°
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 Ucar	20sec 30000
3161	HD 147933	16 19 35	-23 13 00	20 39 06	20 59 19	01 10 W	CC03159 CC03160 CC03162	"	30sec 30000
3163	HD 148605	16 24 08	-24 54 00	21 05 03	21 08	01 12 W	CC03164	"	30sec 3000
3166	HD 180163	19 10 21	+38 58 00	21 18 45	21 25 45	01 13 E	CC03165 CC03167 CC03168	"	30s 30000
3169	HD 180554	19 11 55	+21 13	21 30 17	21 41 26	00 59 E	CC03170	"	3000
3172	HD 182568	19 20 11	+29 26 00	21 45 30	21 58 00	00 51 E	CC03171 CC03173	"	3000
3175	HD 184171	19 28 03	+34 14 00	22 01 53	22 11 55	00 45 E	CC03174 CC03176	"	3000
3178	HD 184915	19 31 31	-07 15 00	22 17 13	22 34 40	00 26 E	CC03177 CC03179	"	3000
3181	HD 184930	19 31 33	-01 31 00	22 38 37	22 48 15	00 12 E	CC03180 CC03182	"	3000
3183	BIAS(4)			22 50 22					

CGAIN = 30  
CCD FORMAT 510 0 80 1024 21

Exp.	Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					CASS CCD	1800/56.5	250 $\mu$	H ₂ L		$\bar{x}$ 186.874 $\bar{x}$ 186.612	rel Humidity 68.6% 68.5%	+20.7° +20.6°
15min										$\bar{x}=185$	Rel H = 69.6%	
6sec					+ 45° dec [no decenter]							
					(Longest decenter Length)					$\bar{x}=185.522$	Rel H = 70.3% T=19.8°C	
20Sec 30Sec	30000	4"	V 3.96	B1V		250 $\mu$				Fds pgm		
30Sec 30Sec	20000	4"	V 5.02	B2V						"	comp 3162 for 3161 HAD 3163	
30Sec	2200	6"	V 4.79	B2V						"	Drive off at end	
30S 20S	30000	3"	V 4.39	B2.5IV	1					"		
"	30000	3"	V 4.77	B4IV						"		
V	30000	3"	V 4.97	B3IV						"		
"	30000	3"	V 4.74	B3IV						"		
"	30000	4"	V 4.95	B0.5III						"		
"	30000	4"	V 4.36	B5III						"		
											T=16.92 RH=84.5%	





Cloud at end 132

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30	20000	3"	6.29	B0.5 <u>IV</u>	CCD CHSS	1800/565	* 250 $\mu$	H $\alpha$		Fds pgm	* Longest decker sl: / Length	
"	30000	3"	4.94	B5 <u>IV</u>						22 Cyg	For H11	
"	30000	4"	5.07	B3 <u>V</u>						P Cyg		
"	30000	4"	4.88	B2 <u>pe</u>						P Cyg	H $\alpha$ saturated	
"	10000	4"	"	"						"	<del>the star saturated</del> Trailed near center of slit	
"	30000	"	4.95	B0.5 <u>IV</u>						Fds pgm		
"	30000	"	5.04	B5 <u>IV</u>						"		
"	30000	3"	4.67	B3 <u>IV</u>						"		
"	30000	"	4.18	B3 <u>III</u>						"		
"	30000	4"	4.51	B2 <u>IV</u>						"		
"	20000	4"	4.85	B0.5 <u>IV</u>						"	Cloud	
"	4850	4"	4.88	B1 <u>V</u>						"	Very cloudy CCD T = -10.20°C	
											All to Worned and to Perseus	





Spectr. Temp. .... Dome Temp./Hum.  $+17^{\circ}\text{C}$  56% Transparency Conditions  $\text{FIR}$  134

Focus ..... 6-60 still

Spectr. Temp. .... Dome Temp./Hum.  $+16^{\circ}\text{C}$  62%

30 CGAIN  
CCDEMT 510 0 80 1024 2 1

Comparison  
Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CHSS	G=6048 1800/56.5	25 $\mu$	H $\alpha$			t=19.2 Lx=183.708 t=15.2 Lx=183.609	
										t=18.5 Lx=182.139	
1										t=15.2 Lx=182.435	
									No Decker	No Decker. LABELED as TUNER	
										t=17.9 Lx=182.101	
										t=17.2 Lx=180.664	
30 30	5"	4.79	B2V						Longest Decker Slit Length FANS OFF	2A=00 21 2S=100 233 encoder offsets	
31 x 31		6.66	G8V						Done before CCD exps, (Light N4/wind) Seeing test.	no final comp for 3239	
		0.06	K2up						std vel	2RA=0 026 2Dec 0 02 51	
85000		1.88	B3V								
131700 26500	5"	4.88	B2pe						PCyg	guided with entro at mid slit length	
30000	5"	4.88	B1V							2RA+00 00 07 2Dec 7 00 06 00	
30000		4.39	B5V							2RA=0 0 9 to 3 18 t=15.8 Lx=179.526	



135 p9#2

Date ..1991..Aug..5/6.... 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.
3256	BIAS	0 ^{HA}	-9°	23 05 47		0	-9		
3257-3266	10+flat @ 30s	0 ^{HA}	-9°	23:05:19		0	-9	clean TUNG	33s
3267	BIAS (4)	1	1	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 48 19	01 59 08	02 10 17	02 32 W	CC03286 CC03288	"	"
3290	HD219688	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	HD219688	23 12 42	-9 44	02 58 44	03 12 04	00 35 W	CC03295 CC03297	"	"
3298	HD2223 BIAS (4)								
3300	HD 222368	23 34.8	+05 05	03:17:20	03 25 57	00 26 W	CC03299 CC03301	FeAr CLEAR	40 46

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

Focus .....

136

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

Exp. Mtr.	Seeing	^V Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CHSS	G=4578 1800/	250 $\mu$	4530A			t = 158      <x> 175.72	
33											
40s 40s	40 000	5"	4.35	B5 II					Fds - pgm		
"	40 000	4"	5.04	B5 IV					"		
"	40 000	5" 8"	4.95	B0.5 II					"	ARA - 0 0 15 $\Delta$ dec +0 3 33 ARA - 0 0 10	
"	40 000	5"	4.39	B5 IV					"	$\Delta$ dec +0 3 24 ARA - 0 0 7	
"	40 000	3"	5.04	B5 IV					"	+0 5 57 ARA - 0 0 18	
"	40 000	5"	4.95	B0.5 II					"	+0 3 45 ARA - 0 0 10	
"	40 000	3"	1.86	B3 V					" PCyg	$\Delta$ dec +0 5 15 ARA - 0 0 12	
"	40 000	4"	4.39	B5 IV					Fds pgm	+0 3 45	
"	40 000	3-5"	5.04	B5 IV					"		
"	40 000	4" 6"	4.39	B5 IV					stated	ARA - 0 0 10 $\Delta$ dec +0 3 40	
40 40	40 060	4"	4.13	F7 V					stated		



### Emulsion Batches:

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

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[illegible]

Transparency Conditions *same cloud*.....

Some good meteors (Perseids "no doubt")

138

Dome Temp./Hum.  $+14^{\circ}\text{C}$  ... 69%

one went SW  $\rightarrow$  NE through Cygnus at 330 ~~EST~~

[illegible]



pg#1

Tues/Wed

Date 1991 AUG 6/7..... Observers Fds-Jn.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC03312-13	BIAS (4) 2			18 21 29	18 23	0 0	+21°		
CC03314 - 3316	DARKS 3								30 min
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 FeA CC03331 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 FeA CC03338 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 111	Focus test	(comp posn)		23 40		02 50 E	+9° 08'	FeA clear	10 sec
		Stellar posn							

Spectr. Temp. .... Dome Temp./Hum.  $+20^{\circ}\text{C}$  59% Transparency Conditions ... PART Cloudy ... 140 ...

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

Spectr. Temp. ....

Dome Temp./Hum.  $+17.7^{\circ}\text{C}$  68.5% *Hi Circulation FANS ON*

CCD FMT 510 0 86 1024 21  
CGAIN = 30

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD CASS	G4575 1800/4302	250 $\mu$	4530A			$\bar{x} = 187.296$ <del>187.309</del>	
										$\bar{x} = 185.855$ $\bar{x} = 185.260$	
						no decker 250 $\mu$ Longest decker Length					
405	40000	4"	4.79	B2 V					Fds - pgm	URA -0 0 26 +0 2 9	
"	40000	2.3"	4.95	B0.5 III					"	URA -0 0 19 +0 4 15	
405	40400	3"	5.04	B5 IV					Fds pgm	ARA -0 0 9 +0 3 45	
"	40000	2.3"	1.86	B3 V					P Cyg	ARA -0 0 7 +0 5 36	guidel
"	40000	3"	4.95	B0.5 III					Fds pgm	-0 0 19 +0 3 36	
"	40000		5.04	B5 IV							
										T = 18.2 CTI = 66.2% -0 20 0 3 20 -0 0 12 0 5 3	$\bar{x} = 184.19$
	40000		4.95	B0.5 III							
	40000		5.04	B5 IV							
1050				POM	T = $+17.7^{\circ}\text{C}$ 1800/ 1800	250 $\mu$	4530A			stellar < 1 pixel/blue centered	
									FORMAT 470	0 12 1024 16 1	



141

Date 1991 AUG 6/7 Observers Th Fds

### Emulsion Batches:

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[illegible]

Transparency Conditions . . . *cloudy* . . . . . 142 . . . . .

Spectr. Temp. . . . .

Dome Temp./Hum. ....;

CC TG 3356 as WORM too.

• All Files in Focus To Persons to CCO 3356

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
4052										note this comp done before clouded out stellar ap ⁿ ; want be used. $P_{\text{core}} T = 17.8^{\circ}\text{C}$ Rel H = 68.2% $\bar{x} 181.419$ $\text{CCDT} = -100.7^{\circ}\text{C}$ WORMNEWS updated too.	



143

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 3358	BIASCA) 2			18 05 27 18 26 22					
3359 3361	DARKS 3								15min
3362 3363	BIASCA)			19 13					
3372 3373	FLATS 10			19 17		0 0	0°		30s
3374	BIASCA) 2								
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	Compass stellar posn	CCF00112 CCF00113	19 45 28		zenith		FeA clear	10/10
Fm000383, Tn	HD 163075	17 49 15	+46 40 10	20 09	<del>20 16 18</del>	00 55 E		4 frames	Tn x4
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	HD 193237	20 14 06	+37 43 19	21 41 26	21 52 56	01 38 E	3385 3387	FeA clear	40 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 219688	23 12 42	-09 43 42	22 44 13	23 13 11		3394 3396	"	"
3398	HD 184915	19 31 31	-07 15 00	23 20 12	23 44 06		3397 3399	"	"





pg 2 145

Date 1991 Aug. 7/8... 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.
CCO3400	BIAS(4)			23 45 38					
3402	HD 196740	20 34 10	23 45 54	23 52 32	00 09 35	00 19 W	3401 3403	FeA Clear	40 80
3405	HD 219688	23 12 42	-09 43 42	00 14 20	00 29 45	02 00 E	3404 3406	"	"
3408	HD 184915	19 31 31	-07 15 00	00 34 47	00 59 30	02 11 W	3407 3409	"	"
3411	HD 196740	20 34 10	+23 45 54	01 04 50	01 19 17	01 29 W	3410 3412	"	"
3414	HD 219688	23 12 42	-09 43 42	01 23 40	01 36 17	00 53 E	3413 3415	"	"
3417	HD 222368	23 34 48	+05 05	01 40 05	01 50 01	01 02 E	3416 3418	"	"
3420	HD 196740	20 34 10	+23 45 54	01 56 39	02 12 40	02 22 W	3420 3421	"	"
3419	BIAS(4)			01 51 56					
3424	HD 219688	23 12 42	-09 43 42	02 17 24	02 37 26	00 08 W	3423 3425	FeA Clear	40 40
3427	HD 196740	20 34 10	+23 45 54	02 41 50	03 12 00	03 22 W	3426 3428	"	"
3429	Comp of	+61°					3429		
3430	BIAS(4)								
3431	BIAS(4)								

Spectr. Temp. . . . .

Focus ..... 6-60 .....

Spectr. Temp. . . . .

Dome Temp./Hum.  $+18.6^{\circ}\text{C} \dots 69\%$

Dome Temp./Hum. *77.4*.....*75%*

Transparency Conditions Part 4

146

Exp.	Mtr.	Seeing	Veg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					CCD CLASS	1800/432	250m	4530A			$\bar{x} = 184.058$	
40	4000	3"	5.04	B5 IV						Fds pgm		
"	4000	5"	4.39	B5 V						"	ΔRA - 0 0 7. stout?	
"	40800	4"	4.95	B65 III						"	+0 3 6 -0 0 14	
"	40000	3"	5.04	B5 IV						"	+0 4 36 -0 0 6	
"	40000	4"	4.39	B5 V						"	+0 5 30 -0 0 8	
"	40000	3"	4.13	F7 V						std vel	+0 3 06	
"	40000	4"	5.04	B5 IV						Fds pgm	-0 0 6 +0 5 54	
40	4000	4"	4.39	B5 V						T = +18° Re/H = 70% $\bar{x} 183.928$		
"	40000	3"	5.04	B5 IV						Fds pgm	-0 0 5 +0 3 27	
"	40000	3"	5.04	B5 IV						"	cloud increasing CCDT = -1020 °C	
										All to work s Perseus		



147

Fri/Sat

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.
CC03432	Bias (4)			19:52		0 ^h	+20		
	Bias (4)			19:53		"	"		
3434-3443	10x Flat					"	"	TUNG clear	30 ^s
3444	Comp							FeA clear	40 ^s
3445	HD 196740	20 34 10	23 46	20 14 06	20 45 10	02 58 E			
3446	Comp							"	"
3447	<del>Dark</del> Bias (4)								
3448-50	Dark x3								900 ^s
3451	Bias (4)			21 32		3 ^h 50 E	+24		
FM000384	HD 171232	18 28.5	+25 25			0 13 W		'N' Mode	Intx 4
FM000385	Pdr "				21 53	0 15 W		FeA clear	40 ^s
3452	Comp			21 58					
3453	HD 184915	19 31/31	-7 15	21 59 29	22 26 43	0 14 E			
3454	Comp							"	"
3455	Comp							"	"

Spectr. Temp. .... Dome Temp./Hum. 19.1./76.4 Transparency Conditions Partly cloudy MR  
 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 $\mu$	4530 Å			$T_{Dome} = 19.7$ $rH = 74.1\%$ $\bar{x} = 185.594$ $T_{Dome} = 19.7$ $rH = 74.2\%$ $\bar{x} = 185.494$	
30 ^s 40 ^s	no decker										
	17500	5.04	B5 IV								
900 ^s x 3											
31 x 31 pix ~ 3"	1.73	68 III								$T_{Dome} = 19.3$ $rH = 75.7\%$ $\bar{x} = 182.948$	
										Uneven Background (?) Tried twice	
										Dome Pointing SSW No wind	
40000	4"	4.95	B0.5 III								



149

#2

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.
CC03456	HD196740	20 34 10	+23 46 19	22 31 43	22 44 27	0 58 E			
3457	Comp			22 47				FeA Clear	40 ^s
3458	Comp			22 50 29					
3459	HD193237	20 14 06	37 43 19	22 51 46	23 18 27	0 04 E			
3460	Comp			23 19				"	"
3461	Bias (4)			23 20 50		0 ^h	+38		
CCF00114	<del>Comp position</del>			23 36		0 ^h	-25	FeA Clear	10 ^s
CCF00115	<del>HD 219688</del>					"	"		10 ^s
CCF00114	Comp Position			00 00		0 ^h	+38	FeA Clear	10 ^s
CCF00115	Stellar Position					"	"	"	"
3462	Bias (4)			01 41 47					
3463	Comp							FeA Clear	40 ^s
3464	HD184915	19 31 31	-7 15	01 48 15	02 04 00	3 28 W			
3465	Comp							"	"





151

#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							FeA clear	40 ^s
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 24	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. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40 ^S				CCD Cass	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"										

$T_{\text{dome}} = 16.9$   $\text{RH} = 91.9\%$   
 $\bar{X} = 182.540$



# 4

### Emulsion Batches:

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[illegible]

All copied to WORM & Persens





155

Date 1991 August 11/12 Observers Tty/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.
CCF00116	Comp position			21 00		0 ^h	+ 30 app.	FeNe Clear	20 ^s
CCF00117	stellar position								
CC03484	Bias (4)					2 ^h 10	+67 20		
3485	Comp			21 29				"	15 ^s
3486	HD 147379	16 16 36	+67 28	21 31 31	21 55 00	2 ^h 40 W			
3487	Comp							"	"
3488	Comp							"	"
3489	DM+68 946	17 37 00	+68 27	22 08 40	22 47 06	2 14 W			
3490	Comp								
3491- <del>89</del>	9x Flat					1 ^h 24 W	+80 53	TUNG Clear	1 ^s
3492	Bias (10)			23 14 30		"	"		
3493	Dark			23 35					900 ^s
3494	"			23 51 20					"

Spectr. T

Focus...

Spectr. T

Exp. Mtr.

2000

1260

Spectr. Temp. ....1./..... Dome Temp./Hum. ....

Transparency Conditions *Part cloudy* 156...

90 gain

550 0 15 1024 5⁰ 1 ccd font

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20"					Focus looks perfect (using oplot)	1800	250μ G=5004 5170A			T _{Dome} = 21.2 Focus = 6.60 T _{Dome} = 21.0 rH = 67.9 $\bar{x} = 142.902$	
15"					CCD Cass						
2000	2.5	8.63	MOV								
1260	2.5	9.22	MJ								
										Clouds	
										T _{Dome} = 20.3 rH = 72.5 $\bar{x} = 141.875$ ↓	
										→ 3492 ⇒ Worm & Persens	
										→ 3494 ⇒ Worm & Persens 9/8/13	



157

Mon/Tue

Date 1991 August 12/13 Observers Fly/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.
CF00928, A ₃	Dark-1h								3600 ^s
00929	Comp (x 800)							FeNe clear	60 ^s
00930	HD 123782	(1991.5) 14 07 58	49 29 54	20 07 50	20 10 44	3 09 W			
00931	" $\nearrow$ 2 Bow	"	"	20 11 00	20 12 50	3 11 W			
932	" not HD #	"	"	20 13 00	20 14 53	3 13 W			
933	Comp							"	"
934	Comp							"	"
935	HD 122742	13 58 48	11 16 00	20 28 34	20 39	3 42 W			
936	"	"	"	20 40 00	20 51 15	3 55 W			
937	"	"	"	20 51 35	21 02 19	4 06 W			
938	Comp							"	"
939	Comp							"	"
940	HD 137107	15 19 06	30 39	21 10	21 11 15	2 55 W			
941	"	"	"	21 11 35	21 12 57	2 57 W			
942	"	"	"	21 13 05	21 14 22	2 58 W			
943	Comp							"	"

Spectr. Temp. .... Dome Temp./Hum. 22.7/57.0 Transparency Conditions Clean ..... 1.58.....  
 Focus ..... 17.00 .....  
 Spectr. Temp. ✓ ..... Dome Temp./Hum. .... 90 cgain  
401 0 5 1024 12 1 ccd fnt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
3600				CCD Fiberfel	1800/52.7		5140A				
60s											
2000	2.5									RV std	
2000											
2000											
2100		6.21	68V								
1500											
1500											
1500		5.58	62V								
1550~		u	u								
1500		u	u								



15^a

#2

Date 1991 Aug 12/13 Observers Tbg/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.
CF00944	Comp							FeNa Clear	60 ^s
945	HD 14 05 38	15 39 06	02 50 00	21 22 40	21 28 15	2 51 W			1500
946	"	"	"	21 28 45	21 35 55	2 57 W			1788
947	"	"	"	21 36 20	21 44 55	3 08 W			1500
948	Comp							"	"
949	<del>Comp</del> p Bias (10)								
950	Comp							"	"
951	HD 14 42 87	16 00 00	25 30	21 53 50	22 04 10	3 07 W			1500
952	"	"	"	22 04 30	22 16 12	3 20 W			1500
953	"	"	"	22 16 30	22 29 10	3 32 W			1500
954	Comp							"	"
955	Comp								
956	HD 15 86 33	17 25 18	67 24	22 36 40	22 40 50	2 23 W			1500
957	"	"	"	22 41 10	22 45 40	2 27			1500
958	"	"	"	22 45 50	22 50 15	2 32 W			1500
959	Comp							"	"

Spectr. Temp. .... Dome Temp./Hum. 21.7 / 56.8 Transparency Conditions Clear ..... 160 ....

Focus .....

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

Parson  
Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1500		B = 6.55	265	CCD Fibered	1800 52.7		5140 Å				
1788											
1500	3"										
1500		7.07	G8V								
1500		"	"								
1500	2"	"	"								
1500		6.73	dk1 or G9V								
1500											
1500											

~ Dome ~  
21.4°/56.8%  $\bar{x} = 117.9$



161

#3

Emulsion Batches:

Date 1991 Aug 12/13 Observers Tlg/Pdr

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 ⁵¹ <del>45</del>	-3 37 E			

Spectr. Temp. .... Dome Temp./Hum. 20.9/55.5 Transparency Conditions Clear (Hazy) .....  
 Focus .....  
 Spectr. Temp. .... Dome Temp./Hum. ....

162

Comparison  
Exp.

Exp. Mtr.	Seeing	Plg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD Fiberfed	1800/52.7		5140A				
1500	<2.4	8.9	LM4								
2000											
1900	~2.5									clouds	
										Dome 20.3°/56.8% $\bar{x}=118.1$	
1500		4.69	KOV								
1500											
1500											
31x3/pix	<2.4	7.32	KO III	FIBERFED HEAD						Dome pointing w slight wind from N 20.2°/56.9% $\bar{x}=116.2$	
5000	~2.5		F8Ib								



163

#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 ^S
977	BIAS(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	BIAS(10)							"	"
983	Comp							"	"
984	HD 3712	00 34 48	55 59	03 31 15	03 32 28	0 ^h 0			
985	"	"	"	03 32 45	03 33 37	0 ^h 01			
986	"	"	"	03 33 45	03 34 42	0 ^h 02			
987	Comp							"	"
988	Comp							"	"
989	HD 9138	01 24 54	05 38	03 48 30	03 51 30	0 30 E			

Dome Temp./Hum. 20.1/57.6

Transparency Conditions . *Part closed*

Focus . . . . .

Spectr. Temp. . . . .

Dome Temp./Hum. ....

162

Comparison  
Exp

[illegible]



105 #5  
Date 1991 Aug 12/13

#5

### Emulsion Batches:

Date _____

1991 Aug 12/13

## Observers

Tfz/Pdr

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[illegible]

Spectr. Temp. . . . .

Dome Temp./Hum. ....

Comparison	Filter	Exp.
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100		





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

[illegible]



169

#2

Emulsion Batches:

Date 1991 Aug 13/14 Observers Ttg/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.
CFO 1005	Comp							FeNe Clear	60 ^s
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							"	"

$$\begin{array}{r} 23.8 / 50.7 \\ \hline \end{array}$$

Partly done... 170.

Focus . . . . .

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

[illegible]





Transparency Conditions *Part cloudy* 172

Dome Temp./Hum. ....

[illegible]



MB pg#1

Wed - Thurs

Date 1991.04.14/15 Observers T.M. / P.D.

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.
CF01029	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				3000
1036	"	"	"	21 24 30	21 26 33	2 45W			3000
1037	"	"	"	21 28 10	21 37 46				3000
1038	Comp							FeNe Clear	60s
		1991.5							5000
1039	HR 6705	17 56 25	+51 29 23	21 46 55	21 47 23				5000
1040	"	"	"	21 49 40	21 50 08	01 09W			"
1041	"	"	"	21 53 40	21 54 02				"
1042	Comp							FeNe Clear	60s
		1991.5							4000
1043	HR 7235	19 05 01	+13 51 01	22 11 15	22 12 20	00 22W			
1044	"	"	"	22 18 08	23 10 56				
				22 21 55					

Spectr. Temp. .... Dome Temp./Hum.  $23^{\circ}\text{C}$  ....  $60\%$  Transparency Conditions . Hazy...> cloudy... 1.741..

Focus .....

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

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

90 CGAIN 401 0 5 1024 12 1 CCD FMT

Comparison  
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 = $22.8^{\circ}\text{C}$ H = $62.5\%$	
60s 20,600		-005	K1.5 III						UBVRI and Vel Std	$\sim 10000$ Avg ADU	
"											
"											
60s 3000	2"	3.86	F6 V						UBVRI Std	-0.018 ARI +0.612 DEC	Cloud
3000									"	2000 Avg ADU	
3000	3"								"	clouds	
60s 5000											
5000		2.22	K5 III						UBVRI Std	22200 Avg ADU	
"											
"											
60s 4000		2.99	A0 Vann						UBVRI Std	$\sim 3000$ Avg ADU	



175 pg #2

Wed Thurs.

Date 1991 AUG 14/15... Observers Pdr. 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.
CF01044	HR 7235	19 05 01	+13 51 01	22 18 08	22 23 10	00 33 W			
1045	"	"	"	22 25 10	22 26 23				
1046	Comp							FelNo Clear	60s
1047	HR 7377	19 25 04	+03 05 51	22 33 00	22 34 35	00 24 W			
1048	"	"	"	22 35 55	22 36 37				
1049	"	"	"	22 38 10	22 39 23				
1050	Comp							FelNo Clear	60s
1051	HR 7602	19 54 54	+06 23 06	22 47 10	22 48 30	00 08 W			
1052	"			22 49 30	22 51 00				
1053	"			22 51 30	22 52 48				
1054	Comp							FelNo Clear	60s
1055	BIAS(10)								
1056	HR 45	00 14 10	+20 09 34	23 11 30	23 14 07	3 45 E			
1057	"	"	"	23 16 50	23 20 06	3 39 E			
1058				23 21 40	23 24 25				
1059	Comp								

Spectr. T

Focus...

Spectr. T

Exp. Mi.

4000

6000

4000

6000

4000

3960

4000

4000

4000

2500

3120

3100

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

[illegible]



177

pg #3

Date 1991. Aug. 14/15.. Observers T.G. ... P.d.c.....

Emulsion Batches:

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.....  
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1060	HR 63	00 16 39	+38 38 04	23 30 35	23 33 48	03 28 E			3000
1061	"	"	"	23 35 00	23 37 23				3000
1062	"	"	"	23 29 00	23 41 43				3000
1063	Comp							Felke Clear	60s
FM 000 387.Pd.	HD 207754	21 46.2	+43 25	23 58		00 36 E		N' mode	In + x4
1064	Comp							"	"
1065	HR 321	01 07 42	+54 52 44	00 16 35	00 21 41				4000
1066	"	"	"	00 23 50	00 28 22	3 24 E			4000
1067	"	"	"	00 29 40	00 34 29				4000
1068	Comp								
1069	bias (10)								
1070	Comp							Felke Clear	60s
1071	HR 8085	21 06 32	38 42 14	00 57 40	01 03 37				3500
1072	"			01 04 00	01 10 30				4000
1073	"			01 10 50	01 16 25	01 25 W			3500

1991.5 (from UBR1 list) ie center of gravity posn.

Transparency Conditions . . . *Hazy* . . . 178 . . .

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

FANS ON as usual for even 1st date

[illegible]



179 pg #4

Date AUG 14/15 Observers Tn Pdt

### Emulsion Batches:

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.....

[illegible]

Focus . . . . .

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

Com	arison
ilte	Exp.



14

Thurs Fri

Date 1991 AUG 15/16... Observers Tty/Tn/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.
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	60x
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	60x
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. Mir.

17000

18000

15000

500

1500

1530

400

Spectr. Temp. . . . .

Dome Temp./Hum. 72.4°C...70%

Transparency Conditions ... Hazy ..... 182 ...

Focus . . . . .

Spectr. Temp. . . . .

Dome Temp./Hum. ....

[illegible]



#2

Date 1991 AUG 15/16 Observers Tbz/Tm/Pdr

### Emulsion Batches:

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[illegible]

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

Transparency Conditions Hazy.....184.....

Lightning storm coming

Comparison	Inte	Exp.
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185

Fri - SAT

Emulsion Batches:

Date 1991 AUG 16/17... Observers J. ty. / T. n.

NOTE - Heat Pump Not Working This weekend... F.N.S.P. Room at 80°F

Plate No.	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 1104- CFO 1106	FLAT(8) x3			22 20 EST					
1107- 1109	BIAS(10)								
1110	BIAS(10)			22 23 EST					
1111	Comp							Felle Clear	60s
1112	HD 8890 A	01 22.6	+88 46	23 12 40	23 14 33				
1113	"			23 14 48	23 16 30	05 57E			
1114	"			23 16 45	23 18 22	05 53E			
1115	Comp							Felle Clear	60s
1116	HD 185144	19 32.6	+69 29	23 29 15	23 31 38	01 22 W			
1117				36 45	36 36				
1118				36 45	23 41 36				
1119	Comp							Felle Clear	60s
1120	HD 187691	19 46.2	+10 10	23 53 08	00 09	01 40 W			
1121				00 10 40	00 22 10				
1122				00 22 15	00 29 30	2 02			
1123	Comp								

80°F

Comparison	Filter	E
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2 605

605

605

[illegible]

90 C gain. COT @ 60 - 110 C

[illegible]



Date 91/8/16-17 Observers T₁/T₂

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.....

[illegible]

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

	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
											20.0°/90.3% $\bar{x}=18.7$	
26	[ Looks Fine at 1 pixel level ]				FF CCD	1800/527-250 $\mu$		5140A	6ci	Focus 16.95	Instr Room @ 80°F	
30									7ci		ie Heat Pump / A/C out for weekend.	



189

Sun / mon

Date 1.9.91. AUG. 18. / 19...

Observers

J. t. y. 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.
FM000388Tn	HD 163075	17 49 14.7	+46 40 10	20 32		00 11 W	+46 47	N ^o made	Igt x4
CF01125	Bias (10)								
→ 1127									
CF01128	Comp							FelNe Clear	60sec
1129	HD 124897	14 11.1	+19 42	20 42 20					20sec
1130	"								"
1131	"				20 49	04 04 W			"
1132	Comp							FelNe 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							FelNe 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 19 4</del>					

Spectr. T

Focus ..

Spectr. T

Exp. Mu.

31x31

17006

"

"

"

1400

"

1400

1500

"

1500

Spectr. Temp. .... Dome Temp./Hum. 20.1°C ... 83-7% Transparency Conditions ... clearing... after R. Rain

Focus .....

FANS on as ~~was~~ normal

190

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	note Grand Heat A/C system not working. Warm Room +28°C			AIR vented out windows, Dome West, no wind	
						250μ	5140Å			20.0°/87.0%	$\bar{x} = 122.7$ 122.8 122.4
17000		✓ 0.04	K1.5 III							Also UBVRI std	
"	"									Std vel	
"	"										
1400	4"	B 7.62	G8V						Asm Sp- Kk		
"									"		
1400									"		
1500	5"	B 7.09	dK1 or G9V						Asm Sp- Kk		
"											
1500	A" 8"									Seeing getting very poor, [over warm room venting] maybe?	



1st pg #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			500
1142				22 22 00	22 24 15				1500
1143				22 24 30	22 26 35				1500
1144	Comp							FeNe Clear	60sec
1145	BD+45 3310	20 49.3	+45 44 00	22 33 50	23 09 50	00 12 E			1500
1146	"			23 10 15	23 55 30	34 E			1530
1147	"			23 35 40	00 40 00	01 18 W			
1148	Comp							FeNe Clear	60s
1149	HD 8890A	01 22.6	+88 46	<del>00 46 10</del>	00 47 10				5000
1150	"			00 48	00 49				
1151	"			00 49	00 50	04 12 E			
1152	Comp							FeNe Clear	60s
* 1153	HD 222368	23 34.8	+05 05	<del>00 56</del>	00 57 57	01 12 E			2000
1154				00 58 00	00 59 20	01 09 E			2000
1155				59 30	01 00 38	01 07 E			5000
1156	Comp							FeNe Clear	60s

Spectr. Temp. .... Dome Temp./Hum.  $+18.4^{\circ}\text{C}$  ... 90.3% Transparency Conditions ... 51.49.24 ... 192...

Focus .....

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

Comparison  
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	250 $\mu$	5140A		Asm Sp-HK		
1500											
1500											
1500											
1500		V _{AB} 9.1	G8V						Asm Sp-HK		
1530	4"										
1500		2	F8						Asm Sp HK		
2000	5"	B 4.64	F7V						Std Vel	* One file of this apparently Labelled CF001153-His	
2000									"		
2000									"		

60sec

60

60s

60s



193 pg #3

Date 1991 Aug 18/19... Observers T.H./T.H.....

### Emulsion Batches:

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[illegible]

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

n arison  
e Exp.



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 ^s
1169	HD 182572			22 17 35	22 19 07	0 29 W			
1169	Bias (10)								
	HD 182572			22 24 58	26 29				
CF01167	Bias (10)								
1168	Comp							FeNe Clear	60 ^s
1169	HD 182572	19 20.2	11 44	22 37 27	22 39 02	0 57 W			1500
1170	"			39 45	41 22	0 59 W			1500
1171	"			41 48	43 18	01 01 W			1500
1172	Comp							"	"
1173	Bias (10)								
1174	HD 203156	21 15 24	37 49	22 51 32	22 54 34				2000
1175	"	"	"	22 57 10	23 01 27	0 35 E			3000
1176	"	"	"	23 03 00	23 07 35				3000
1177	Comp							FeNe Clear	60 ^s

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

Exp. Mtr.	Seeing	Mag. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD FF	1800 52.7	250 $\mu$	5140 $\text{\AA}$				
1500		5.16	G716							after cleaning window	
										window fogged (spill-over from fill up) & cleared	
1500		5.16	G716								
1500											
1500											
2000		5.89	G016					8ci		$\sim 1000$ avg ADU	
3000								9ci		$\sim 1300$ avg ADU	
3000								10ci			



197 #2  
 Date 1991 Aug 21/22 Observers KK/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.
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 ^s
1187-9	flats (means of 3)							W	6 ^s
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 ^s

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		1800	250	5140A				
~5000			FF		52.7						
~5000											
500											200
31x31 pix										Dome Pointing w sligh wind from w	35w
											7000
2600	2"	B 6.25	M3111				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

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			3000
1196	"	"	"	01 13 40	01 15 30				3000
1197	"	"	"	01 16 50	01 18 32	0 05 E			3000
1198	Comp							FeNe	60s
1199	HD 216228	22 49 22.4	+66 09 20	01 33 30	01 33 56	0 27 W			1500
1200	"	"	"	01 36 05	01 36 29				1500
1201	"	"	"	01 37 45	01 38 11	0 31 W			1500
1202	Comp							FeNe	60s
1203	bias (10)								
1204	bias (4)								
1205	Dark - 15m								
1206	"								
1207	"								

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

[illegible]



201

Date 1991 August 22/23 Observers Tm/8dr

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.
CFO 1208	Comp							FeNe Clear	60s
1209	HD 173297 <del>203156</del>	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			

90 cjam  $T_{CD} = -100^{\circ}\text{C}$   
 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	180/52.7	250m	5160A				
2020	4"	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	M3Tb-II								
2500										AVG ADU 1200 (at maximum)	
2500											
4000		P B 5.04	M10	II						AVG ADU 1700	



203 p5#2

Date 1991 Aug 22/23.. Observers Pds.-Ta.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CF01223	HD 189319	19 54.3	+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	^a 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 <del>49 10</del>	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 88904	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							Fe No Cloud	60sec

Spectr. Temp. . . . .

Dome Temp./Hum. ....

Transparency Conditions ..... *Fine* ..... *204* .....

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	4600		B 5.04	MOLII						mk std-		
	4600											
	3000	4"	B 5.76	K3III						mk std	Avg HDU = 1500	
	3000											
	3000											
			B 4.72	G7DL6CN-2						mk std		
1750	5000		2	F						asm sp kit		
2500	"											
6000	"										Avg HDU = 3600	



205 pg 43

Date 1991 Aug 22/23... Observers Pdr. Tu.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CF01238	HD 206936	21 40.4	+58 19	23 12 25	23 13 25	00 43 E			4500
1239	"	"	"	23 15 00	23 16 07				4500
1240	"	"	"	23 17 30	23 18 22	00 37 E			4500
1241	comp							Felt clear	60s
1242	HD 203156	21 15.4	+37 49	23 28 00	34 35	00 02 W			3000
1243	"	"	"	23 36 20	23 42 20				3000
1244	"	"	"	23 44 00	23 48 56				3000
1245	Comp							Felt clear	60s
1246	HD 187691	19 46.2	+10 10	23 56 35	23 59 50	01 56 W			30ci
1247	"			00 00 10	00 03 30				31ci
1248	"			00 03 40	00 07 00				32ci
1249	comp							Felt clear	
1250	HD 212943	22 22.8	+04 12	00 11 40	00 14 00	00 27 E			33ci
1251	HD 212943	"	"	00 14 26	00 17 20				34.
1252	"	"	"	00 17 40	00 20 48				35
1253	comp								60s

Spectr. T.  
Focus...  
Spectr. T.

Exp. Mir.

4500

4500

4500

3000

3000

3000

3050

3000

3000

3000

3700

3000

Transparency Conditions .. *Find* ..... 206...

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

[illegible]



207

Pg 74

Date 1991. Aug 22/23. Observers In... 1. Petr.....

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 01254	HD 216386	22 47.4	-08 07	00 26 36	00 29 00	00 36E			8000
1255				29 20	31 30				8500
1256				32 15	35 10				8700
1257	Comp							Felt Clear	60s
1258	HD 216946	22 52.0	+49 12	00 42 00	45 00	00 24E			4500
1259	"	"	"	00 45 10	48 30				5200
1260				00 48 40	00 51 00				4400
1261	Comp								60s
1262	HD 23475	03 40.4	+65 13	00 58 10	01 00 20	05 02E			38ci
1263				01 50	01 03 00				6000
1264				01 03 08	01 05 04				6000
1265	Comp								
FM 000390	HD 223094	23 41 23	28 08 54		01 46	0 13 E	28 47	'N' Mode	45 Int
1266	Comp							Felt Clear	
1267	HD 223094	23 41 23	+28 08 54	02 01 10	02 13 20	0 14 W			6000

Spectr. Temp. .... Dome Temp./Hum.  $+17.5^{\circ}C$  88% Transparency Conditions  $51.14.29$  ..... 208  
 Focus .....  
 Spectr. Temp. .... Dome Temp./Hum. ....

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
8000		^B 5.38	M25IIa	Fe-1						AVE ADV $\approx$ 2700 ADV	
8500											
8200											
4500	3"	^B 6.73	K5IIb							AVE ADV $\approx$ 1600	
5200											
4400											
6000	4"	^B 6.35	M2IIab							AVE ADV $\approx$ 2200	
6008											
6008											
31x31 p/s		[✓] 7.45	K5IIa						seeing test	Dome pointing slight wind from N	SSW
3000		[✓] 7.45	K5IIa						std vel	Comp. AFTER topup ORA - 0 0 8 side 0 645	AVE ADV 1400



209 pg#5

Date 1991 Aug 22/23. Observers Rdr./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.
CF0 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							FelNe 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							FelNe clear	60s
1275	bias (10)								
1276	flat (9)	FLAT 9.3s batch						TUNG clear	3s
1277	" "							"	"
1278	"							"	"
1279	Bias (4)								
1280	DARK 15m								900s
1281	"								"
1282	"								"

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

Exp.	Exp. Mlr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	3000		V 7.45	K5 III	CCD Fiboptel	1800/52.7	250 $\mu$	5160 Å		std vel		
	3000	2"-3"								"		
60s	2500	3"	B 6.41	F3 V								
	2500											
	2500											
60s												
3s												
"												
"												
90s												
"												
"												

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

Backed up to 1278 on Worm & 35" floppy.



2nd  
py #1

Fri - Sat

Date 1991 AUG 23/24 Observers Pdr - 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.
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	+47 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. Te

Focus....

Spectr. Te

Exp. Mtr.

3000

2000

2000

2000

3400

3500

3500

1000

Spectr. Temp. .... Dome Temp./Hum.  $71.9^{\circ}\text{C} \dots 68\%$ Transparency Conditions ..  $51 \dots \text{Hazy} \dots 212 \dots$ 

Focus .....

390 0 5 1024 12 1 CCD FMT

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

90 CGAIN

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						1800/51.1 [*]	25 $\mu$	4880P			* 51.1° from control pgn	
A up 30s	3000	3"	3.75	A0V						UBUR1 std	1500 AVG ADU	
	2000	3"	^B 3.68	F0 IV						UBUR1 std	~ 1100 AVG ADU	
	2000											
	3400	3"-4"	^B 6.13	B8 T ₉						mk std ^{RG} R ₉	~ 1400 AVG ADU	
	3500											
	3500											
A up	1000	2-3"	^V 28.1	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./...Th.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
CF01298	HD 201156 B	21 02.7	+33 44	21 36 30	21 51 50				1000
1299	"			21 52 22	22 07 28	01 08 E			1000
1300	Comp							FeA Clear	30s
1301	HD 201156 A	21 02.7	+33 44	22 12 20	22 33 17				2000
1302	"	"	"	22 33 47	22 51 17				2000
1303	"	"	"	22 57 30	23 23 50				1956
1304	Comp							FeA Clear	
1305	HD 8890 A	01 22.6	+88 46	23 35 30	23 35 53	05 07 E			5000
1306	"			23 37 00	23 37 27				5000
1307				23 37 55	23 38 55				5000
1308	HD 8890 B			23 47 45	00 00				5000
FM000391	HD 207754	21 46.2	+43 25	00 12		00 12 W	"made	Intx4	3x31
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			5000

Spectr. Temp. .... Dome Temp./Hum.  $+18.3^{\circ}\text{C}$   $69\%$  Transparency Conditions  $S/.. hazy... some cloud...$   
 Focus .....  
 Spectr. Temp. .... Dome Temp./Hum.  $+16.2^{\circ}\text{C}$   $76\%$  214

Comparison  
Filter Exp

2A  
30s

2A  
30s

2A  
30s

2A  
30s

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1000		$\checkmark$ 8.1	F	CCD FiberFed	1800/51.1	25u	4880A		Asm Sp-kk		
1000	3"									seeing not so good here	
2000	3"	$\checkmark$ 7.3	A2						Asm Sp-kk	1100 AUG ADU Brighter of pair	
2000	3-4"										
1956	4-5"									cloud at end	
5000		$\checkmark$ 2	F						Asm Sp-kk	some cloud	
5000											
5000											
57										clouded in	
31x31 pixels		7.32	KOIII			Fiber Fed Head			Seeing Test	Dome Facing W cloud (uniform)	
5000	5"	$\checkmark$ 2.53	M15IIa						m Type Std Vol	= 1000 ADU AVG	



215 #3

Date 1991 Aug. 23/24. Observers Pdr Tg

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
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

Transparency Conditions ... *Cloudy* ..... 216 ...

**Focus** . . . . .

Dome Temp./Hum.  $+15.6^{\circ}\text{C}$  : 81%[illegible]



pg #4

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Date 1991. Aug. 23/24. Observers Th. .... P.do. ....

[illegible]

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

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
NG	65						1800/51.1°		4880A				
												→ 1300 on last floppy	
												All To warm & Floppy To CFO1329	



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.
CF01334FFs	BIAS(10)								
1335	Comp							FeA CLEAR	30s
1336	HD 8890 B	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	HD 8890 A	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	HD 208 501	21 51.3	+56 08	00 30 20	00 36 50	0 36 W		9 ci	
1345	"	"	"	00 37 20	00 46 00			10 ci	
1346	"	"	"	00 46 10	00 54 00			11 ci	
1347	Comp							FeA CLEAR	30s
1348	HD 223094	23 41.5	+28 09	01 04 20	01 18 40	00 32 E		12 ci	

Spectr. Temp. .... Dome Temp./Hum. +17°C... 77%

Transparency Conditions ... Clearing by 2nd Tour...

Focus .....

H11 Setting including CCOT unchanged from  
previous night

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

90 CGAIN

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					CCD Fibre Opt 1800/511	1800/511	250u	4850A				
30s	1150	3"	9?	F?						Asm Sp Kk	Avg ADU ~ 700	
	994											
	930										Avg ADU ~ 600	
30s	5000	2	F							Asm Sp Kk	Avg ADU 2500	
	"										"	
	"										"	
30s	4730	3"	B 6.53	B816						Mk std - RG	Avg ADU ~ 1800	
	4900	3'-4'								"		
	4600									"		
30s			V 7.45	K511						std vel		
	2840	5"	V 7.45	K511						std vel	Avg ADU ~ 900	



22) pg #2

Date 1991 AUG 24/25 Observers J.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		13ci	
1350	"	"	"	01 36 27	01 53 30	00			
FM000392	<del>HD223094</del>	"	"		01 57	00 05W	4Frames	"N" mode	4 ^x Int
1351	Comp	<del>00 11 52</del>	<del>+38 08</del>					FeA Clear	30s
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. T.

Focus...

Spectr. T.

Exp. Mir.

3075

3000

31x31pin

4000

1000

3100

5000

5000

3000

15000

Spectr. Temp. . . . .

Dome Temp./Hum.  $41.4^{\circ}\text{C}$  ..... 85%

Transparency Conditions ... *S/ Hazy* ..... 222 ..

## Clouding in

[illegible]



223

Sun - mon

Date 1991 AUG 25/26... Observers ... Tn ..... [Bln. checking]

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.
CF01364	Comp							FeNe Clear	40sec
1365	HD 164852	17 58.1	+20 50	20 5315	21 1500	01 11W		<del>2ci</del>	3500
1366	Comp							FeNe Clear	40sec
1367	HD 175227	18 4918	+24 09	21 2630	22 0500	01 10 W		2ci	3080
1368	Comp							FeNe Clear	40sec
1369	HD 187691	19 46.2	+10 10	22 2121	22 2700	00 34 W		3ci	
1370	Comp							FeNe	40s
1371	HD 193322 HB	20 14.6	+40 25	22 3224	22 5650	00 39 W		4ci	35000
Fm0003931n	"	"	"	4 Frames		00 41 W		"N" mode	Int x4
1372	<del>BIAS(4)</del> Comp							FeNe Clear	40s
1373	<del>Comp</del> BIAS(4)			23 0852					
1374	HD 199579	20 53.1	+44 33	23 0852	23 3450	00 37 W			35330
1375	Comp							FeNe Clear	40s
Fm000394	HD 207754	21 46.2	+43 25	23 43		00 08 E	4 frames	"N" mode	Int x4
1376	HD 206267	21 35.9	+57 02	23 5215	00 16 38	00 36 W		6ci	35200
	<del>Comp</del>								

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

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40sec					CCD FF	600/30.6	.	4300A		CCD FMT	300 0 20 1024 2 1 RANGE	
40sec	25000	2-3"	B 5.19	B3IV	CCD Fiber Red	600/30.6	25μ	4300A		SB-Bln	* 3970A → 4550A using "Control" 2. 22K ADU SUM AVG 5cols 3. 90K photons	
40sec	3080	2-3"	B3V 8.3-9.0	B5V						EB Bln		
40sec		2-3"	B 5.7	F8V						Std Vol	≈ 5 K ADU SUM AVG of 6cols	
40s	25000	2"	B 5.94	09V (un)						Bln pgm	comp to SW easily resolved 2-3" sep ≈ 22K SUM AVG ADU	
Int x4 40s	31x31						Below Fiber Head				nice resolution shown	
											<del>X = 130.544 new center</del> X = 130.544 in 5 cols new center	
40s	25330	2"	B 5.965	06V						Bln pgm		
Int x4	31x31	2"	V 7.32 K0III 5.83	065V			Below Fiber Head			Seeing Test Bln pgm	Dome WEST	
	25,200	2"	B 5.83	065V						Bln pgm	15K SUM AVG ADU 5cols	



235 #2

Date 1991 Aug. 25/26. Observers Jh... [Blh].....

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.
CFO1377	fts Comp							FeNe Clear	40s
1378	Comp [Stronger and with lines at red end]							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							

Spectr. T.

Focus...

Spectr. T.

Exp. Mtr.





221

Tues - wed

Emulsion Batches:

Date 1991 AUG 27/28 Observers Tn [B/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.
FM000395.Tn	HD171232	18 28.5	+25 25	21 14		00 50 W	4 fringes	Nimodo	4x Int
1385	BIAS (4)								
1386	Comp							FeNe Clear	77
1387	HD171232	18 28.5	+25 25	21 1930	21 3700	01 19 W		Gci	
1388	Comp							FeNe Clear	
1389	HD188001	19 47.9	+18 25	21 4400	22 2400	00 38 W		Tci	
1390	BIAS							Tci	
1391	Comp						FeNe Clear	Tci	77s
1392	HD 193443AB	20 15.2	+37 57	22 3245	22 12 45 in	01 00 W		8ci	
1393	BIAS (4)								
1394	Comp						FeNe Clear		77s
1395	HD 207198	21 42.2	+61 59	23 1840 in	00 0200	00 23 W		9ci	
1396	BIAS								
1397	Comp						FeNe Clear		77s
1398	BIAS (4)								

Spectr. Te

Focus...

Spectr. Te

Exp. Mtr.

3/431

2400

2400

7000

8200

Focus . . . . .

Spectr. Temp. .... Dome Temp./Hum.  $122.5^{\circ}\text{C} \dots 77\%$  90 CGHIN, CCDFMT 300 0 20 1024 21

[illegible]





Transparency Conditions ..... 930 ...

Focus . . . . .

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

90 33secs for flats

[illegible]



231 Thurs - Fri  
Date 1991 Aug 29/30 Observers Tm/Pdv

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.
FM000396.Tm <del>CE01405</del>	HD186155	19 37.8	+45 17	20 22		1 05 E		IVinulo	Int x4
CFO1405	Comp							FeNa clear	30s
1406	bias (4)								
1407	HD186155	19 37.8	+45 17	20 39 24	20 45 43	00 42 E			
1408	"			20 47 30	20 54 06	00 34 E			
1409	"			20 54 45	21 01 38				
1410	Comp								30s
	HD176437	18 55 12	+32 33						
1411	HD186155	19 37.8	+45 17	21 13 15	21 19 44	00 07 E			
1412	"	"	"	21 21 20	21 26 26	00 08 E			
1413	"	"	"	21 27 26	21 32 34	00 06 E			
1414	Comp								30s
1415	HD176437	18 55 12	+32 33	21 40 10	21 41 10	00 56 W			
1416	"	"	"	21 43 10	21 44 03				
1417	"	"	"	21 44 55	21 45 43	01 01 W			
1418	bias (4)								

Spectr. Temp. .... Dome Temp./Hum. +26°C... 70% Transparency Conditions .. 1.429..... 232....

Focus .....

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

Hot too  
90 CGAIN - CCOT → -101°C  
CCD24 2 sec ahead of Astro Clock

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Int made Na 30s	31x31 pixel		5.46	F5 II-III			FF Head				Dome SW-no wind	
					CCD FiberFed	600/ 1000				CCDFORMILT	279 0 5 1024 121	
	5000	3"	5.46	F5 II-III							MK std Bt deck	
											(seems like condensation) growing on chip window. Then decreasing?	
30s									6ci			
				B9 III						UBVRI std		
	5000		B=3.20	B9 III					7ci		AVG ADU 2500	
	"								8ci			
	"								9ci			
80s									10ci			
	5000			B9 III					11ci		AVG ADU 4500	



233 Pg #2

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

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
OFO 1419	Flat 9							TUNG Clear	6S
1420	"							"	"
1421	"							"	"
1422	Comp							Fene Clear	30s
1423	Comp [after drying chip window]							"	"
1424	BIAS (4) before exp								
1425	HD 10839	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							Fene 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							Fene Clear	30s
1434	HD 432	00 03 50	+58 36	23 38 25	23 39 15				

Spectr. Te

Focus....

Spectr. Te

Exp. Mtr.

5000

4500

5100

4300

4300

Spectr. Temp. . . . .

Dome Temp./Hum. . . . .

Transparency Conditions ..... *v. Hazy* ..... *234* .....[illegible]



235

pg 3

Date 1991 Aug 29/30 Observers Jn. L. 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.
1435	HD 432	00 03 50	+58 36	23 40 10	23 40 40			22	
1436	"		23 46 10	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							Fake 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. *+23.5°C. 77%* Transparency Conditions *Haze clearing*  
Focus .... *and Humidity dropping* 236  
Spectr. Temp. .... Dome Temp./Hum. .... *with N w breeze.*

[illegible]



237

pg #4

Date ... 1991 ... Aug 29/30 Observers . Pdr. - 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.
CF01451	Comp							FeNe Clear	30s
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	30s
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	30s
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 43 E			
1465	"	"	"	03 39 35	03 43 40				
1466	"	"	"	03 44 45	03 46 39				

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

[illegible]



239

Date *1991 Aug 29/30* Observers *Pdr. T₄*.....

### Emulsion Batches:

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[illegible]





241 Fri/Sat

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

### Emulsion Batches:

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[illegible]

Spectr. Temp. .... 72°F .....

Dome Temp./Hum. . . . .

Transparency Conditions ..... 242...

Focus ..... 17.40

Spectr. Temp. . . . .

Dome Temp./Hum. . . . .

no gain  $T = -100^\circ\text{C}$

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2	20°						1800/60°	250μ				00 1024 20 12	
												Oc gain	
4	5°						1800/62°	250μ			N=30	00 1024 1 1 4	
	1°	4					"	"			"	"	5200
	30°						"	"			"	"	
	—						—	—					



### Emulsion Batches:

Date 1991 Aug 31/Sep 6 Observers Mki/Pdr

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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.
TD0005	FTS Comp			20 58 40				FeNe Clear	5 ^s
TD0006	FAHD 174638	18 46 23	+33 15	21 05 10	22 46 23	2 18 W			60 ^s
TD0007	FTS "	"	"	22 49 50	00 33 46	4 06 W			"
TD0008	FTS Comp							FeNe Clear	5 ^s
00009	Flat			~ 00 44	<del>11 28</del>	4 10 W	+33	TUNG Clear	1 ^s
00010	Flat			00 50	<del>11</del>	4 16 W	"	TUNG Clear	1 ^s
00011	HD 19356	03 01 40	+40 34	01 15 04	02 56 13	1 48 E			60 ^s
00012	"	"	"	03 02 24	04 44 34	00 01 E			60 ^s
00013	Comp							FeNe Clear	5 ^s
FM000397	HD 19509	03 03.1	36 55		04 57	0 11 W	4x Int	1N' Mode	
00014	Dark							-	5 ^s
00015	flat					0 14 W	+37 23	TUNG Clear	1 ^s
00016	flat							"	"
00017-19	Dark				<del>05 24</del>			-	5 ^s
00020	Comp				05 24			FeA Clear	10 ^s
00021	Dark							-	60 ^s

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

Focus ..... T = -100 °C 244

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

Compensation of Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Ne Clear	5 ^S				CCD FF TDI	1800/62°	250μ	~H ₂		N=30	62° = 80 on vernier moved manually to 85	
60 ^S		~5" ^V								N=100	β Lyr	
"	2.4 × 10 ⁵	~3" 5"								N=100		
Ne Clear	5 ^S									N=30		
NG Clear	1 ^S									N=100	2900 AVG ADU MAX	
NG Clear	1 ^S									"		
60 ^S	1.05 × 10 ⁶	~4" ^V	2.2	B8 IV						N=100	Algol	
60 ^S	7.8 × 10 ⁵	~5" "	"	"						N=100	Algol	
Ne Clear	5 ^S									N=30	Fe - Ne	
" Clear		31 × 31 pix	7.1 ^V	K0 III						N=30	Dome printing w ligh wind from N	
UW Clear	1 ^S									N=100		
"	"									N=100	Turning dome while doing this flat	
"	5 ^S									N=30		
2A Clear	10 ^S									N=30		
60 ^S										N=100		

Copied to WORM & Perseus  
to TD00021.FTS



245

Sun/Mon

Date 1991 Sep 1/2

Observers

Pdr / [KK] ← checking

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.
CFO 1476	bias (10)								
1477	comp							Feltz clear	60s
1478	HD 8890 A	01 22.6	+88 46	21 34 35	35 03				
1479	"			21 37 00	37 26				
1480	"			21 39 30	40 02				
1481	Comp			22 07				"	"
1482	HD 203156	21 15.4	37 49	22 36 00	22 41 47	00 11 E			
1483	"	"	"	22 44 35	22 50 08				
1484	"	"	"	50 37	22 58 03	00 05 W			
1485	Comp							"	"
1486	HD 204867	21 26 18	-6 01	23 06 45	23 07 18	00 02 W			
1487	"	"	"	23 09 50	23 10 24				
1488	"	"	"	23 11 50	23 12 18				
1489	Comp							"	"

Transparency Conditions ..... *Few Clouds* ..... 246.

90 cgrm

$$T_{\infty} = -100$$

Dome Temp./Hum. . . . .

0 0 1024 6 1 6 ccd fml

Comparison	Exp.
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### Emulsion Batches:

$\text{Pdr } [KK]$

[illegible]

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

080



249

Date

1991 Sept 2/3

Observers

Pdr / [KK] - checking

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.
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 ^{26 09} <del>25 49</del>	<del>26 09</del>			

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

Focus .....

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

90 again

Tccd = -100

0 0

1024 6 16 ccd fnt

Comparison  
Filter Exp.

No  
Clear 60s

No  
Clear 60s

No  
Clear 60s

No  
Clear 60s

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CCD FF	1800/52.9	250 $\mu$	5130 Å ↑ from [FeA]			chip rotated (TDI setup)	
1400	3"	V ₄₈ <del>559</del>	GOIb					3ci	Rm/Pdr	~1100 AVG ADU (3 rows)	
1000		"	"					4ci			
700								5ci		~900 AVG ADU (3 rows)	
10,000										~8000 AVG ADU (3 rows)	
									KK		
15 ³⁰ <del>30</del>	2.4"	V 8.50	M2V					11ci	KK	Brighter of pair (southern) * ~1000 AVG ADU (3 rows)	
1500								12ci			
3000		V 2.91	GOIb					14ci	Std Vel	~3000 AVG ADU (3 rows)	





Spectr. Temp. . . . .

Transparency Conditions ... Clear ...

252

Dome Temp./Hum. ....

4



253 Pg #1

Wed Thurs

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

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.
CF01529	fts Comp (Long) during afternoon							FeA Clear	*
1530	fts Comp							Felle Clear	300s
1531	HD169691	18 20.8	-01 44	19 52 25	20 52 25	1 ^h 04 ^m W		5 ci	
1532	HD169691	"	"	21 03 19	22 03 19	2 ^h 16 ^m W		6 ci	
1533	HD169691	"	"	22 04 40	23 04 40	3 17 W		7 ci	
1534	Comp						Felle Clear	8 ci	300s
1535	Comp						FeA Clear	9 ci	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 222368	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 14	00 41		00 10 W		"N" mode	In tx 4

Spectr. T.

Focus...

Spectr. T.

Exp. Mr.

Haw/CR

2383

2205

1840

1200

5300

14160

31x31

Spectr. Temp. ....

Dome Temp./Hum.  $+19^{\circ}\text{C} \dots 65\%$ 

Transparency Conditions ... Mostly Clear ...

Focus ... 16.95 ...

CCDFMT 513 0 8 1024 6 1

254

Spectr. Temp. ....

Dome Temp./Hum. ....

CCD Temp  $-110^{\circ}\text{C}$  CGAIN = 30Comparison  
Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
* Hauler say 52 sec exp				CCD Fiber Fed	1200/58.5	250u	4481A			2nd ORDER used BG 39 filter before slit	
2383	4" $B=$	384	A1V						ed Bin EG 5ex		
2205									"		
1840	3-4"								"		
14200	4" $B$	4.64	F7V						std vel	1300 SUM AVG ADU	
15300									"		
14000									"		
31x31 pixels	$\checkmark$	6.34	A0	4 frames					Seeing test	No wind Dome pointing w/ADU	

$\sigma = 176.5$   
 MAX ADU = 2900  
 Average of 9 60sec flats



255

pg #2

Date ... 1991. Sep. 4/5 ... Observers ... NLT / Pdr. / Tq. ....

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.
CFO 1543	BIAS (4)								
1544	Comp							FeA Clear	100s
1545	HD 7927	01 13.8	+57 42	01 51 10	01 53 43	00 48 E			
1546	Comp							FeA Clear	150s
1547	HD 7902	01 13.6	+57 40	02 03 20	02 15 39				
1548	HD 236697			02 22 00	03 02 00				
1549	Comp							FeA Clear	150s
1550	BD + 57 252			03 08 40	03 46 31	01 04 W			
1551	Comp							FeA Clear	150s
1552	HD 7927	01 13.8	+57 42	03 52 37	03 54 29	01 13 W			
1553	BIAS (4)								
1554	Comp							FeA Clear	150s
1555	HD 18884	02 57.18	+03 42	04 13 15	04 13 51	00 10 E			
1556	HD 22484	03 31 48	+00 05 00	04 20 15	04 23 05	00 35 E			
1557	Comp							FeA Clear	150s
	<del>Star</del>								

Spectr. Tr.

Focus...

Spectr. Tr.

Exp. Mir.

3000

2000

6617

900

3000

5000

5000

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	
A 20 103	3000	3.4"	5.0	F0I _a						JLT pgm	$\approx$ 2000 sum AVG ADU	
12 50	2000		7.0	B6I _b						JLT pgm		
130	2617	4"	8.59	M1					7ci	JLT pgm	$\approx$ 2600 ADU sum AVG of 2 cols	
									8ci	<del>JLT pgm</del>	<del>#23 on fld</del>	
	900	3.4"	9.5	B1I _b					9ci	JLT pgm	#23 on fld	
150	3000	4"	5.0	F0I _a						JLT pgm		
150	5000		2.53	M1.5 III						std vel		
150	5000		4.28	F8V						std vel		





Transparency Conditions ... *Fine* ..... 258 ....

Spectr. Temp. .... Dome Temp./Hum.  $+14^{\circ}$ ... 68.5%

Dome Temp./Hum.  $+14^{\circ}$ ... 68.5%

All copied to WORM & Floppy to CF01560.FIS



25th pg #1 Fri - Sat

Date 1991 Sep 6/7..... Observers Sct. / 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.
Ca034-25	Bias (4)			19:04					
3426	Bias (4)			19:09					
3427	Dark - 15 min			19:12	19:27				
3428	Comp							ThA	10sec
3429	<del>HD 180711</del> 180610	19 12 32 ⁰⁸	+57 32 ⁰⁸	19 58 35	20 28 35 ^{28 35}	00 00W			
3430	Comp							ThA	10sec
3431	<del>HD 180711</del> 180610	19 12 32 ⁰⁸	+57 32 ⁰⁸	20 30 53	21 01 28	00 34W			
3432	Comp							ThA	10sec
3433	<del>HD 180711</del> 180610	19 12 32 ⁰⁸	+57 32 ⁰⁸	21 14 43	21 30 31	01 03W	DRUM +57 47		
3434	Comp							ThA	10sec
3435	Comp for HD 180711								
3436	HD 180711	19 12 32	+67 29 08	21 39 22	22 09 40	01 42W			
3437	Comp							ThA	10sec
3438	HD 180711	19 12 32	+67 29 08	22 11 48	22 41 50	02 15W			
3439	Comp							ThA	10sec
3440	Comp for P Cyg						1ci	ThA	10sec
								det	

Spectr. Te

Focus...

Spectr. Te

Exp. Mtr.

077

1100

870

1040

10050

CGAIN = 90    CCDFMT = 0.256 1024 4 1

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

			ccd Echelle	•435 4000Å	600u long 90u	3934Å		Echelle tilt 17.80°
								CCDT = -101.7°
977		V 5.12 K2 III <del>4.07 G9 III</del>					wrong star <del>Srt pgm</del>	V mag = <del>3.07</del> 5.12 TV guider Int can be all the way down for guiding sky hazy but clear
1100	4.5"	V 5.12 K2 III <del>4.07 G9 III</del>					wrong star <del>Srt pgm</del>	image dia sl < 60u slit length
870		V 5.12 K2 III					wrong star	RA ≈ 2 min East of <u>OR ≈ 1914</u>
10400	4" B	4.07 G9 III					Srt pgm	V mag = 3.07 s can be guided with Int @ bottom CCDT = -101.6°
10,050	3.4" B	4.07 G9 III					Srt pgm	



Date 1991 Sep 6/7 Observers Sot/Tn

### Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
ce03441 ✓	HD 193237	20 14 06	+37 43 19	22 48 10	23 08 10	W		3ci	
3442 ✓	Comp							THA <del>4ci</del>	10s
3443	Comp						5ci	THA <del>5ci</del>	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)						(2ci)	<del>PA</del>	
3448	HD 206859	21 39 47	+16 53 28	23 49 54	00 19 54	01 21 W	ce03447	THA	10s
3450	HD 206859	"	"	00 21 49	00 41 49	01 14 W	ce03449	THA	10s
3452	"	"	"	00 43 45	01 04 30	02 06 W	ce03451	THA	10s
3454	"	"	"	01 08 03	01 36 05	02 38 W	ce03453	THA	10s
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	ce03462	THA	10s
3465	BIAS(4)			02 06			ce03464	THA	10s
ce03466 3469	FLATS (4 of them)					02 W	+2°	TUNG	90s

Spectr. Temp. .... Dome Temp./Hum. 18.3°C ... 69% Transparency Conditions ... S1 h92u ..... 262  
 Focus ..... 270 .....  
 Spectr. Temp. .... Dome Temp./Hum. 17.5°C ... 69.5% ..... → cloudy

Comparison  
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	<del>Echelp</del> CCD	4000Å	90μ	3934A		Pcgg for Fds	$V_{mag} = 4.81$ [Int up slightly for guiding image] ie TV guider Int adjustment slightly turned up	
						Slit H = 600μ = .205 setting					
14000		^B 3.40	K0 III						std vel		
3,214	2"	^B 5.51	G5 Ib					3ci	<del>Srt</del> srt pgm		
2083		"	"					5ci	"		
3050	2"	"	"					1ci	"	$V_{mag} = 4.34$ TV guider needed Int adj up ~ 30% from bottom	
2536	2.2"	"	"						"	some cloud exten	
						Slit Height (Length) = 1000μ = .165 setting					
1045	2"	^B 4.22	G8 V			90μ Slit H = 600μ 90μ			Srt pgm	some cloud - <del>mag</del> Dome T = 17.5°C	
						1000μ Height 90μ width					
Backed up →						CE0 3425 - <del>3459</del> 3472			To Perseus		



263 pg 43

pg 43

Date 1991 Sep 6/7 Observers Srt/Tg

### Emulsion Batches:

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[illegible]

Dome Temp./Hum. ....

Transparency Conditions .. *PART. cloudy* .....

264

[illegible]



165 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 33 33	+38 41	20 24 45	20 32 00	00 48 W			20s
ce03475	Comp							ThA	10s
ce03476	Comp							ThA	10s
ce03477	HD 169691	18 20 48	-01 44	21 26 16	22 21 16	02 49 W			
ce03478	Comp							ThA	10s
ce03479	BIAS(4)								
ce03481	HD 169691	18 20 48	-01 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 33 33	+38 41	23 18 07	23 29 00	03 46 W	ce03486	ThA	10s
ce03487	FLATS					03 10 W		TUNG	30s
3489									
ce 3490	FLATS	(at original binning)				03 20 W		TUNG	120s
3492									
3494	HD 7902	01 13.6	+57 40	00 27 25	01 07 25	01 20 E	ce03493	ThA	10s
							ce03495	ThA	10s
3496	HD 7927	01 13.8	+57 42	01 18 00	02 08 07	00 18 E	ce03497	ThA	10s
3498	"	"	"	02 19 22	02 49 22	00 23 W	ce03499	ThA	10s

Spectr. Temp. .... Dome Temp./Hum.  $+22^{\circ}\text{C}$  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
N/A 10s					Echelle CCD	$1200/\cdot 340$	$120\mu$ 600L	4481A		$120\mu = 253 \text{ set}$	$4000/\text{h}$ <i>xgrating</i>	
N/A 10s	20K ??	0.	AO				$\text{slit L} = \cdot 205$				CCD T = $-10.7^{\circ}\text{C}$	
N/A 10s	Prob N/A out 12	2" $\approx 8.4$	B	A1V						EG SER JLT pgm	CCD FORMAT 0 0 256 1024 4 1 $\checkmark \approx 8.2$ thin cloud. TV guide Int near top for easy guiding	
N/A 10s	N/A	2-3" $\approx 8.4$	B	A1V							$T_{\text{Dome}} = 20.0^{\circ}\text{C}$ CCD FORMAT changed to 0 0 256 256 4 4	
N/A 10s	1600D	0	AO								Dome T = $+19.5^{\circ}\text{C}$	
N/A 10s							1200 width 1000 slit H $\cdot 165$				MAX $\approx 9000 \text{ ADU}$	
N/A 10s							1600 height 1200 width 600 H			0 0 256 1024 4 1 CCD Fmt		
N/A 10s	152	4" $\checkmark$	7.0	B0 Ia					3ci	JLT pgm	cloudy (thin)	
N/A 10s	415	3" $\checkmark$	5.0	F0 Ia					4ci	JLT pgm	cloudier	
N/A 10s	1272	"	"	"					5ci	"	not as cloudy	



Date 1991 Sep 8/9 Observers JLT/Tn

### Emulsion Batches:

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[illegible]

Transparency Conditions *Hazy* ..... 268

Focus . . . . .

Spectr. Temp. . . . .

Dome Temp./Hum.  $+18^{\circ}\text{C}$  90%

Hazy ..... 268  
Clouding in again

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
A	1058							100%	4481A				
	20min	12285		B 3.40	KOIIIa	Echelle CCD					std vel		
	105												
												Pome T = +18.1°C	
												Backed up to CEO 3503 on Perseus and WORM	
												Echelle tilt should have been $\approx 17.00$ instead of $19.10^\circ$ for <del>per</del> better signal to optimum (Established with a fast Flat test) blaze angle $T_u$	





Spectr. Temp. .... Dome Temp./Hum.  $+22.2^{\circ}\text{C}$  74% Transparency Conditions ... V... Hazy.....

Focus .....

270

Spectr. Temp. .... Dome Temp./Hum. ....  $90\%$ 

90 C GAIN

Comparison  
Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle CCD	$5000\text{\AA}/600$ $1\text{m}/\text{mm}$	$90\mu\text{W}$ $600\mu\text{L}$	5175A		xgrating tilt. $40^{\circ}$	Echelle set to $16.70^{\circ}$	
622	3"	B 4.07	G9III						Srt pgn	$V = 3.07$ $\approx 22\text{K ADU above bkgnd}$ over 10 cols $\oplus 5170\text{\AA}$	
696	3.4"	"	"						"		
150		B 5.47	KOU						"	$V = 4.68$	
37	3"	"	"						"	$\approx 4.7\text{K ADU above bkgnd}$	
		B 5.51	G5Ib							$\uparrow$ $\approx 11.3\text{K ADU}$	
42		B 6.51	G5Ib							$\approx 11.3\text{K ADU}$	clouds
2083	2.3"	B 3.40	KOTIa						RV std		
									Srt pgn		
										Dome T = $+21.2^{\circ}\text{C}$	
										Backed up to Perssons & Wurm to CEO 3535. fts	



21

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.
003537	Bias (4)			18:41					
3538	Bias (4)			18:58					
3539	dark 15m								900s
3540	bias (4)			22:58					
3541	Comp			23:17				ThAr	10s
3542	HD 193237	20 14 06	37 43 19	23:24:52	23:54:52	2 38 W			
3543	Comp							ThAr	10s
3544	Comp							"	"
3545	HD 3712	00 34 50	55 59 20	00:06:13	00:26:00	1 13 E			
3546	Comp							ThAr	10s
3547	<del>Comp</del> Flat (9)							TUNG	50s
3548	bias (4)								
3549	Comp							Th-Ar	10s
3550	HD 10700	01 39 25	-16 27 51	01:29:17	01:59:19				
3551	Comp							Th-Ar	10s

Spectr. Tr

Focus...

Spectr. Tr

Exp. Mir.

13

603

37

Spectr. Temp. .... Dome Temp./Hum. *18.5/78.9* Transparency Conditions *Cloudy → Clear*  
 Focus ..... 272  
 Spectr. Temp. .... Dome Temp./Hum. ....

Companson Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					<i>Echelle CCD</i>	<i>4000/1200</i>	<i>90μ 600μ (.265)</i>	<i>3934 Å</i> ↑ <i>one order below central</i>		<i>x grat. .422</i>	<i>Echelle tilt 16.55</i>	
<i>90°</i>												
<i>Ar 10°</i>												
<i>Ar 10°</i>	<i>13</i>		<i>B 5.23</i>	<i>B2pe</i>						<i>P Cygni</i>	<i>~ 2070 ADU (over 10 pixs)</i>	
<i>u "</i>												
<i>2W 10°</i>	<i>603</i>	<i>~5"</i>	<i>0 3.40</i>	<i>K0 IIIa</i>							<i>Clouds</i>	
<i>WG 50°</i>							<i>90μ 1000μ (.165)</i>					
<i>-Ar 10°</i>												
<i>-Ar 10°</i>	<i>37</i>		<i>B 4.22</i>	<i>G8 V</i>			<i>90μ 600μ</i>			<i>I Ceti</i>	<i>~ 2260 ADU (over 10 pix) (background ~ 1690 ADU)</i>	



273 #2  
Date 1991 Sep 10/11

#2

Date _____

1991 Sep 10/11

## Observers

Srt/Par

### Emulsion Batches:

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[illegible]

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

Transparency Conditions . *Part Cloudy* .....

274

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	14		B 4.22	68V	Echelle CCD	4000/1200	90μ 600μ	3934P		x-just. 422	echelle tilt 16.55	
	All copied to WORK + Persens											



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.
FN00039	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 ⁵
3560	HD 10700	01 39 25	-16 27 51	01:20	01:50			thA	10 ⁵
3561	Comp	"	"	<del>01:52:18</del>					
3562	HD 10700	"	"	01:52:18	02:22:18	0 15 E		thA	10 ⁵
3563	Comp							"	"
3564	Comp							"	"
3565	HD 20630	03 14 07	03 00 13	02:29:47	02:59:46	0 15 E			
3566	Comp								
3567	HD 20630	"	"	03:04:14	03:34:14	0 30 E		thA	10 ⁵
3568	Comp								







Transparency Conditions ..... Clear .....

278

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

Comparison	
pe/Filter	Exp.



2nd 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 ^s
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	1 30 W			
3500	Comp (FeA)							FeA Clear	60 ^s
3501	Comp (FeNe)							FeNe Clear	20 ^s
3502	Comp (FeNe)							"	20 ^s
3503	Comp FeA							FeA Clear	60 ^s
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 ^s
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

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"	7.48	GOIb					4u	Rm/Pdr	* 3840 AVG ADU (over 8 pix)	
1100		"	"					5u		2400 AVG ADU (over 6 pix)	
1010		"	"					6u			
										Telescope moved to E by ~30 min	
3000	3	5.89	GOIb						Rm/Pdr	4800 AVG ADU (over 4 pix)	
3250		"	"						"		
3000											
3500		5.11	F8I					13u		6000 ADU SUBI AVG of 4 cols	



281

pg #2

## Emulsion Batches:

Date 1991 Sep 12/13... Observers Petr - T₆.....

Plate No.	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							FeNe Clear	60s
3513	bias (4)								
3514	Comp							FeNe Clear	20s
3515	HD 8890 B	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							FeNe Clear	20s
3519	HD 8890 A	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							FeNe Clear	20s
3523	Comp							FeNe Clear	20s
3524	HD 201156 B	21 02.7	+33 44	23 33 23	23 57 23	02 00 W			
3525	Comp							FeNe 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	250u	5155H	14a	StdVel		
	3500								15a	"		
											Dome T = +15.7°C	
	2000	2-3"	^B 28.6	F						Asn Sp-kk	3200 Avg XDO (over 4 pix)	
	2000									"		
	2000									"		
										"		
	12500		^B 2	F						"		
	12500									"		
	12,500									"	22,500 AVG ADU over 5 pixels	
	1600	1"	8.1					Fainter & NE of Pair	23a	Asn Sp-kk	ADU 3,100 SUM AVG over 7 cols nice separation of Pair	



243 P9#3

Thurs - Fri

Date ..1.9.91.. Sept 12/13 Observers ..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.
CC03526	HD 201156 A	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	20s
3530	HD 201156 B	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 ⁺ mole	Int x4
CC0353A	HD 3765	"	"	01 46 29	02 00 09	00 29' W		FeNe Clear	20s 20s
3535	"	"	"	02 02 02	02 22 34	00 53' W			
3536	"	"	"	02 24 12	02 35 48				
3537	Comp							FeNe FeNe	20s 20s
3539	HD 18884	02 57.1	+03 42	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	20s

Spectr. Tr.

Focus...

Spectr. Tr.

Exp. Mir.

2500

2580

2630

600

1613

3x3/4

3000

3000

3000

K

K

K

284

FANS on since sundown

[illegible]



286

Pg #4

Date 1991 Sep 12/13 Observers Th. / Pdr

Emulsion Batches:

Note f/8 and Diffuser  
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.
CC03543	fts BIAS(4)								
3544	FLAT(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	40/46
In Sept 14	after tour					0 0	+7	FeA clear	120/120
CCF00122	Focus test	comp posn 5ci		5450 15 1024 51	CCF00123	0 0	+7°	"	"
CCF00123	Focus test	stellar posn 6ci							

286

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					CCOT = -101.6°C	
1/4	6se					All copied to WORM + Persing T. cc03544.fis → cc03548.fis							
Ne	40/40	Dome T = +19°C				CASS CCD	1800/46.9	250 $\mu$	5155Å	slit L	SHORT	set 6.60 from last night	
H $\beta$	40/40	+19°C			"	"	"	"	"	"	"	set 6.67	
H $\gamma$	100/100					CASS CCD	G=6015 1800/	short slit 250 $\mu$	H $\alpha$	S	Backed up too. T _n <del>Sete</del> Sete 6.67		
"	"	Dome T = +19.5°C										enter stellar sl Red = 63 pixels O shift of Blue ed	





Transparency Conditions *Levi's PART. NY*.....288.

0 0 256 1024 4 1 CC0 FMT  
CGAIN = 90 600 h/m 5000 g/g

[illegible]



289 #1 Tues - wed

Date 1991 Sep 17/18... Observers Fds. - Tn.....

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.
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	+20°		20s
3617	BIAS(4)			18 41		0 0	platform		
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 3632	" " " "
3631	HD180554	19 11 55	+21 12 49	21 57:04	22 32 52	02 47 W			
3633	BIAS(4)			22 36 30				ce03634 THA ce03636 THA ce03637 THA ce03639 THA	30s 20s 15s 15s
3635	HD193237	20 14 06	+37 43 19	22 41 03	23 41 08	2 54 W			
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		101 W			20min

CGain = 90  
x gain 5000H = 6001u/min

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						Echelle CCD	5000Å/45°	100μ .261	4481			CCDT = -102.0°C	
												SI H for Flats 800μ = .185	
												Dome T = +19.3°C	
												Dome T = +19.1°C	
		3000	3"	3.89	B5 IV			SI + H = 600μ = .205			Tau Her fals pgrm		
		1600	3.5"	4.88	B2pe						p Cyg	some cloud	
		1500	4"	4.77	B4 IV						1 Vul	Some cloud	
		2000		4.51	B2 IV						GLAC		
		2000	4"	4.77	B4 IV						1 Vul		
												Dome T = 15.5°C	
		1368	3"	4.88	B2pe						P Cyg	cloudy	
		2350	4.5"	4.51	B2 IV						6 LAC		
			3"	4.66	B3 V						35 Afs	thin cloud	
		Backed up on Perssons & worm to CE 03643. fts											
		Chart slide closed, still pointing at P Cyg (drive on)											
		Cloudy CCD T = -102.0°C											



201

pg#2

Emulsion Batches:

Date 1991 Sep. 17/18 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.
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%			after resetting	
3649	HD213420	22 26 10	+42 36 39	02 53 11	03 23 37	CE03648 Th A		CCD T back to -102°	150
3650	Comp					CE03650 Th A			15s
3652	HD26912	04 10 06	+08 38 31	03 30 38	04:07:30	3651 3653	"		15s 2000
3654	HD 16908	02 37 55	27 14 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	0029W		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[°]... 1567 Transparency Conditions .. Part. Cloudy .....  
 Focus .....  
 Spectr. Temp. .... Dome Temp./Hum. +13.2[°]C.... 84%

292

Comparison e/Filter Exp.	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>	
15	1500	3"	4.57	B2 IV			100	4481A		6 Lac		
15	2000		4.29	B3 IV						Mu Tau		
15	1880	3-5"	4.66	B3 IV						35 Ari		
15		5"	4.29	B3 IV						Mu Tau		
											$\langle x \rangle = 152.243$	
											$\langle x \rangle = 150.916$	
											Now To Perseus warm to <u>3661</u>	



203  
2pg 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	1 40 W			
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 52	02 52 W		ThA	15s
3686	HD 193237	20 14 06	37 43 19	19 40 47	20 29 23	00 12 E		ThA	"
3689	HD 180554	19 11 55	+21 12 49	20 35 33	21 15 33	01 36 W		ThA	"
3691	BIAS (4)			21 15 10					
3693	HD 147354	16 16 44	46 33 05	21 23 17	24 38 43	04 56 W		ThA	15s

3692  
3694Th-A  
Th-A

15s

3690





#2

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

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[illegible]

Spectr. Temp. ....

Dome Temp./Hum.  $+7.5^{\circ}\text{C}$  75%

296

[illegible]



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 ^s
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)			00:41:04		4h W	+38°		
3733	comp			00:42:44				thA	15 ^s
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 3739 3741	"	4
3740	HD 26912	04 10 06	08 38 31	02:11:19	02 50 13			"	4
3742	bias (4)			02:5434					
3743	bias (4)			02 57 00					

Spectr. Te

Focus...

Spectr. T

Exp. Mir.

2000

2000

479

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

Transparency Conditions Part cloudy 298

Focus .....

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

c gain = 90

0 0 256 1024 4 1 CDM7

Comparison  
e/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	4481A		slit H=600μ .205	x grating tilt=.4570 T=11.2 x=149.860 T=11.2 x=149.860	
									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	
									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=144.539	
										" x=144.391	
all copied to WORM & Persen to ceo 3743.fes											

6s

15s



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		'N' 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	"	"
3769	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

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit width	Emulsion	P.H.	Program	Remarks	Quality
					ESHELLE CCD	600/18.85	100μ .261	.4570 4481A	600μ .205	1	T _{dome} = 10.7 X = 148.579	
											T _{Dome} = 10.6 X = 149.278	
fr	15s											
"	"	2000	2" 4.88	B2pe						P Cyg		
"	"	2000	3" 4.77	B4IV						1 Vul		
"	"	2000	1.5-2" 4.57	B2IV						6 Lac		
"	"	31x31 pix								Seeing test	Dome pointing w No wind Fans off	
fr	15s	2000	4.88	B2pe						P Cyg		
"	"	2000	2" 4.77	B4IV						1 Vul		
"	"	2500	4.66	B3V						35 Ari		
"	"	2000	4.88	B2pe						PCyg.		
"	"	3000	4.51	B2IV						6 Lac		
											t = 9.30 X = 148.675 H = 65.5%	
"	"	2000	3" 4.29	B3IV						MTAU		



301

#2

Date 1991 Sept 21/22 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.
CE03775	HD 16908	02 37 35	27 16 54	02 01 47	02 18 01	0 40 E	3775	Th A	15 ^s
3779	HD 213420	22 26 10	42 36 39	02 23 38	02 39 37	03 55 W	3777	"	"
3783	HD 26912 ^{Bias}	04 10 06	08 38 31	02 45 36	03 03 18	01 46 E	3778	"	"
3781	3786 HD 16908	02 37 35	27 16 54	03 03 18	03 33 09	00 35 W	3780	"	"
3789	HD 35149	05 17 35	03 26 54	03 09 09	04 12 34	01 24 E	3782	"	"
3792	HD 29139	04 30 12	16 19	04 17 30	04 19 10	00 31 E	3784	"	"
3795	HD 26912	04 10 06	08 38 31	04 23 10	04 51 59	00 22 W	3785	"	"
3798	HD 16908	02 37 35	27 16 54	04 56 20	05 19 01	02 21 W	3787	"	"
3800	bias					0h	3788		
3801-3805	5x flat			05 25 24		0h	3789	TUNG	23 ^s
3806	bias			05 32 56		"	3790		
3807-3811	5x flat			05 34 47		0h	3791	TUNG	23 ^s
3812	bias			05 34 50		"	3793		
							3794		
							3796		
							3797		
							3799		
							+40		
							+40		
							"		
							+20		
							"		

Spectr. T.

Focus...

Spectr. T.

Exp. Mir.

slit  
height

302

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit width	Emulsion	P.H.	Program	Remarks	Quality
A	15 ^s	2500	2" 3"	4.66	B3V	Echelle CCD	600 / 18.85	100μ 1261	.4570 4.281	600μ .205	35 Ari		
"		3000		4.51	B2IV						6 Lac		
"		3000		4.29	B3IV						μ Tan		
"		2500	3" 4"	4.66	B3V						35 Ari		
"		1500	3"	5.00	B1V						23 Ori		
"		4000		0.85	K5 III						RV Std		
"		3000	3"	4.29	B3IV						μ Tan		
"		2500	3"	4.66	B3V						35 Ari		
												$T_{Dome} = 7.9 \quad x = 145.155$	
WG	23 ^s								800μ .185			$T_{Dome} = 7.9 \quad x = 144.678$	
WG	23 ^s											$T_{Dome} = 8.0 \quad x = 144.546$	
All copied to WORM + Persens to ceo 3812.fits													



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		0 ^h	+20		
3814	bias (4)			19 50 30		0 ^h	+40		
3815-3820	6x flat			19 53 30			<del>3815</del> 3817	TUNG	23 ^s
3821	bias (4)			20 05 00			F		
3822-3827	6x flat			20 11 15		0 ^h	+20	TUNG	23 ^s
3828	bias (4)			20 18 37					
3829	Comp			21 20 35				ThAr	15 ^s
3830	HD 193237	20 14 06	37 43 19	21 25 40	22 25 40	2 01 W	3831	"	"
3833	HD 213420	22 26 10	42 36 39	22 30 43	23 17 07	0 39 W	3832 3834	"	"
3836	HD 22928	03 35 48	47 28 00	23 27 40	00 08 04	3 42 E	3835 3837	"	"
3838	Bias (4)			00 16 38		0 ^h	-27°		
3839	Bias (4)					"	"		
3841	HD 193237	20 14 06	37 43 19	01 21 10	02 03 11	5 59 W	3840 3842	ThAr	15 ^s
3844	HD 16508	02 37 34	27 16 54	02 09 04	02 49 15	0 0	3843 3845	"	"
3847	HD 29139	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 .....  
 Spectr. Temp. .... Dome Temp./Hum. ....

304

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		$T_{DOME} = 13.4 \quad CX7 = 153.525$ $rh = 57.6$	
NG 23 ^S								800μ .185		$T_{DOME} = 12.8 \quad CX7 = 151.665$ $rh = 60.7$	
NG 23 ^S										$T_{DOME} = 12.7 \quad CX7 = 151.646$ $rh = 61.4$	
Ar 15 ^S								600μ .205		$T_{DOME} = 12.6 \quad CX7 = 151.496$ $rh = 62.4$	
" "	1275	2"	4.88	B2pe					P Cyg		
" "	1400	3-4"	4.51	B2IV					6 Lac	Cirrus	
" "	1368		2.99	B5III					8 Per		
										$T_{DOME} = 9.9 \quad CX7 = 146.840$ $rh = 73.2$	
										$CX7 = 146.828$	
Ar 15 ^S	1000	3"	4.88	B2pe					P Cyg		
" "	1314	4"	4.66	B3V					35 Ari		
" "	4000		0.85	K5III					R V Std		



305  
Date 1991 Sept 23/24 Observers Fas/Par

### Emulsion Batches:

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[illegible]

Transparency Conditions. *Part cloudy*.....

Spectr. Temp. . . . .

Dome Temp./Hum. 61.1/70.....

Slit  
Height

306

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Ar 15 ^s	1661	4"	4.29	B3IV	Echelle CCD	600 18.8	100 $\mu$	4481A	600 $\mu$	$\mu$ Tan	$T_{\text{ome}} = 7.3$ $\alpha_7 = 145.032$ $rH = 79\%$ $\alpha_7 = 144.791$	
	all covered to work + Perseus to ce 03853.5											
12.5 ^o Ne 10 ^{sec}	1ci				CASS CCD	600/25.2	250 $\mu$	4100 $\text{\AA}$		CCD FORMAT mode:iter	590 0 15 1024 201 * G=2590	
	2ci									"		
	3ci									"		
	4ci									"		
	5ci									"		
	6ci									"	(Looks Right on using OPLOT)	



307

Thurs - Fri

Emulsion Batches:

Date 1.9.91. Sep 26/27. Observers Mki... In... Pds.....

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..... Diffuser 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.
CC 03549	FLTS Bias (4)								
03551	HD 193237	20 14 06	37 43 19	20 12 40	20 20 00	00 06 W	CC 03550	FeNe	20s
03553	"	"	"	20 25 30	20 33 00		CC 03552	Clear	4060
03555	"	"	"				CC 03554	"	20
03557	FLATS 3							TUNG A-1/2	592
CC 03558	BIAS (4)								
CC 03560	HD 200391	20 58 01	27 24 26	21 36 47	21 36 47	00 41 W	CC 03559	FeNe	20s
lost 3561	"	"	"	21 41 29	21 43 29	00 45.5 W	lost CC 03562	FeNe	20s
3563	HD 200391	"	"	21 52 00					120s
3564	"								"
3565	"								"
3566	"								"
3567	"								"
3568	"								"
3569	"								"
3570	"								"
3571	"								"

Spectr. Temp. .... Dome Temp./Hum.  $+11^{\circ}C$  65% Transparency Conditions... PORT Cloudy 30%  
 Focus ..... 6.80  $T_{ccd} = -101$  90 cgm ccd  $\rightarrow -100$   
 Spectr. Temp. .... Dome Temp./Hum. .... 0 612 1024 12 1 4 ccd fuit

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Cass (C)	600/250	250 $\mu$	4100 Å		G2595	Chip rotated by 90°	
4060		4.88	B2pe						PCyg	ins out of thick cloud	
4500	4"									" "	
										TDI attempt - no go	
										Back To 0 612 1024 12 1 4 ccd fuit	
approx 300	4"	B= 7.8	G1V + G2V					4ci	ERVUL [120 OBS]		
300								5ci	"	120 OBS	
								4ci		start of Mun TDI-BAT	
								5		of 15 exposures,	
								6			
								7			
								8			
								9			
								10			
								11			
								12			



pg #2

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Date 1991 SEP 26/27 Observers MK: Tm: Vds

[illegible]

Spectr. Temp. .... Dome Temp./Hum.  $6^{\circ}\text{C}$  73% Transparency Conditions  $\text{Part cloudy}$  310  
 Focus .... 6.8.0 .....  
 Spectr. Temp. .... Dome Temp./Hum. ....

Comparison of Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
12/5			4"	B 7.8	G1/2 +G2V		6001		4100P	13	ER VUL		
										14			
										15			
										16			
										17			
										18		End of Batch	
										19ci			
										4ci			
										5			
										6			
										7			
										8			
										9			
										10			
										11			

Total after 15 exps = 5900 cnts)



Kg #3

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.....

.....

Date ... 1991 Sept. 26/27 Observers ... Mki Tm Pdr ...

[illegible]

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"	<del>B</del> 7.8	<del>G1V</del> <u>+G2V</u>						12a ER VUL		
										13			
										14			
										15			
										16			
										17			
										18			
										19			
										4			
										5			
										6			
										7			
										8			
										9			
										10			

(a)  
 (End of batch 3874 counts)

ette  
 lar 26s

~~3874~~  
 4" 7.8 ~~G1V~~  
+G2V



313 pg 44

Date 1991 Sept 26/27 Observers mti..Tn..P.R.

### Emulsion Batches:

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[illegible]





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					
3661-63	flat x3							TUNG A=1/2	5 ^s
FH000402	HD 13013	02 02 18	43 59 07	02 45	<del>00 35 00</del>	00 55 W		'N' Mode	4x int
3664	Comp			03 21 15				Fe Ne Clear	20 ^s
3665	MWC 560	7 21 01	-7 32 12	03 32 00	04 02 00	3 18 E			
3666	Comp							Fe Ne Clear	20 ^s
3667	flat							TUNG A=1/2	5 ^s
3668	MWC 560	"	"	04 08 07	04 38 07	2 42 E			
3669	Comp							Fe Ne Clear	20 ^s
3670	bias (4)			04 40 50					
3671	<del>HD 29139</del> Comp							"	"
3672	HD 29139	04 30 12	16 19 00	04 52 15	04 52 33	0 23 W			
3673	<del>Comp</del> Bias (4)			04 54					

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

Transparency Conditions .. Clear .....

316

[illegible]



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.F15	BIAS(4)								
<del>CC03675</del>	Comp							Felle 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							Felle 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°	Felle clear	20/20
3695	BIAS(4)								
3697	HD193237	20 14 06	+37 43 19	23 51 55	23 53 25	03 45 W		Felle 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 ERVUL						Felle clear	20sec
CC03704									
3718	HD200391	20 58 06	+27 24	00 11 30	00 42	03 48 W		each	120s
3719	Comp							Felle clear	20s

Spectr. Temp. .... Dome Temp./Hum.  $+6^{\circ}\text{C}$  ..... 68% Transparency Conditions .. *PART Cloudy* ..... 31%

Focus ....  $G:80$  .....

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

FORMAT 612 1024 12 1 4 CCD UNIT  
90 CGAIN

Comparison  
Filter Exp.

Ve  
2.5

2.5

2.5

2.5

2.5

2.5

2.5

2.5

2.5

2.5

2.5

2.5

2.5

2.5

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	600/25°	^{*(SHORT SLIT)} 250 $\mu$	4100A			CCD T = $-100.3^{\circ}\text{C}$	
3041	4"	B 7.8	G1 $\checkmark$ +G2 $\checkmark$					4ci 18ci	ER VUL	Thick cloud by 1952 BATCH of 15 120 OBS	
										MAX ADU $\approx 10K$	
Focus Set 6.80	Dome T = $+69^{\circ}\text{C}$			CASS CCD	600/25°	SHORT SLIT 250 $\mu$	4100A	22ci 23ci	Focus Test	Stellar comp shift blue $\approx 1$ pixel	
4000		$\checkmark$ 4.88	B2 $\checkmark$ pe						P Cyg		
4000		"	"						"		
										MAX ADU $\rightarrow 14K$	
										$\approx 141$ ADU/pixel	
5900	3"	B 7.8	G1 $\checkmark$ +G2 $\checkmark$						ER VUL	Batch of 15 (120 OBS)	



319 pg #2

Date 1991 Sep 27/28... Observers M.K.I./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.
CCO 3720 3734	HD 200391	20 58.1	+27 24	00 44 50	01 16	W		each	120s
3735	Comp							FelNe clear	20s
CCO 3736 3750	H 200391	20 58.1	+27 24	01 19 10	01 49 45	W			120s
3751	Comp							FelNe clear	20s
CCO 3752 To 3759	HD 200391	20 58.1	+27 24	01 52 10	02 08 27	05 15 W			120s
CCO 3760	Comp							FelNe clear	20s
CCO 3761* 3762	FLATS 3					05 15 W	+28° drift off	TUNG A=1/4	15 sec
CCO 3764	Bias								
3765	comp.							FelNe clear	20 sec
CCO 3766	HD 22484	03 31.8	+00 05	02 24 50	02 29 00	00 58 E			
3767	Bias (4)							FelNe clear	20 sec
Fm. 000403 In	HD 19279	03 00 56	+46 55 21	02 48		00 08 E		"N" male	Int x4
CCO 3769	MWC 560	07 21 01	-07 32 12		03 19 45			FelNe clear	20 sec
3770	"	"	"	03 22 08	03 57 08				
3771	Comp								20

Transparency Conditions .. *Part cloudy* .... 320 ..

Focus ..... 6.85 .....  
Spectr. Temp. ....

Spectr. Temp. .... Dome Temp./Hum. *+2.5°C... 81%*

[illegible]



321 pg#3

Date sep. 27/28.... Observers MK1-Ty.....

### Emulsion Batches:

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[illegible]

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

No	
up	205
NG	
1/4	155



323

SAT SUN

T_n/P_r for 2 Tours Satua viewed

Emulsion Batches:

Date Sep 28/29/91..... 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.
CE03854	BIAS(4) 2			20 59		01 W	+38°		
3855	BIAS(4)			21 02		01 W			
3857	HD193237	20 14 06	+37 43 19	21 06 54	21 25 48	01 20 W		THA	155
3860	HD 190993	20 02 36	+23 18 34	21 30 39	21 59 22	02 05 W		THA	155
3863	HD 213420	22 26 10	+42 36 39	22 04 42	22 32 50	00 15 W		"	"
3865	BIAS(4) @ 22 35								
3867	HD 193237	20 14 06	+37 43 19	22 38 23	23 12 00	03 06 W		"	"
3870	HD 190993	20 02 36	+23 19 34	23 15 46	23 55 46	04 02 W			
3873	HD 213420	22 26 10	+42 36 39	00 01 26	00 27 00	02 09 W			
3875	BIAS(4)			00 29					
3877	HD 16908	02 37 35	+27 16 54	00 33 10	01 11 16	01 19 E		THA	155
3879	BIAS(4)			01 18		00	+40°		
CE03880	FLATS X(5)					00	+40°		27s
3885	BIAS(4)								
CE03886	FLATS X(5)					00	+20°		27s
3891	BIAS(4)								

Transparency Conditions ... *Excellent* ..... 324 ...

Spectr. Temp. *previous set was 245* Dome Temp./Hum. *+5.8°C 73%*

Tel Focus 2210 for eccello focus.  
FANS on after Tour 90CB/IN

[illegible]



25 pgs

Sun / mon

Date 1991... Sep. 29/30. Observers Fds...-T.n.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
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				<del>3918</del>	
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 ... 32.6

Focus ... 235

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

90 CGA110

Comparison pe/Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Central Emission	P.H.	Program	Remarks	Quality
255					Echelle CCD	600/18.87		4481A		5000Å x grating x grating = .4577		
							W=100μ H=800μ					
255							W=100μ H=800μ					
155	3000		3.89	B5 IV			W=100μ H=600μ			Tam Her	X = 146.036	
"	1620		5.07	B3 V						17 Vul		
"	2000		4.88	B2 pe						P Cyg		
"	1827		5.07	B3 V						17 Vul		
											X = 146.428	
155	2000	4.5"	4.57	B2 IV						6 Lac		
155	2000	5"	4.88	B2 pe						P Cyg		
"	2000	3"	5.07	B3 V						17 Vul		
"	2000	2.3"	4.51	B2 IV						6 Lac		
						(default Box starts)				35A	Bios = 10A00 high row CCD T = -102.2°C	
						X = 159.717				Dome T = +3.9°C	Telescope moving	



327

pg #2

Emulsion Batches:

Date 1991 Sep 29/30... Observers F.d.s./Viako/.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	15s
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 ce03938	THA	15s
3939	BIAS(4) (at HD 193237 pos'n)			01 09 00		"	+38°		
3941	HD 213420	22 26 10	+42 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	+43°		
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 .....  $+235$  .....  
 Spectr. Temp. .... Dome Temp./Hum.  $+1.2^{\circ}\text{C}$  ... 76%  
*Cloud gt down*

Comparison e/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
34 15s	2000	2.3"	$\checkmark$ 4.66	B3V	Eclaire CCD	600/1887	100 $\mu$	4481R		35 Ari		
											$\bar{x} = 159.282$ Tel moving to PCyg	
15s	2000	4"	$\checkmark$ 4.88	B2pe					2ci	PCyg	CCD T = $-100.0^{\circ}\text{C}$ T = $+36^{\circ}\text{C}$	
								$\bar{x} = 159.555$	$\sigma = 0.874$			
34 15s	2000	4"	$\checkmark$ 4.51	B2IV					3ci	6 L4C		
										$\bar{x} 159.363$ * past Bias had comp source on		
15s	2000	4"	$\checkmark$ 4.66	B2V					4ci	35 Ari		
"	2000	4.5"	$\checkmark$ 4.29	B3IV						Mu Tau		
"	2000	"	$\checkmark$ 4.66	B3V						35 Ari		
"	2000		$\checkmark$ 0.85	K5III						std vel		
"	2000	3"	$\checkmark$ 4.29	B3IV						Mu Tau		
"	2000	3"	$\checkmark$ 4.66	B3V						35 Ari		
"	1022	4"	$\checkmark$ 4.29	B3IV						Mu Tau	cloud @ end T = $1.30$ RH = 76.4% $\bar{x} = 156.967$ CCD T = $-81.5^{\circ}\text{C}$ @ 05 40	
	All to Perseus & W. AM											
											TOPUP proceeding	



329

Mon - Tues

Emulsion Batches:

Date 1991 Sep 30 / Oct 1. Observers Fds... Pdr... Th.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
ce03967 3968	BIAS(4) x2			18 13		0 0	+40°		
ce03969 73	Flats x5					0 0	+40°	Tung	255
3974	BIAS(4)								
ce03975 3979	FLATS x5					0 0	+20°	Tung	255
3981	HD193237	20 1406	+37 43 19	18 53	19 05 55	<del>0 1</del>	ce03980 +38°	ThA	155
3982	BIAS(4)			<del>+8 53 22</del>	<del>19 05 55</del>	0 1 E	+38°		
3983	HD193237	20 1406	+37 43 19	19 30 00	20 04 18	00 06 W	ce03984 +38°	ThA	155
3984	comp							ThA	155
	1991 Oct 1/2		WxL/Pdr						
ccf00132 00133	FOCUS TEST	comp stellar		~ 20 20		0 h	+33°	FeA Clear	60

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

 $\angle G/HK = 90$ [illegible]



331

Thurs / Fri

Date 1991 Oct 31.4..... Observers Pdr. / Tr.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
cc03778	B145 (4)								
cc03779	comp							FeA Clear	60 ^s
3780	HD 173297	18 39 20	-20 45 00	18 55 00	19 11 23	00 58 W			
3781	"	"	"	19 11 40	19 27 33	01 14 W			
3782	"	"	"	19 27 45	19 42 29	01 29 W			
3783	Comp							FeA Clear	60s
3784	Comp FeNe							FeNe Clear	60s
3785	Comp							FeA Clear	60 ^s
3786	HD 203156	21 15.4	+37 49	20 59 53	20 03 40	0 44 E			
3787	"	"	"	20 04 00	20 07 50				
3788	"	"	"	20 08 11	11 50				
3789	Comp							FeA	60 ^s
3790-3794	Flat x5					0 30 W	+09°	FeNe A=1/2	20s
3795	bias (4)								

Spectr. Temp. .... Dome Temp./Hum.  $+16^{\circ}\text{C}$  ... 80% Transparency Conditions ... PART... cloudy... 332..

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

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

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

FORMAT 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	$\star$ 1800/46.8	250u	5155 <del>41160A</del>			$\times 7 = 169,222 \times G = 5000$ <u>30CGAIN</u>	
						(2nd Longest slit length)					
1000	4"	27.7	~	GOIL					Cepheid	Thin cloud	
1000		"	"						"	1600 ADU AVG over 6 pixels	
714	3"	"	"						"	cloud at end	
2500		5.89	~	GOIL						1950 ADU AVG over 3 pix	
2550											
2500											
										10 000 MAX ADU	
										$\times 7 = 168,106$	



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	HD187691	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	HD199305	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	HD223094	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)							FeNe clear	60s
Fm000404.Tn	HD223094	23 41.23	+28 08 54	22 50		00 24 E		I ⁴⁺ 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
A 60s					CISS CCD	1800/46.8	250 $\mu$	5155A				
	2000		5.11	F8V					12u	RV Std	2400 AVG ADJ (over 6pix)	
	2000								13	"		
	2000								14	"		
A 60s												
NK 60s												
	1500	2-3"	V 8.50	M2V						Asm Sp - HK	30 CGAIN still brightest SE of pair	
	1500									"		
	1540									"	CCDT = -100.7°C	
NK 60s												
										LX7 = 167.398	Pome T = +13.9°C	
NK 60s	1750	2-3"	V 7.45	K5 III						Std Vel	1700 ADJ SUM AVG (6 pix) CCDT = -101.9°C	
	1850											
NK 60s	1700											
										LX7 = 166.420		
NK 60s	31x31		V 7.45	K5 III						Seeing Test Dome SW		
										no wind.		



335 #3

Date 1991 Oct 3/4 Observers Pdr/Ty

### Emulsion Batches:

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[illegible]

Transparency Conditions ..... *Closing in* ..... 336

336

Topup @ 23 EST Oct 3

[illegible]



331 pg #1

SAT SUN

2 Large Tours earlier, but too cloudy,

Emulsion Batches:

Date 1991 Oct 5/6... Observers Pdr./T4.....

Plate No.	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	22 38.3	+29 42	23 02 26	23 59 00	1 56 W	3821 3823	"	"
3825	?	03 15 58	+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 18884	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 22 484	03 31 48	+00 05 00	02 52 35	02 55 28	00 01 E	3835 3837	"	"
3838	bias (4)								
3840	HD 29 587	04 34 30	+41 57 00	03 05 02	03 18 00	00 43 E	3839 3841	FeNe	60s
CC03842	FLHTS X5			03 39		00 20 E	3842	TUNG A=1/2	
3846	HD 29 587	04 34 30	+41 57	03 45		00 14 E	"	Int x4	N'neck
3847	bias (4)								
3849	HD 26 965C ?	04 10 42	+7 49	04 06	04 51 10	01 17 W	3848 3850	FeA clear	60s

Transparency Conditions. PARTIAL CLEARING.....

CCDT  $\rightarrow -100^\circ\text{C}$  90 gain 338

545 0 15 1024 5-1 CCD FINT

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
NR	60s					CASS CCD	1800/ $\frac{1}{16}^\circ$	250 $\mu$	G=4983 5140A		(5-11 pcols)	3rd longest slit	
												$\langle x \rangle = 113.620$ $T_{Dome} = 10.5^\circ C$	
NR	60s	1500	$\sim 6''$	9.1	G8V						3ci ASM Sp-KK	3000 SUM AVG ADD (8 pixs)	
"	"	860	$\sim 5''$	10.1							4ci "	1800 SUM AVG 1100 6 pixs / columns faint component	
"	"	3500	$5''$								5ci mistake	Fld drawn	All identified
"	"	180	$6''$	11.712	M0						6ci ASM Sp-HK	" " }	Too Faint
"	"	10000		4.19	1711.5 III						7ci std vel		
"	"	888	$6''$	9.78	dm2						8ci ASM Sp-HK		
"	"	5000		4.85	F8V						9ci std vel		
												$\langle x \rangle = 103.820$ $T_{Dome} = 7.9^\circ C$	
NR	60s	2040	$6''$	7.29	dG2						10ci std vel		
NR	1/2							250 $\mu$ longest slit				11 K max	
NR	1/2	47x47		7.29	dG2			250 $\mu$ 2-3 $\mu$ below slit no dacker			seeing test	Dome SW Light window	
												$\langle x \rangle = 102.915$ $T_{Dome} = 7.2^\circ C$	
NR	60s	316	$6''$	11.18	dm4e		1800/ $\frac{1}{16}^\circ$	250 $\mu$ short slit	G=6045 6607A		11ci ASM Sp-HK	NORTH of Faint Pair	
												* The Pair is resolved OK	



33^a p942

Date .1991...Oct. 5/6... Observers .Pdr. - Ty.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
CC03851	HP26965 B	04 10 42	-7 49	04 55 41	05 31 10	01 57W			
3852	Comp							FeA CLAR	60s
3853	bias (4)								
3854									
3858	FLATS x5					00 00	-7 35	TUNG A=1/4	10s
CC03859	BIAS(4)								
3860	DARK 30min								
3861	"								
3862	"								
3863	BIAS								

Left Running  
started @  
06 06

~~05 55~~

1 ci

3 ci

4 ci

5 ci

6 ci

Spectr. Ter

Focus....

Spectr. Ter

Exp. Mtr.

613

Spectr. Temp. .... Dome Temp./Hum. +7°C... 76%

	Exp.	Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
613	5"	V 9.52	DA	CASS CCD	F800/56.3° 2nd slot test	H2	12ci	Hsm Sp-Ark	South of faint pulp				
		"WA in Bt Sluf cut"											
												(x) = 101.954 T _{DON} = 6.9	
												CCDT = -69°C @ 0545	
												All copied to WORN + Pussling to CC03858	
												(x̄ = 99.750 σ 1.106)	
												CCDT = -80@ 06 AM	
												- 100 by 610	
												x̄ 97.680 σ 1.275	



341 pg #1

Thurs Fri

Emulsion Batches:

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

Plate No.	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	Focustests	inboard/outboard				01 44W	+30 39	ThA	5/5
ce00004182	<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			
3993	HD202109	21 8.7	+29 49	20 42 05	21 02 05	00 48 W			
3996	HD215182	22 38.3	+29 42	21 09 35	21 26 25	00 17 E			
3998	BIAS(4)					00 13 E	+30° 14		
4000	HD209790A	22 00.9	+64 08	21 39 00	22 19 30	01 15 W			
4003	HD8890A	01 22.6	+88 46	22 29 15	23 10 00	02 25 E			
4005	BIAS(4)			23 13		02 22 E	+89°		
4007	HD34029	05 09.8	+45 54	23 47 15	00 11 15	04 05 E		ThA	10s
4009	"	"	"	00 17 15	00 32 00	03 44 E		"	"
4011	BIAS(4)					02 15 W	+20°		



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

Focus 2.35 stayel with this set as temp will drop.

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

Transparency Conditions Fine 312

0 0 256 1024 4 1 CCD Fint

8 to 1 binning FOA focus test

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
HA 5/5				(no expander for Inbound) CCD	120/17.0	60uW	1st Blue ORDER		Focus test	1200 In/long 235 set focus 4000A grat. +9.5°C	
				(expected no doubt and a check of which way it is set)	120/17.0	60uW	Width = .277 set 600uH = .205			x grat. t/t = .230 CCD Temp = -101.2°C	
HA 10s	10 80	2"	B 5.5	F7V					Asm Sp - tk	Continuum red of 4340 - thin cloud coming	
HA 10s	1460	3"	B 3.68	F01U					Continuum of 9 cols above bkgnd 3.2246 ADU		
" "	2160	2"	B 3.2	G8U					3ci Asm Sp - tk	some cloud	
" "	2623	1.2"	B 3.8	G8U? + F?					4ci "	3400 ADU above bkgnd sum AVG of 10 cols	
" "	1285	2"	B 4.63	A3m					5ci "	CCD T = -101.7°C Dome T = +8.5°C (x) = 147.874	
" "	1345	3"	B 1.9	F					6ci Asm Sp tk	3000 ADU sum AVG above bkgnd of 10 columns	
HA 10s	3000	3.5"	B 1.89	G8U? + F					7ci "	Cloud clouded in	
" "	850	"	"	"					CCD T = -101.8°C Dome T = +8.0°C (x) = 146.841 ~ 1.027		
									2ci Asm Sp tk	Cloudy clear end of exp	
									1ci "	Cloud at end	
									CCD T = -101.8°C	x 145.682	



343 pg #2

Date 1991 Oct 10/11..... Observers [Kt] Ts / Pk.....

### 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.
C04012	FLATS(6)	average of 6 flats		0054		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 cise running)				41	ADU			

Spectr. Temp. .... Dome Temp./Hum. .... Transparency Conditions ... *Cloudy* ... 344...

Focus ... *235* ...

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

*Topup -0045-01*

Comparison  
e/Filter Exp

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

1/6 50s

u h

*Echelle  
CCD*

*17.80°*

*w=60u*

*H=800u=1855el*

*"*

*"*

*"*

*during Topup*

*All copied to WORM + Persens to ce04014*

*Copied to WORM + Persens to ce04020*

*chip temperature -101.7*



#1 Sun/Mon  
 345 Date 1991 October 13/14 Observers Srt/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.
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	0 107 E	ce04047	"	"
4049	HD 10700	01 39 25	-16 27 51	22 33 09	23 03 09	01 29 E	ce04048	"	"
4051	"	"	"	23 08 16	23 38 16	00 54 E	ce04050	"	"
4053	"	"	"	23 41 15		00 00 E	ce04052		

Spectr. Temp. . . . .

Dome Temp./Hum. ....

slit  
height

Comparison	
Type/Filter	Exp



347 #2

Date 1991 Oct 13/14 Observers Srt/Pdr

### Emulsion Batches:

.....

.....

.....

[illegible]

Spectr. Temp. . . . .

Dome Temp./Hum.

## Transparency Conditions

Focus .....

Spectr. Temp. . . . .

Dome Temp./Hum

clouds came in  
at the end of night

Comparison	
Filter	Exp

4

1945

11 4

1. 2

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1

4	1	4
---	---	---

1

1

[illegible]

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1

1

1

1

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1

1

1

100

1

1



Wet Th ~~Th~~ P3 #1

349 Date 1991 Oct 16/17 Observers [Fds]/Tm/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.
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	FM 000406 Pdr HD 207784 BIAS (4)	21 46 12	43 25		19 53	0 h 33 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  $T_{\text{CCD}} = -109$   
 $\left[ \begin{smallmatrix} \text{CCD FMT} \\ 510 \ 0 \ 80 \ 1024 \ 2 \ 1 \end{smallmatrix} \right]$  (slight off netting)

Comparison Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
A 60se					CASS CCD	1800*	250u	6610A			*G=6098	
" "	30 500	3"	V 4.95	B05 III	(HOUSE LIGHT WERE ON)					Fds ppm	18700 ADU SUM OVER 11 PIXS	
" "	30 500		"	B05 III	(250u width mid length slit)						ABOVE BACKGROUND	
" "	20 000		V 4.79	KO III-IV						std vel	X=166.377 $T_{\text{DOME}} = 7.9^\circ\text{C}$	
UNG 1/2 13se						250u (Longest slit + decker posn)					MAX ADCU @ 10 000	
atx 1 13se	31x31 pix		7.32	KO III	[FANSON by 19EST]	TO LCO 3880 → Perseus @ 20 30					X=165.408 $T_{\text{DOME}} = 7.3$	
						SEEING TEST					(VERY High S wind)	
UNG 1/2 13se						250u (Longest SLIT)					Top up @ 20:15	X=164.67 $T_D = 6.9$
											MAX ADU ~ 10 000	
2A 60	30 500		V 5.14	B4 IV		(3rd Longest slit)					X7 = 164.711 $T_{\text{DOME}} = 6.9$	
" "	30 500										16 500 ADU SUM OVER 11 PIXS	
" "	30 500	2"	V 6.26	B3 V					5ci	Telluric standard	ABOVE BACKGROUND	
											CCD Temp = -110.0°C	
											perhaps not best choice	
											perhaps not necessary either	





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

Focus .....

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

Comparison  
Filter Exp

60s

"

"

"

60s

"

"

"

"

30s

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	1800/	250u (3rd lamp slit length)	6610R			X = 165.689 T _{Dome} = 6.2	
30500	4"	4.29	B3 IV					6ci			
30000		4.41	B0 III					7ci			
912		9.52	DA					8ci	Azm Sp	Southern Star - Brighter	
513	3"	11.18	DM14e					9ci	"	Hd emission too NORTH STAR of Pin	
										Dome T = +5.3°C	
30,500	3.5"	5.06	B2 V					10ci	Fds pjm		
30000	5"	6.15	B3 IV						"		
30000	4"	6.03	B0 III						"		
30000		5.00	B1 V						"	2nd priority	
30000	2.3"	4.95	B5 V						"	"	
										X = 176.785 T _{Dome} = 8.8	



53 pg #1 Thurs - Fri

Date 1991 Oct 17/18 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.
2930 <del>CC03930</del>	BIAS(4)						-20°35'		
3932	HD 173297	18 39 20	-20 45 00	18 18 36	18 25 26	01 07 W	CC03931 <del>CC03933</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		
3947	comp	"	"			"		FeNe clear	60s
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 17 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 ..... 354 .....

Focus ..... unchanged from previous night

Spectr. Temp. .... Dome Temp./Hum. .... Central 2

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

Comparison  
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				CASS CCD	G=4983 1800/46.7	250 width 3rd largest slit				CCDT = $-101.7^{\circ}\text{C}$	
1200	3"	7.48	G016			5/40A			Rm pgr	700 ADJ SUM over 7 pixs above background	
1200											
1200											
3000		5.89	G016							1800 ADJ SUM over 6 pixs above background	
3600	2"										
3000											
5000	2"	B 5.7	F8V					10ci	Std vel		
1190		V 10.43	dM3					11ci	Asm Sp-KK	400 ADJ SUM AVG above binned Field checks OK too for 4 cols	
5475	<2"	V 8.50	M2V					12ci	Asm Sp-KK		
										$\langle x \rangle = 162.355$ $T_{\text{Dover}} = 10.5$	
2150	<2"	VAB 9.1	G8V					13ci	Asm Sp-KK	2150 ADJ SUM AVG above binned for 4 cols	
1900	>2"	3.10	<del>G2II-III</del>					14ci	"		
11000		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 = 6890

Plate 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 42E	CC03960 CC03962	FeNe Clear	60s
3963	"	"	"	23 15 29	00 00 29	1 49E	CC03964	"	
3965	BIAS(4)			00 04 30		1 45E	+26 23		
3967	DM+53 935	05 33.2	+53 26	00 12 25	00 57 25	3 16E	CC03966 CC03968	FeNe Clear	60s
3969	BIAS(4)	after Topup		01 20					
3970	FLATS x6					00 30E	+53 31	Tung A=1/2	92s
3975	BIAS(4)					01 35E	+42°		
3978	HD 29587	04 34.5	+41 57	01 44 48	01 57 00	01 17E	CC03977 CC03979	FeNe Clear	60s
Fm000407, Tn	"	"	"	02 02		01 12E	"N" mode	Int x 4	
CC03981	HD 35149	05 17 35	+03 26 54	02 28	02 42 35	01 12E	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 03.3	+18 21	03 14 04	03 21 10	00 40W	CC03989 CC03991	"	"
3993	HD 35149	05 17 35	+03 26 54	03 30 30	03 45 00	00 09E	CC03992 CC03994	"	"
3995-96	BIAS(4)					00 05E	+3 37		

SAME Instr settings as previous page.

Exp meter	Seeing	Mag V?	SP	
358	3"	$\begin{bmatrix} 10.1 \\ 12.8 \end{bmatrix}$	M0	16ci
373				17ci
				CCDT = $-100.3^{\circ}\text{C}$ $\approx 180 \text{ ADU sum AVG above background for 4 columns}$
1420	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
3400		7.29	d62	Bras $\bar{x} = 159.665$ Dome T = $+9.4^{\circ}\text{C}$
31x31 pixels		"	"	STOvel
				Seeing test 4 frames. Dome SW <del>light</del> med SW wind
40000	3.4"	5.00	B4V	Fds - Pgm
Dome T = $-19.2^{\circ}\text{C}$				Now 1800/ G=4575 Central $\Delta 4530 \text{ A}^{\circ}$
40000	4"	4.95	B5V	Fds pgm
10000		5.50	K1 III	STOvel
40000		5.00	B1V	Fds pgm
				Night cont next Book.
				$\langle X \rangle = 166.670$

 $T_{\text{Dome}} = 9.2$









