

Apr 89 -

2

4.

quality

5

Tues-Wed

Dev Apr 12 @ 68.5°F

Emulsion Batches:

Date . APR. 11/12. 1939... Observers ... T. n. - Yee (part-time) ... Dev Apr 14 @ 69°F 8 min

→ III. A. J. - e. 1. A. 7. Mar. 26... 2. 7. 2. 0. 17

→ II. C. 0. - e. 1. 1. 1. Mar. 19...

+ previous back night T_n

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
50541	HD 23862 (Pleiades)	03 43.2 ^(1900.0)	+23 50	19 33	19 59	05 11 W	+24 05	FeNe Clear	Diff. OUT 140-140
50541 T	Spot calibration for 50541-43, 46					15 min @ 74	17.5V 15V 15V 3900 4300 4810		
50542	HD 47105 (γ Gem)	06 31.9 ^(1900.0)	+16 29	20 12	20 15	02 42 W	+16 22	FeNe Clear	140-140
FM000167.TN	HD 87822 ^{Rainy test}	10 02.5 ^(1900.0)	+32 06	20 33		00 32 E	+31 38		Int. X4
50543	HD 56986 (δ Gem)	07 14. ^(1900.0)	+22 01	20 49	21 32	03 17 W	+21 59	FeNe Clear	90-90-90
50544	HD 8890 (Polaris)	01 22.6 ^(1900.0)	+88 46	21 47	21 49	08 49 W	+89 15	Clear	60-60
50545	HD 8890 (Polaris)	01 22.6 ^(1900.0)	+88 46	21 57	22 00	09 00 W	+89 15	Clear	90-90
FM000170.TN	HD 103095	11 47.2	+38 26	22 22		00 27 E	+38° 00		Int X4
50546	HD 137909	15 23.7	+29 27	22 38	23 04	03 20 E	+29 06	FeNe Clear	140-
50546 F1	Focus Test			23 35		00 30 E	"	"	240/150
50546 F2	" "	To compare PH #1 & PH #5				"	"	"	240/150
50546 F3	" "			23 50		"	"	"	160/80-390/170
Next Night, Rainy night focus tests after afternoon PH Clamp adjustment									
50546 F4				22 20		00	-10°	FeNe Clear	160/80
F5						"	"	"	"
	Spot plate 50540T for plates 50544, 45.								

Spectr. Temp.

Focus...

Spectr. Temp.

Exp. Nr.

Spectr. Temp. ... 34 F

Dome Temp./Hum. ... 32 F / 60%

Transparency Conditions ... Clear → s./hazy ... 6

Focus ... 394

Dome shutters opened & Fans on @ 1840 EST

Spectr. Temp. ... 35 F

Dome Temp./Hum. ... 29 F / 70%

Fans turned off @ 21 EST

Comparison e/Filter	Exp.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	Blue Filter											
	11599	O.K.	V= 5.09	B8Ipe	BC	G=5430 1200/50.8	BS	IIIaJ-efg	1	rb	FoMe TOUCHED platform 140 cuts = 2900 cuts <u>cut End</u>	Comp OK WR
	40910	O.K.	V= 1.9	A0IV	BC	G=5430 1200/50.8	BS	IIIaJ-efg	1	Arm Sp - KK		Comp OK OK
	31x31 pixel	O.K.	V= 6.60	F5		VERY light SW breeze Dome shutter pointed SSW 150y		4 frames	"N" mode		Doubled - box vertical lines "noise"	
	20054/20100	O.K.	B= 3.9	F0II	BC	G=5430 1200/50.8	BS	IIIaJ-efg	1	Arm Sp - KK		Comp OK OK
	10831	O.K.	V= 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK	Guide View partially blocked due to rack slightly out.	focus? Exp OK
	10195	O.K.	V= 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK	Guide View OK after moving Rack	Exp OK
		ok	V= 6.45	G8II		no wind at all Dome pointed SW	150u	4 frames	"N" mode		BOX very good same vertical noise lines	
	38000	Fine	3.93	F0p	BC	1200/50.8	BS	IIIaJ-efg	1	Arm Sp - KK		Comp OK OK
					BC	1200/50.8	BS	IIIa05	1		Set=394 still unchanged T=35 °F	S/Red@Blue OK end
					BC	"	"	"	5			"
	3990/6790				BC	G=4238 830/40.2	"	"	1		set still at 394 T=35 °F	center blue
	3700/6350				BC	830/40.2	BS	IIIaJ	1		set still at 394 T=39.5 °F	Flat too OK
	"				"	"	"	"	5		"	S/Red (more Red at Red end)

7

Thurs - Fri

Dec APR 14 7^h

Emulsion Batches:

D.C.O.E... I.S... MHR 19

Date APR. 13/14/89..... Observers J.G.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
50547	HD 89449	10 14.3	+19 59	19 35	19 53	01 15 E	+19 26	FelNe Clear	45-45
50548	HD 71974	08 25.2	+35 18	20 01	23 18	04 00 W	+34 55	"	30-30
Fm 00071.JN	HD 113811	13 05.2	¹⁹⁹⁰ +39 32	2 3 30		00 23 E	+39 35		Frost x4
50548F	Focus test			00 05		00 10 W	+39 55	FelNe clear	120/50
	Spot plate 50540T for plates 50547, 48								

Spectr. Temp
Focus... 35
Spectr. TempExp. Mtr.
B. Filter7000
3000
8540

31x31 plates

19

Spectr. Temp. ... 70°F
 Focus ... 39.4
 Spectr. Temp. ... 36.5°F

Dome Temp./Hum. +70°F / 76%
 Dome Temp./Hum. +30°F / 93%

Transparency Conditions . Clearing 8.
 Dome opened at 18:40 no fans this
 Light west wind from sundown and on time.

Comparison Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B filter											
7000	5050	5.3	F6IV	BC	G=4238 830/40.2	BS	IIaD-e	1	std vel	Fok 45sec = 1016 cuts	OK
3005 2540	5050	V= 7.5	G5	"	"	BS	"	1	Asm Sp KK	Fans turned on at 21 EST 2000 cuts in 1st hour of Exp.	OK
										RA set motion fuse blew @ 21 24. Guiding and focus become less efficient.	
31x31 pixels	OK				BOX very good CCD vertical line noise	150u	4 frames "N" made		Dome SW	Fans still ON Light West Breeze	
(After refocus of finder Finder offset when HD 113811 is on BS)										→ α 5.2 5 5.0 Hr L 0005 W	
					BC	830/40.2	BS	IIaD-e	1	T=36.5°F Set 394	deep slope
										Blue end very Red; Red end sl Red	

45-45

30-30

1st x4

120/50

9

Sun-Mon

Emulsion Batches:

Date APR 16/17/89 Observers Tn = KK knife edge tests

IIa 0-e. IIS. APR 158, 6.22
Dev Apr. 17/89 @ 62° F. 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.
	knife edge on α Lyn			19 30		00 08 W			
							Diffuser out		
50549	HD 71974	08 25.2	+35 18	20 10	23 27	04 22 W	+34 56	FeNe clear 3030-30	2170 1500
50549T	Spot Cal'n for 50549 -55.				15 min @ 15V	D4 3900	D3 4300	D2 4810	
Fm000173 TN	HD 120245	13 46.9 ¹⁹⁹⁰	+37 50	23 48		00 35 E	+37 52	Int x4	3121 Hindley 706
50550	HD 8890	01 22.6 ¹⁹⁰⁰	+88 46	00 04	00 12	11 30 W	+89 17	Reversed FeNe clear	90-90 12000
50551	"	"	"	00 18	00 30	11 48 W	"	"	90-90 12200
50552	HD 137909	15 23.7	+29 27	00 44	00 57	01 08 E	+29 04	"	90-90 12000
50553	HD 145001	16 03.6	+17 19	01 12	02 06	00 35 E	+16 59	"	90-90 8300
50554	HD			02 14				"	90
50554	HD 165908	18 03.2	+30 33	02 18	03 08	01 35 E	+30 29	FeNe clear	90-90 10000
50555	HD 185144	19 32.5	+69 35	03 17	04 00	02 07 E	+69 34	"	90-90 9000
50555F	Focus test					00 10 E	+46 30	"	180/90
Fm000174 TN	HD 163075	17 51.3 ¹⁹⁹⁰	+46 39	04 20		0 0	"	Int x4	34239

Spectr. Temp. 50°F
 Focus $391-390$
 Spectr. Temp. 44°F

Dome Temp./Hum. $48^{\circ}\text{F}/57\%$
 Dome Temp./Hum. $37^{\circ}\text{F}/85\%$

Transparency Conditions $5/14\text{azy}$
 Shutters opened @ 19 hrs, 170 Fans

Comparison
e/Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1, 2, 5 sec exps		V ⁻ 3.13	K7						Finder offset $\alpha 51551$ offset	Focus in EW direction is 4 mm longer than NS	
B Filter										There is some coma in NS direction, point of focus is N	
2170 1500	so so OK	V=1.5 8	G5	BS	G=4238 830/40.2	BS	IIa0-e	1	Asm sp-kt	Fans on @ 20 30 $\alpha 51551$ finder offset at 0230 west	comp. O.K. wkb
31x31 pinels							IIa0-e				
Humidity=766	so so	V=6.95	K2 III		(Box looks good) some vertical noise very light east breeze 150m		IIa0-e	+	4 frames "N" photo	Dome pointed SW Set 389 T=49.5F 5/14azy	
12000	poor	2	F8	BS	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp KK	" "	O.K.
12200	poor	"	"	"	"	"	"	1	"	Fans turned off @ 0000	O.K.
12000	poor	3.93	Fop	"	"	"	"	1	"	offset $\alpha 4.9 553$ @ 0120E	O.K.
8300	so so	5.5	G8 III	"	"	"	"	1	std vel	$\alpha 4.9 552$ Brighter and South of pair	O.K.
										Offset $\alpha 4.9 552$ at 0120E	
10000	poor	5.5	F7 V	BS	1200/50.8	BS	IIa0-e	1	Asm Sp ktk	some cloud $\alpha 5.0 55.2$ @ 2 hrs East	comp. O.K. slimb.
9000	poor	5.5	K0 V	"	"	"	"	1	"		O.K.
								1	T=44°F	set 390	OK Blue and sl Red
39x39	poor	V 6.5	K0 III		Box OK, some noise	150m	4 frames "N" photo		Dome West	seeing test East Breeze	

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 Tues-wed
 Date APR 18/19/189... Observers T.J. Yee.....

Emulsion Batches: 1.94, 0.08
 Dev APR 25 @ 68° F Tn
 5.5 min
 MAJ: exp. 1A7... Apr. 18... 22 hrs focusing
 PaO-e. 118... Apr. 11... 1.66, 0.26 gas

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
50556	HD 47105 (γ Gem)	(1900, 0) 06 31.9	+16 29	19 43	19 48	02 42 W	+16 20	FeNe Clear	Diff. OUT 140-140
50556 T	Spot calibration for	50556, 57, 59, 61, 62, 65, 66				15 min @ D4	17.5V 15V 15V 3900 4300 4810		
50557	HD 56986 (δ Gem)	07 14.1	+22 10	19 59	20 27	02 40 W	+21 56	FeNe Clear	140-140
FM000175.TN	HD 85373 ^{Seeing test}	(2000, 0) 09 52.3	+37 55	20 42		00 21 W	+37 52		
50558	HD 76095	(1900, 0) 08 49.0	+26 36	20 52	22 53	03 30 W	+26 08	FeNe Clear	30-30-30
50558 T	Spot calibration for	50558, 60, 63, 64 + 71 - 73, 75 + 76, 77, 79				15 min @ 15V	04 03 3900 4300 4810		
50559	HD 76644 (2 UMa)	(1900, 0) 08 52.4	+48 26	23 03	23 12	03 45 W	+48 00	FeNe Clear	70-70
FM000176.YEE	HD 103095 ^{Seeing test}	(1900, 0) 11 47.2	+38 26	23 28		01 07 W	+37 42		
50560	HD 103095	(1900, 0) 11 47.2	+38 26	23 33	02 00	03 40 W	+37 42	FeNe Clear	80-60-60
50561	HD 137909 (β CrB)	15 23.7	+29 27	02 09	02 36	00 41 W	+29 03	FeNe Clear	90-90-90
50562	HD 159561 (α Oph)	(1900, 0) 17 30.3	+12 38	02 44	02 49	01 11 E	+12 29	FeNe Clear	140-140
50563	HD 8890 (Polaris)	01 22.6	+88 46	03 02	03 06	09 52 E	+89 05	FeNe Clear	80-80
50564	HD 8890 (Polaris)	(1900, 0) 01 22.6	+88 46	03 14	03 17	09 41 E	+89 05	FeNe Clear	80-80
50565	HD 161096 (β Oph)	(1900, 0) 17 38.5	+04 37	03 33	03 53	00 17 E	+04 28	FeNe Clear	140-140
50566	HD 182640 (δ Aql)	19 20.5	+2 55	04 02	04 22	01 26 E	+03 00	FeNe Clear	140-140

Spectr. Temp.
 Focus...
 Spectr. Temp.
 Exp. Mir.
 35000
 35-56
 3 1/2 inch
 2500/2500
 2340
 3 1/2 inch
 3500/3500
 1700/1700
 31344
 10176
 10153
 26000
 35021

2/15
2.26

Spectr. Temp. 44 F
 Focus 390
 Spectr. Temp.

Dome Temp./Hum. 80 / 65%
 Dome Temp./Hum. /

Transparency Conditions Clearing. H. Pressure coming 12
 Dome opened & Fans on @ 19 EST
 Full moon

Comparison Filter Exp.
 140-140
 30-30-30
 70-70
 80-80
 140-140
 80-80
 140-140

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B filter 35000	O.K.	V= 1.9	A0IV	BC	G=5430 1200/50.8	BS	IIIaJ-es IIIaJ-e	1	Asm Sp - KK		Weak
35056	O.K. - poor	B= 3.9 V= 6.8	F0IV F0II	BC	G=5430 1200/50.8	BS	IIIaJ-e Int. x4 4 frames "N" mode	1	Asm Sp - KK	140 s. comp. = 2968 α 5.3 S 5.0 offset at end Good box! Dome faced SW. Medium NNW wind - 11 km/hr T=42F, Focus=392	Weak
31x31 pixels 2500/2514	poor	V= 7.5	F0	BC	G=4238 830/40.2	BS	IIa0-e IIa0-e	1	Asm Sp - KK	α 5.3 S 5.2 Foc. offset of 3' W	OK
23460	poor	B= 3.9 3.9 V= 6.45	A5 G8Ip	BC	G=4238 830/40.2	BS	IIIaJ-es Int. x4 4 frames "N" mode	1	Asm Sp - KK	Fans off at 22 30 EST	Weak
31x31 pixels 3500/3500	V.V. poor	V= 6.45	G8Ip	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp - KK	very light NW breeze { Vertical streaks } Dome pointed West { (noise) } T=40F, Focus=392 α 5.3 S 5.2 @ 0.2 hrs West offset	S/Weak
17073/17140	V.V. poor	V= 3.93	F0p	BC	θ=5430 1200/50.8	BS	IIIaJ-e	1	Asm Sp - KK	T=36F Set 393	Weak
31344	V.V. poor	B= 2.2 V= 1.9	A5III F8	BC	G=5430 1200/50.8	BS	IIIaJ-e IIa0-e	1	Asm Sp - KK	α 5.1 S 5.1 offset @ 02 E	Weak
10176	"	V= 1.9	F8	"	"	"	IIa0-e	1	"		OK
10153	V.V. poor	V= 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp - KK		OK
36000	poor	B=3.93 3.93	K2III	BC	G=5430 1200/50.8	BS	IIIeJ-e	1	std. rel.		Slack
35021	poor	B= 3.68	F0IV	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	Asm Sp - KK		Slack

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wed-Thurs pg #1

Emulsion Batches:

Date APR. 19/20/89..... Observers T.N./Yee.....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
This is not first record !!	Comp.							Th A	50
	HD 47105 (γ Gem)	06 31.9	(1900.0) +16 29	19 48	20 24	03 22 W	+16 19		50
	Comp.								50
	Plat #1			20 29	20 36				420
	Plat #2			20 37	20 43				360
	Comp			20 45					50
	Procyon	07 38.8	1989.5 +05 15	20 49	21 02	02 57 W	+05 09		
	Comp								50
	α Leo (Regulus)			21 05					50
	HD 87901 α Leo (Regulus)	10 07.8	(1989.5) +12 01	21 08	21 38		+		
Comp.			21 30					50	
Comp.			21 35					50	
HD 120315 (η UMa)	13 47.2	(1989.1) +49 23	21 40	22 30			+49 16		
Comp #1			22 32					50	
Comp #2			22 37					50	

Spectr. Temp
Focus.....
Spectr. Temp
Exp. Mtr
351
1996
484
21900
10995
458
15831
504
491
1495
477
359
1160
3
3

Spectr. Temp. Dome Temp./Hum. $+10^{\circ}\text{F} / 55\%$ Transparency Conditions *Clear* 46

Focus Dome opened @ 18:00

Spectr. Temp. Dome Temp./Hum. Fans turned on @ 18:45 EST

Companion Filter Exp 50

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality	
351				Echelle grating = 1.810 X-grating = 1.810 0.4620	H=400 μ (=0.225)	W2 50 μ (=0.281)			Camera focus = 0.319	Tz +0.293	2720	
14996	O.K.	V=1.9	A0IV		600, 5190		5190 Å	-27.88	Asm Sp-htk	Tz +0.276	6829	
484											2848	
~14000										Manual mode.	7207	
10,985										Manual mode.	5728	
458										Tz +0.275	2748	
15831		V=0.38	F5IV							Tz +0.275 * Star Lower Right of cross hair @ 03W	6904	
504										(Star image \approx 1' arc East of cross hair center) (and \approx 1/4' North of center)	Fans off at 21 hrs.	2957
491											3221	
14993	poor	V=1.36	B7V							Tz +0.302	7108	
477										Tz +0.384	3113	
359										Tz +0.402 * Star at upper Left @ 2 nd E	3132	
11610	V. poor	V=1.86	B3V							Tz +0.436	7202	
3 (only!!)				Why is the ABCU \approx halved of previous comp.?					* Finder offset. Star at Zenith is centered when on cross hair, then centered star comes out		1259	
3 (again!!)				Why so few counts on exp. meter??					* Keep finder switch on the Left convention.		1230	

17 #2 Wed./Thur.

Date 19/20 Apr. 1989 Observers In/Yee

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	Comp on Polaris			22 42					50
	HD 8890 (Polaris)	01 22.6 ^(1900.0)	+88 46	22 49	23 39	W	Reversed +89 18		
	Comp.			23 47					50
Not saved. →	Flat (Not saved!)			Previous lamp made flat attempt gave massive "picket fence" too					300
	Polaris HD 8890	01 22.6	+88 46	00 00	00 41	11 46	Reversed +89 18		
	Comp.			00 45					50
1548S	Flat Comp [Labelled "FLAT of Polaris"]			00 48	00 53				
1652S	Flat			00 55	01 00				
1718C	Comp.			01 12					50
1784S	HD 120315 (γ UMa)	13 47.2 ^(1989.5)	+49 23	01 18	02 00	01 15 W	+49 16		
1850C	Comp.			02 01					50
1916C	Comp.			02 06					50
1982S	HD 124897 (α Boo)	14 11.1 ^(1900.0)	+19 42	02 09	02 14	01 37 W	+19		
2048C	Comp.			02 15					50
2114C	Comp.			02 20					50

erroneous source manually switched on.

Spectr. Temp.
 Focus.....
 Spectr. Temp.
 Exp. Mtr.
 310
 1136
 302
 24700
 P158
 2 (only)
 29
 666
 3 (only)
 4936
 191
 227
 10369
 233
 229

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions ..

Clear

18

Focus

Spectr. Temp.

Dome Temp./Hum.

Moving to Polaris changed JHA signed destructively

Comparison
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality	
50 310					Camera frame = 0.319		(This was the original setting) (is not changed tonight)				It counts on Exp meter New!	13529
11136	poor	V = 1.9	F8	Echelle 1.810 x f/i/f = 0.4620	600, 5190	H = 400μ 50μ	5190Å	-10.32	T = +0.508 Asm Sp-ttk	Finder image ± 0.05" west of center and .8" South of X hair center.	4986	
50 302										T = +0.572	3328	
300 ~4700										Lamp mode: "picket fence" effect, very noisy		
8158		V = 1.9	F8				5190Å	-10.31	Asm-Sp-KK		3584	
50 2 (only !!)										T = +0.365	958	
29											7254	
666										T = +0.390 Very noisy.	3840	
50 3 (only)											1164	
14996		V = 1.86	B3V						Fds pgm	T = +0.301	5703	
50 191										T = +0.505	2720	
50 227										T = +0.544	3100	
10369		V = 0.06	K2IIIp					-1.99	std. rel.	T = +0.556	4095	
50 233										T = +0.581	3159	
50 229										T = +0.606	3272	

19 Wed./Thur.

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Emulsion Batches:

Date 19/20 Apr. 1979 Observers Tn/Yee

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
2180S	HD 149757 (γ Oph)	16 31.7 ^(1900.0)	-10 22	02 23	03 27	00 28W	-10 37		
2246C	Comp.			03 28				ThA	50
2312C	Comp.			03 32					50
	HD 159561 (α Oph)	17 30.3 ^(1900.0)	+12 38	03 35	04 03	00 03W	+12 29		
	Comp			04 03					50
	Flat #1			04 07		00 03W	+12 29		2400
	Flat #2			04 14		"	"		300
	Flat #3			04 22					600
	Flat #4			04 33					500

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr

6799

178

81

8024

163

2230

2110

4350

3450

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions .. Clear - thin clouds 20

Focus

Spectr. Temp.

Dome Temp./Hum. 0°C / 60%

Comparison
pe Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
6799		V= 2.56	09.5V	Echelle grating = 1.810 X-grating = 0.4620		H=400μ (=0.225)	W=50μ (=0.281)	18.99	Fds	T=+0.622 Camera focus = 0.319	3299
7A 50 178										T=+0.825	3158
50 181										T=+0.822	3392
8028	8050	V= 2.08	A5III					19.44	Adm Sp - KIK	T=+0.820 Some cloud	3435
50 163											3293
2400 2230										T=+0.838	4592
300 2110										T=+0.833	4434
500 4350										T=+0.813	9309
500 3450										T=+0.802	7229
Ret. DAT Backed up as APR1989.DAT											

2) Fri./Sat.

Date 21/22 Apr. 1989 Observers Tn/Yee

Emulsion Batches:

Il-a-o-e IIP Apr. 11
 Il-a-j-e IAT Apr. 18 22 hrs for gas
 5.5 min 1.95, 0.08 N²H₂

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	
50567	HD 47105 (δ Gem)	(1900.0) 06 31.9	+16 29	21 02	21 08	04 14 W	+16 20	FeNe Clear	Diff. OUT 120-120	
50568	HD 56986 (δ Gem)	(1900.0) 07 14.1	+22 10	21 17	21 49	04 12 W	+21 56	+	120-120	
FM000178.YEE	HD 103095 ^{Seeing} test	(1989.5) 11 52.4	+37 48	22 08		00 01 E	+37 44			
50569	HD 76644 (γ UMa)	(1900.0) 08 52.4	+48 26	22 18	22 30	03 15 W	+48 00	Fade Clear	90-90	
30570	HD 112028	(1900.0) 12 48.3	+83 58	22 53	00 09	01 01 W	+83 23	FeNe Clear	60-60-60	
50571	HD 8890 (Polaris)	(1900.0) 01 22.6	+88 46	00 22	00 25	11 37 E	+89 18	Reversed FeNe Clear	80-80	
50572	HD 8890 (Polaris)	(1900.0) 01 22.6	+88 46	00 31	00 34	11 48 E	+89 18	Reversed FeNe Clear	80-80	
50573	HD 122742	(1900.0) 13 58.6	+11 16	00 44	03 08	02 50 W	+10 45	FeN Clear	60-60-60	
50573 T	Spot calibration for 50567-70, 74+78, 80, 81						15 min @ D4	17.5V 15V 3900 4300	15V 4810	
FM000179.TN	HD 153399 ^{Seeing} test	(2000.0) 16 57.3	+43 41	03 10		00 05 W	+43 37			
50574	HD 137909 (β CrB)	(1900.0) 15 23.7	+29 27	03 29	04 00	02 16 W	+29 02	FeNe Clear	120-120	
50575	HD 161096 (β Ph)	(1900.0) 17 38.5	+04 37	04 10	04 21	00 24 W	+04 28	FeNe Clear	80-80	
FM000180.TN	HD 176844 ^{Seeing} test	(2000.0) 19 00.3	+40 41	04 33		00 43 E	+40 37			
<p>↳ Frames 5/6/7/8 of plates 50571-73, 75 were of int. X 59/120/240/500 Spot plate 50558T for plates 50571-73, 75 Spot plate 50573T for plates 75</p>										

Spectr. Temp.
Focus...391
Spectr. Temp.

Exp. Nr.
Filter

35133

33014

3 x 31 inches

25597

8002/1285

1163

11396

4500/
4575

3 x 31 inches

35096

1000

3 x 31 inches

Spectr. Temp. 46F
 Focus .. 391 .. = 392 stand ..
 Spectr. Temp.

Dome Temp./Hum. 3°C / 50% H
 Dome Temp./Hum. 7°C / 61% H

Transparency Conditions .. Clear 22 ..
 Dome opened & fans turned on @ 18:56
 Finder image normalized (Right on for zenith
 note Finder image S/ SW of center for meridian @ 83° alt

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B filter											
35133	O.K.	B= 1.9	A0IV	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	Arm Sp - KK	120-s comp. = 2354 Finder image (Lower Right)	wk
33014	O.K.	B= 3.9	F0IV	"	"	BS	"	1	"	Finder image same as last one image more down than to the right	wk
31x31 pixels	O.K.	V= 6.45	G8IVp	"	G=4238 830/40.7	150µ	Int. x4 4 frames "N" mode	"	"	Dome faced Wests medium NW wind Finder image Right on as it should be.	
25597	good	B= 3.32	A5	"	G=4238 830/40.7	BS	IIIaJ-e	1	Arm Sp - KK	T=43 F, focus = 394 ± 1/4 North Finder image Right 2/3 of East	slwk
13002/11285	O.K.	B= 5.24	B8	BC	"	"	IIIaJ-e	1	Blu	The SE and slightly brighter turns off at 22.25 of pair	vs/wk
11163	O.K.	B= 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK	T=42 F Set 392	OK
11396	O.K.	B= 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK		Comp slwk Exp OK
4500/ 4575	O.K. - poor	B= 6.8	G8IV	BC	G=5430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK	Finder image 2 1/2' NE 1/4' E of 1 st W " " = 1/2' NE 1/2' E 2 nd W	Comp slwk slwk
							IIIaJ-e				
31x31 pixels		V= 7.6	G5IV			150µ	Int. x4 4 frames "N" mode			Dome faced WSW . Calm .	
35096	poor	B= 3.93	F0p	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	Arm Sp - KK	Finder image at 2 Hrs W ± 1/2' NE < 1/2' E of center	Comp wk slwk
10000	poor	B= 3.93	K2III	BC	G=5430 1200/50.8	BS	IIa0-e	1	std. vel.	Finder image 1/2' N of Crosshairs	OK
31x31 pixels						150µ	Int. x4 4 frames "N" mode			Dome SSW no wind, calm	

23 Sat./Sun.

Date 22/23 Apr. 1989 Observers Tin/Yee

Dev e68⁹ APR 25 T_v
555min

Emulsion Batches:

IIa-e. IIR. Apr. 11.....
IIaJ-e. IAI. Apr. 18.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
50576	HD 8890 (Polaris)	(1900.0) 01 22.6	+88 46	23 17	23 20	11 24 E	Reversed +89 18	FeNe Clear	Diff. OUT 80-80
50577	HD 8890 (Polaris)	(1900.0) 01 22.6	+88 46	23 27	23 30	11 14 E	Reversed +89 18	FeNe Clear	80-80
50578	HD 112028	(1900.0) 12 48.3	+83 58	23 50	01 09	W	Reversed +83 23	FeNe Clear	60-60-60
50579	HD 158633	(1900.0) 17 25.3	+67 24	01 21	02 53	00 43 E	+67 13	FeNe Clear	35-35-35
50580	HD 137909 (β CrB)	(1900.0) 15 23.7	+29 27	03 10	03 31	01 52 W	+29 04	FeNe Clear	120-120
50581	HD 182640 (8 Aql)	(1900.0) 19 20.5	+02 55	03 43	04 00	01 36 E	+03 00	FeNe Clear	120-120
FM000182.TN	HD 163075 ^{Seeing} test	(1990) 17 51.3	+46 36			00 10 W	+46 33		
	L → Frames 5/6/7/8 were of int. X 1s/2 sec/4 sec/8 sec								
FM000183.TN	HD 144579 ^{Seeing} test	(1989.5) 16 04.6	+39 11			02 10 W	+39 05		
50581 F	Focus test			04 39		0 0		FeNe Clear	180-90
	Spot plate 50558 T for plates 50576, 77, 79								
	Spot plate 50573 T for plates 78, 80, 81								

Spectr. Temp
Focus...
Spectr. Temp

Exp. No.
Filter

2191

2295

1404/1535

354/358

40057

35081

3101 pinelo

3101 pinelo

502/1070

Spectr. Temp. 38F Dome Temp./Hum. 0C/59% Transparency Conditions Clear 24

Focus 392

Spectr. Temp. Dome Temp./Hum. -2C/67%

Exp. Mir.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B filter 12191	O.K.	1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Aim Sp-KK	80-s comp. = 1688 Quite windy.	OK
12295	O.K.	1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Aim Sp-KK	Focus 395 T=37F	OK
14464/14535	O.K. - V. prior	B= 3.28	B8	BC	G=4238 830/40.2	BS	IIIaJ-e	1	Blu	Lower Left of pair on BS (ie SE of pair) view	OK
3506/3508	V. prior	B= 7.09	G9V	BC	G=4238 830/40.2	BS	IIa0-e	1	Aim Sp-KK	-	perfect OK
40057	O.K.	B= 3.93	F0p	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	Aim Sp-KK	T=34F, Focus=393	sluck
35081	O.K.	B= 3.68	F0IV	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	Aim Sp-KK		OK
31x31 pixels	OK	V= 6.5	K0III			150µ	Int. x4 4 frames "N" mode		"Clean" screen	Dome faced WNW. Busty wind - from North	
		V= 6.50	K0III			150µ	Int. x4 4 frames "N" mode				
31x31 pixels	OK	V= 6.66	dG8			150µ	Int. x4 4 frames "N" mode			Dome faced WNW. gusty N wind	
5522/7870				BC	1200/50.8	BS	O9G	1		T=33F, Focus=393	OK

25. Sun./Mon.

Date 23/24 Apr. 1989. Observers ... *Tin/Yee - K.K.*

Emulsion Batches:

DaO-e. IIS. Apr. 23. 1.53, 0.24

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
FM000184.TN	HD85373 <i>Seeing test</i>	(2000.0) 09 52.3	+37 55	19 55		00 05 E	+37 53		
FM000185.TN	HD103095 <i>Seeing test</i>	(1989.5) 11 52.4	+37 48	20 17		01 40 E	+37 43		
50582	HD103095	1900 11 47.2	+38 26	20 27	21 52	00 10 E	+37 43	Fene Clear	50-60
	<i>Speedometer α Boo</i>	1950 14 15.2	+19 17	'					
50583	HD8890 (Polaris)	(1900.0) 01 22.6	+88 46	23 06	23 14	11 00 W	+89 18	Fene Clear	80-80
50584	HD8890 (Polaris)	(1900.0) 01 22.6	+88 46	23 21	23 25	11 11 W	+89 18	Fene Clear	80-80
50585	HD122742	(1900.0) 13 58.6	+11 16	23 36	01 41	01 30 W	+10 45	Fene Clear	60-80
50586	HD137909 (β CrB)	(1900.0) 15 23.7	+29 27	01 49	01 57	00 21 W	+29 03	η	90-90
50587	HD161096 (β Oph)	(1900.0) 17 38.5	+04 37	02 06	02 16	01 35 E	+04 28	Fene Clear	90-90
50587 F	<i>Focus test (set on β Oph)</i>			02 22			+04 28	Fene Clear	80-90
50588 F	<i>Focus test (set on β Oph)</i>			02 31			+04 28	Fene Clear	80-50
50588	HD161096 (β Oph)	(1900.0) 17 38.5	+04 37	02 39	02 43	01 08 E	+04 28	Fene Clear	50-50
FM000186.TN	HD153399 <i>Seeing test</i>	(2000.0) 16 57.3	+43 41	20 50		00 00	+43 37		
FM000187.TN	HD201750 <i>Seeing test</i>	(2000.0) 21 10.5	+36 48	20 30		04 00 E	+36 40		
50589	HD165908 (99 Her)	(1900.0) 18 03.2	+30 33	03 44	04 11	00 05 E	+30 29	Fene Clear	50-80
50589 T	<i>Spot for all above (i.e. 50582-89)</i>			15 min @ 15V	04	03 00 03 05	D24810		

Spectr. Temp
Focus... 3.9
Spectr. Temp

Exp. Mir
Filter

3x3 inch

3x3 inch

3950/

3881

1191

1700

4000/

4070

11072

9100

612/647

212/302

6131

3x3 inch

3x3 inch

2106

Spectr. Temp. 43.0° Dome Temp./Hum. $6^{\circ}C / 54\%$ Transparency Conditions *Clear* 26.Focus $391-392$

Dome opened @ 1940s

Spectr. Temp. 37.0° Dome Temp./Hum. $0^{\circ}C / 62\%$

Fans turned on @ 1940s

Light N winds

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
3x31 pixels B filter	o.k.	V= 6.8	F0V	* Image Acquisition by m. s. for KE			Int. x 4 (4 frames) + Int. x (1s, 2s, 4s, 8 frames "N" mode)			Dome faced WSW. Left Rock was in pos. = 31750	
3x31 pixels	OK	V= 6.45	G8Vp	Box OK		150 μ	Int. x 4 (4 frames) + Int. x (1s, 2s, 4s, 8 frames "N" mode)			Dome faced SE	
3950/ 3881	OK	B= 7.20	G8Vp	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp - ktk	Std vel? Fans off at 23 hour EST ktk tests	O.K
71191	o.k. - poor	B= 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp - KK	T=40.7 } Plates tight longwise in slit my cuts last night Ta	OK
11700		B= 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp - KK		OK
4000/ 4070	o.k. - poor	B= 6.8	G8V	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp - KK	Finder image $\approx 1/2'$ below xchip ie image North $1/2'$ @ 00Hr	OK
11072	poor	B= 3.93	F0p	"	"	BS	IIa0-e	"	"	Finder $< 1/2'$ N RH OK	OK
9100	poor	B= 3.93	K2III	BC	G=5430 1200/50.8	BS	IIa0-e	1	std. vel.	Lower Left $\approx 1/2'$ W S $2/3$ N	OK
4312/6487				BC	G=5430 1200/50.8	BS	IIa0-e	1		T=37.5, Focus = 391	curlier S1 Reel
2012/3912				BC	G=4238 830/40.2	BS	IIa0-e	1		T=37.5, Focus = 394	Right corner slanted
6131	poor	B= 3.93	K2III	BC	G=4238 830/40.2	BS	IIa0-e	1	std. vel.		S1 str
3x31 pixels		V= 7.6	G5V			150 μ	Int. x 4 (4 frames) + Int. x (1s, 2s, 4s, 8 frames "N" mode)			Dome faced W, fans off. Med. wind from N.W. 11 kts/hr	
3x31 pixels	poor	V= 7.6	F2V		G=5430 1200/50.8	150 μ	Int. x 4 (4 frames) + Int. x (1s, 2s, 4s, 8 frames "N" mode)			Dome faced E, fans off	
10106	poor	B= 5.5	F7V	BC	830/40.2	BS	IIa0-e	1	Asm Sp ktk	Some cloud - set 392	OK
note Accidental start at 1200 grating at 40.2° Alt kept but not labeled. (50589 B kept)											

D

1989

Page 1

Emulsion Batches:

Date Mon Tues, APR 24/25 Observers F. & T. / Yee.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
0L	1st FLAT			19 34		02 25 W	+29 30		180 ^{sec}
1L	2nd FLAT			19 44		"	"		180 ^{sec}
2L	3rd FLAT (Telescope on platform)			19 52		00 00	Platform		180 ^{sec}
3L	4th FLAT (" " ")			19 56		"	"		180 ^{sec}
4C	Comp					"	"	ThA	30 ^{sec}
5C	Comp.								30
6S	η UMa (HD 120315)	13 ^(1989.5) 47.2	+49 23	20 34	20 39	03 14 E	+49 17		
7C	Comp.								30
8S	α Leo (HD 87901)	10 ^(1989.5) 07.8	+12 01	21 39	21 49	01 39 W	+11 56		
9C	Comp								30
10C	Comp.								30
11S	η UMa (HD 120315)	13 ^(1989.5) 47.2	+49 23	21 59	22 10	01 40 E	+49 17		
12C	Comp								30
13L	Flat #1 (Telescope on 50ph)								60
14L	Flat #2								180

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr

S

23700

23800

200

1195

159

1390

260

1662

1000

1073

92

28500

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions . *Complete Cloud* 30

Focus

Spectr. Temp. Dome Temp./Hum.

Companion Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
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180

27000

Echelle grating = 1.810
X-grating = 0.5192

H = 400μ
(0.225)

600,4481

W = 80μ
(= 0.269)

1628

180

27000

1625

180

27000

1620

30

887

Finder image \approx 1' below Xhairsie N
Hazy, some clouds.
T = 0.256

7084

1016

V = 2.56
09.5V

297

30

890

9-50

2716

Backed up as APR2789.DAT

31 Tues./Wed.

Date 25/26 Apr. 1989 Observers Fds - Yee

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr
	FIAT @ 360s								360	
	FIAT @ 180s.								180	
	Comp @ 100s.								100	48
	α Leo (HD 87901)	10 ^(1989.5) 07.8	+12 01	20 46	20 56	00 48 W	+11 56			2500
	Comp.								120	59
	comp								120	120
	η UMa (HD 120315)	13 ^(1989.5) 47.2	+49 23	21 09	21 29	02 18 E	+49 17			8502
	Comp. #1								120	3320
	Comp. #2								30	834

B Wed./Thurs.

Page 1

Emulsion Batches:

Date 26/27 Apr. 1989 Observers Fds - Yee

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.
	Flat								60	
	Flat								60	
	4 X Flat @ 180s								180	300f
	4 X Flat @ 120s								120	8750
	4 X Flat @ 60s Comp.								100	40
	α Leo (HD 87901)	10 07.8 ^(1989.5)	+12 01	20 01	20 11	0006W	+11 56		100	12600
	Comp.								100	31
	Comp.								100	34
	η UMa (HD 120315)	13 47.2 ^(1989.5)	+49 23	20 22	20 41	0301E	+49 17		100	10010
	Comp.								100	
	<u>Comp for stallmer</u>								10	
	Comp								10	
	α Leo (HD 87901)	10 07.8 ^(1989.5)	+12 01	20 55	21 00	00 56W	+11 56			5023
	α Leo (HD 87901)	10 07.8 ^(1989.5)	+12 01	21 02	21 11	01 07W	+11 56			7993
	α Leo (HD 87901)	"	"	21 12	21 24	01 20W	+11 56			10001

Spectr. Temp. Dome Temp./Hum. *11c/50%* Transparency Conditions *Clear* 34.

Focus

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
				Echelle grat. = 1.810 X-grat. = 0.4952		W=80μ (0.269)	600,4481	H=400μ (0.225)			347
				Echelle grat. = 1.850 X-grat. = 0.4950		W=80μ H=400μ	600,4481				661
										T=+0.460	
										T=+0.566	
											439
											4540
											426
											466
										T=+0.62f. Thin clouds.	4529
											14500
											6278
											5170
											1876
										T=+0.654	2892
										T=+0.642	3493

6e
6e
18e
120
100
1
100
100
100
40
10

3000

8750

40

12600

31

34

10010

5023

7993

10001

V=
1.36

B7V

V2
1.86

B3V

V=
1.36

B7V

V=
1.36

B7V

u

u

ADCU = 2193/2175/2179/2187

ADCU = 1440/1146/11434/1432

Spectr. Temp. Dome Temp./Hum. *70/36%*...Transparency Conditions *Clear* *38*
Dome opened & fans turned on @ 11:30

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					Echelle grat. = 1.850 1.850 X-grat. = 0.5037	W = 80μ (0.268)	600, 4387	H = 400μ (0.225)	Camera focus = 0.331		1472
											3288
										T = +0.731	217
10002		V = 1.36	B7V							T = +0.728	2904
100 39											247
100 37											240
1603		V = 4.30	B3V							T = +0.659	497
100 55											322
100 39											272
7008	four	V = 1.86	B3V							T = +0.706	3072
100 47											284
100 32											236
9983		V = 1.36	B7V							T = +0.798	2155

4) Thur./Fri.

Page 3

Emulsion Batches:

Date 27/28 Apr. 1989 Observers F.S. - Yee

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	30ph (HD 149757) comp	16 36.6 ^(1989, 33)	-10 33	01 58	02 28	00 01 E	-10 37		10
	30ph (HD 149757) comp.	16 36.6 ^(1989, 33)	-10 33	02 29	02 59	00 31 W	-10 37		10
	30ph comp	16 36.6	-10 33	03 02	03 32	01 03 W	-10 37		25
	30ph comp	16 36.6	-10 33	03 33	04 02	01 36 W	-10 37		100
	30ph comp	16 36.6	-10 33	04 07	04 37	02 10 W	-10 37		100
	4 Plates @ 120	737	874 874	877	886	887			

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

Exp. Mtr

4650

4600

4500

3900

5108

43 Fri./Sat.

Echelle flexure tests

Emulsion Batches:

Date 28/29 Apr. 1989 ... Observers Yee

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison		Exp. Mtr.
								Type/Filter	Exp.	
	Flat			23 13		05 00W	+30 00	Tung.	180	
	Comp			23 18		05 00W	+30 00	Th A	60	2015
	Comp			23 21		05 00W	+30 00	Th A.	20	682
	Comp			23 23		04 00W	+30 00	Th A	20	675
	Comp			23 25		03 00W	+30 00	Th A	20	683
	Comp			23 27		02 00W	+30 00	Th A	20	694
	Comp			23 29		01 00W	+30 00	Th A	20	1408
	Comp			23 31		00 00	+30 00	Th A	20	726
	Comp			23 33		01 00E	+30 00	Th A	20	747
	Comp			23 36		02 00E	+30 00	Th A	20	746
	Comp			23 39		03 00E	+30 00	Th A	20	1493
	Comp			23 41		04 00E	+30 00	Th A	20	752
	Comp			23 43		05 00E	+30 00	Th A	20	753
	Comp			23 45		06 00E	+30 00	Th A	20	757
	Comp			23 47		07 00E	+30 00	Th A	20	752

45 Sun. / Mon.

Date 30 Apr. / 1 May 1989 Observers Fds - Yee

Emulsion Batches:

5^m 6⁰⁰

IIA Jfg. 26^h

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time		Ending Time		Hour Angle End	Declination	Comparison		Exp. Mtr.
				E.S.T.		E.S.T.				Type/Filter	Exp.	
6 X Flat Flat	@ 3605			ADCU = 3400 / 3382 / 3381 / 3375 / 3372 / 3361							360	
6 X Flat	@ 1205			ADCU = 1106 / 1098 / 1106 / 1101 / 1104 / 1093							120	33350
	Comp										15	512
	α Leo (HD 87901)	10 07.8	+12 01	20 10	20 26	00 38W	+11 56					11988
	Comp										15	500
	Comp										15	557
	η UMa (HD 120315)	13 47.2	+49 23	20 35	21 04	02 24E	+49 17					9004
	Comp										15	590
	Comp										15	492
	α Leo (HD 87901)	10 07.8	+12 01	21 13	21 33	01 45W	+11 56					12003
	Comp										15	488
	Comp										15	511
	η UMa (HD 120315)	13 47.2	+49 23	21 42	22 14	01 14E	+49 17					8002
	comp										15	500
5058912	Spot comp calibration test			D4, 15 ^v , 15 ^m		for ① ② & ③		4300 Å				
	↳ 2.82, 0.24											

Spectr. Temp. Dome Temp./Hum. *11C/72%*

Transparency Conditions *Clearing - too hazy* *46*
 Dome opened & fans turned on @ 18:30.

Focus
 Spectr. Temp. Dome Temp./Hum. *9C/82%*

Comparator
 Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Echelle gratings = 2,50 X-grat. = 0,5025		W=80µ (0.269)	600,4387	H=400µ (0.225)		Moisture on window.	
360											
25	33350										
15	512									T=+0.502	1813
	11988	good	V=1.36	B7II						T=+0.523 Hazy.	3730
15	500										1700 500
15	507										1731
	9004		V=1.86	B3II						T=+0.599 thin clouds.	3479
15	490										1750
15	492										1813
	12003		V=1.36	B7II						T=+0.646	3943
5	488										1837
5	511										1796
	8002		V=1.86	B3II						T=+0.566. Very hazy	2914
15	500										1625

Tonight's data & flexure tests data
 on 28 April has been backed up as APR3089.DAT
 IIIOT

Spectr. Temp. ... 50°F

Dome Temp./Hum. + 47°F / 60%

Transparency Conditions . Mostly Clear 4.8

Focus 3.89 G8, 3.91 G12 ...

Fans not turned on

Spectr. Temp. .. 45°F

Dome Temp./Hum. 39°F / 70%

Dome shutters opened @ 19 hrs approx

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B Filter											
31x31 pids	OK	7.4	K2m	Box & Image OK	"N" made	150u	Intra for 4 frames			+ 1, 2, 4, 8 sec exps Dome facing West-SW	
31x31	OK	6.7	F2	" " "	" " "	150u	" " "			+ 1, 2, 4, 8 sec exps Dome East NE	
4825					G=5430						
4980	OK	6.8	G8V	BC	1200/50.8	BS	IIa0-e	1	Asm-Sp ktk		OK
							IIa0-e				
3600					G=4238						
3640	OK	6.71	A2m	BC	830/40.2	BS	IIa0-e	1	Ry ppm	T=48°F, Set 391	OK
4000					"	"	"	1	"	5' 54"	
4000	OK	6.87	A0p	"	"	"	"	1	"		OK
9000	OK	5.24	A0p	"	"	"	"	1	"		OK
31x31 pids	OK			Box & Image OK	"N" made	150u	Intra for 4 frames			No wind Dome West	
31x31	OK			" " "	" " "	150u	" " "			+ 1, 2, 4, 8 sec exps " " "	Dome ENE
3560											
3650	Fine	7.09	dK1	BC	830/40.2	BS	IIa0-e*	1	Asm-Sp-ktk	T=47°F, still set 391	OK
12000		6.9	F8	"	1200/50.8	BS	"	1	"	T=45°F set 389	OK
12850		"	"	"	"	"	"	1	"	Pushing down	OK
				"	"	"	"	1	"	T=45°F Set=389	OK but blue and sized

49

Thurs - Fri

Date MAY 4/5/89..... Observers J.M.....

Emulsion Batches:

Dev MAY 5th
68° @ 8 min1.40, 0.20
... I.L.O. - e. I.I.S. - MAY 3

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
50597	HD 8890	01 226	+88 46	20 25	20 31	09 05 W	+89 17	Reversal FeNe clear	90-90
50598	"	"	"	20 32	20 46	09 20 W	+89 17	"	90-96
50599	HD 84441	09 40.2	+24 14	21 01	21 46	02 35 W	+23 45	"	90-90
50599T	Spot cal ^s for	50597 - 50599	+94 - 96	15 min @ 15V		04 3900	D3 4300	D2 4812	
50599F	Focus test			21 52		00	- 9 20	FeNe clear	220/120
Must be a great Aurora after 23:30. It's visible through thick haze & cloud.									

Spectr. Temp

Focus.....3

Spectr. Temp

Exp Mir

R. 6/4

12/100

12/150

3754

5630/9709

51 Sat. / Sun.

2 Large Tours earlier ~ 1 hr moon observing

Also Jim's birthday!

Emulsion Batches:

8th 69° IIa-O-E I18..... May 3.
 5th 69° IIa-J-E I.A.7..... May 6.

Date MAY 13/14/89... Observers ... Yee, T_h.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
50600	HD 8890	01 22.6	+88 46	02 00 * 02 00	02 08	09 10 E	+89 07	Fe/Ne clear	2 80-88
50601	HD 8890 (Polaris)	01 22.6	+88 46	02 19	02 24	08 54 E	+89 07	Fe/Ne clear	80-90
50602	HD 137909 (β CrB)	15 23.7	+29 27	02 41	03 47	03 40 W T _h	+29 05	Fe/Ne clear	90-90-90

Spectr. Temp.
 Focus... 3.56
 Spectr. Temp.
 Exp. filter
 100 16
 100 42
 1500/1500

Spectr. Temp. 56F
 Focus 386
 Spectr. Temp. 53F

Dome Temp./Hum. .. 10C / 90%
 ← Outside Hum.
 Dome Temp./Hum. .. 8C / 96%..

Transparency Conditions Hazy - clear 5%
 Dome opened at 19:50.
 Wasted an hour trying to reset VT100 & find Polaris!!
 Observing was in manual mode again!

Compensator
 Type/Filter Exp
 FNE 28-11
 Clear 10-90
 FNE 19-90
 Clear 10-90
 FNE 10-90
 Clear 10-90
 FNE 10-90
 Clear 10-90

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
6 filter											
11014	O.K.	B= 3.93	F0p	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp - KK	90s exp. = 1972 O.K. 2.5	O.K.
10375	O.K.	B= 1.29	K2IIIp	BC	G=5430 1200/50.8	BS	IIa0-e	1	std. vel.		O.K.
11042	O.K.	B= 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp - KK	T=54F, focus=387	O.K.
11067	O.K.	B= 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp - KK		O.K.
14002	good	B= 5.19	B3IV	BC	G=5430 1200/50.8	BS	IIIaJ-e IIa0-e	1	Ly	Exp. terminated due to condensation on dome (Humidity close-up immediately. = 96%)	Underexp.

55 - Mon./Tues.

Emulsion Batches:

Date ..15./16..May..1989... Observers ..K.K. - Tr/Mee.....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
0	Flat field	30 ^s on meridian							
1	"	"	"						
2	Comp.							76A	30
3	HD 124897 (α Boo)	14 11.1	+19 42	21 01	21 11	01 45 E	+19 12		
4	Comp.								30
5	Comp.								30
6	HD 121370 (η Boo)	13 49.9	+18 54	21 19	21 41	00 56 E	+18 23		
7	Comp.								30
8	Lamp	30 ^s							
9	Lamp	30 ^s							
	Flat			22 03	22 04				
	Flat			22 06	22 07				
	Flat #1/2/3/4			22 08.7	22 09.4				

Spectr. Temp

Focus

Spectr. Temp

Exp. Mtr

2700

692

10,000

682

695

1521

678

~1500

~15300

~12000

Spectr. Temp. Dome Temp./Hum. $15.8^{\circ}/70\%$ Transparency Conditions *Clear* 56
 Focus *Soon to be cloudy*
 Spectr. Temp. Dome Temp./Hum. S.L.

Comparison Type/Filter/ Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	D.H.	Program	Remarks	Quality
	2700				1872 Ret 600, 5190	X. A392 Eh 18.15	400H 50u	λ 5190A		str		1098
												1094
76A 30	692											2006
	10,000		B= 1.29	K01P					-12.66	std vel		1843
30	682											1957
30	695											2019
	1521		B= 3.27	G0					-14.96	Arm Sp - KK	Exp. terminated due to clouds	663
30	678											1914
												1092
												1088
	≈ 15000											1301
	≈ 15300											1359
	≈ 12000										T=+0.256	
					ADCU = 1059/1064/1065/1051							
					Backed up @ MAY 15 89. DAT ; Repacked and Kermit to Vax.							

57 pg #1

Tues/Wed

Echelle Reticon @ Broken Cass focus

Emulsion Batches:

Date MAY 16-17, 1989.....

Observers ... T.n. (Hendryon 24")

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.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
OL	1st Flat, External Bulb		240sec	20 00		0 0	platform	i	30sec
1,2,3S	3 x Ext Flat				20 05	"	"		30sec
4C	Comp for Polaris				20 35			ThA	30sec
5S	HD 8890	01 22.6	+88 46	20 38	20 38	10 26W	Reversed +89 16		
6C	Comp for Polaris			21 08				ThA	30sec
7S	HD 8890	01 22.6	+88 46	21 11	21 59	11 17W	Reversed +89 16		
8C	Comp after Polaris			22				ThA	30
9,10,11,12L	FLATS x 4 at Polaris pos'n.			22 04					
13C	Comp for HD 121370			22 16				ThA	30
14S	HD 121370	13 49.9	+18 54	21 21	23 12	00 40 W	+18 24		
15C	Comp for HD 121370			23 13					30
16C	Comp for α Boo			23 19					30
17S	HD 124897	14 11.1	+19 42	23 23	23 34	00 42W	+19 12		
18C	Comp for α Boo			23 35					30
19C	Comp for β Crb			23 41					30

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr

1/2000

1/2000

29

600

586

6204

613

2400

4013

69

697

10000

704

59

Pg #2

Emulsion Batches:

Date *May 16/17/89 cont.* Observers *T.G.*

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
20S	HD 137909	15 23.7	+29 27	23 44	00 46	0044 W	+29 06		1600
21C	Comp for HD 137909							THA	30 sec
22C	Comp for α Oph			01 00				THA	30 sec
23S	α OPH HD 159561	17 30.3	+12 38	01 02	01 46	0024 E	+12 29		6000
24C	Comp for α Oph								30
25C	Vega Comp			01 57				THA	30
26S	Vega	18 33.6	+38 41	01 57	02 04	01 09 E	+38 35		6010
27C	Comp @ Vega posn							THA	30
28, 29, 30, 31S	EXT FLATS X 4					0 0	Platform	\approx	40 sec

Spectr. Temp

Focus...

Spectr. Temp

Exp. Mtr

1600

700

6000

705

689

6010

27000

Ba

Spectr. Temp. Dome Temp./Hum. Transparency Conditions ... *Sl. hazy* 60

Focus

Spectr. Temp. Dome Temp./Hum. /

Camera
Filter Exp

74
30s

24
30s

30

6A
30

74
30

4:50s

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1600	OK	B= 3.93	Fop	1872 Ret	600, 5190	50u 400 height	5190A		X grading 4392 Echelle 1815	This star is near the limit of Rel Obs & Guiding View.	875
700										Dewar T = +0.241	2123
										Top up @ 00:55 T = +0.230	
											2022
6000	POOR	B= 2.2	H5 III						Hsm sp KK		2212
705											2205
689											2116
6010		0.0	A0 II							T = +0.256	2195
											2034
27000											2100, 2366, 1944, 2075

Backed up as MAY1689.DAT, Repack done, But Kernit of same not done.
PS/2 was changed in many ways from last night.

Spectr. Temp. Dome Temp./Hum. 19c / 58%
 Focus Dome Temp./Hum. 16c / 66%

Transparency Conditions ... Fairly hazy - very thick haze.
 Dome opened & fans turned on @ 19:45 62
 Moon looked very dull after midnight (an indication of the hazy cond.)

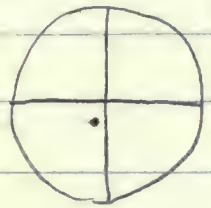
Comparison
 of Filter Exp

30

30

30

30

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
~2400		Echelle tilt = 18.15				W = 50μ (=0.281), H = 400μ (=0.225)				ADCU = 701 / 696 T = 66 F, Camera focus = 0.3542	
611		X-grating tilt = 0.4392				600, 5190 Å					1226
10018	floor	B = 1.29	K2III p						std. vel.	Forgot the dome, that's why it took so long!! T = +0.234	2845
615										T = +0.234	1336
counts in 1 min.						Field for Polaris @ 00:20 (H.A. = 10 33 E): Dec. = +89 06			 (approx.)		

65 Sun. / 8 AM

Date 21/22 May 1989 Observers Yee

stepped on dead mouse tonight in
warm room -
skunk decided to spray outside dome,
foul smell permeated obs. floor & airlock!

Emulsion Batches: 8^m@68F

IIaD-e IIF May 13

IIIaJ-e IAT May 6 2.96, 0.26
5^m@68F

Dev. by Yee May 23

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
50608	HD 137909 (ρ CrB)	15 23.7	+29 27	22 21	22 33	01 13E	+29 04	FENE Clear	Diff. OUT 80-80
50609	HD 124897 (α Boo)	14 11.1	+19 42	22 59	23 01	00 27W	+19 09	FENE Clear	80-80
50610	HD 8890 (Polaris)	01 22.6	+88 46	00 00	00 07	10 40E	+89 06	FENE Clear	80-80
50611	HD 8890 (Polaris)	01 22.6	+88 46	00 18	00 24	10 23E	+89 06	FENE Clear	80-80
50612	HD 159561 (α Oph)	17 30.3	+12 38	01 48	02 00	00 06W	+12 30	FENE Clear	80-80-80
50612T	Spot calibration for 50612, 13					15 min @ 74	17.5V 15V 3900 4300	15V 4F10	
50613	HD 161096 (β Oph)	17 38.5	+04 37	02 38	03 27	01 27W	+04 30	FENE Clear	80-80-80
50613F	Focus test			03 47		00 00	+31 52	FENE Clear	240/120

Spectr. Temp
Focus
Spectr. Temp

Exp. Mtr
5 1/2"

1095

10325

1022

1090

2037/2000

1507/1500

6131/9713

Spectr. Temp. 67 F

Dome Temp./Hum. 15.5C/56%

Transparency Conditions ... Clear

Focus 384

Dome opened & fans turned on @ 20:30.

Spectr. Temp. 60 F

Dome Temp./Hum. 17.5C/61%

66

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B filter											
10095	O.K.	B=3.93	F0p	BC	G=5430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK	80-s comp. = 1794 Prob. with CCD camera? Could hardly see the star (but everything else was fine.)	US/USK
10325	O.K.	B=1.29	K2IIIp	BC	G=5430 1200/50.8	BS	IIa0-e	1	std. vel.		OK
10082	poor - O.K.	B=1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK	CCD problem could not be fixed, had very low contrast, ∴ guiding & focusing were done visually using eyepiece & by exp. meter	OK
10090	poor - O.K.	B=1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK	count rate.	OK
20057/20242	O.K.	B=2.2	A5III	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	Arm Sp - KK	T=62 F, focus=385	Comp/USK OK
							IIIaJ-e				✓
15077/15021	poor - O.K.	B=3.93	K2III	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	std. vel.		Comp/USK OK
6131/9713										T=60 F, focus=385	center 5/22

67 Mon./Tues.

Date 22/23 May 1989 Observers Yee

8" @ 68F

Emulsion Batches:

Ilao-e I.P. May 20
Ilao-e *U.S. May 13

Dev. by Yee May 23

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
50614	HD8890 (Polaris)	01 22.6	+88 46	22 33	22 39	11 44 E	+89 07	Fene Clear	Diff. out 80-80
50615	HD8890 (Polaris)	01 22.6	+88 46	23 06	23 46	10 57 E	+89 07	Fene Clear	80-80
50615 F	Focus test					00 00	+14 44	Fene Clear	240/120

Spectr. Temp.
Focus
Spectr. Temp.

Exp. Mir.
R. #127

10008

10005

5445/1936

Spectr. Temp. ... 67 F

Dome Temp./Hum. 16.5 C / 54%

Transparency Conditions High cloudiness - cloudy

Focus 384

Dome opened & fans turned on @ 21:15

Spectr. Temp. 64 F

Dome Temp./Hum.

CED camera worked tonight !!

68

Comparison
Time Filter Exp.
Fene 24-27
Star 21-23
Fene 20-22
Fene 24-26

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B filter	V. poor	B=1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm hp -KK	80-s comp. = 1652 Fairly cloudy lazy.	5/10K
10008	V.V. poor	B=1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm hp -KK	Very lazy; turning cloudy!	5/10K
10005							IIa0-e ^{OK}			T=64 F, focus = 384	5/10K
5415/9736							IIa0-e				5/10K

69

Wed-Thurs

Pg #1

Emulsion Batches:

Date MAY 24/25/89... Observers T. J.

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.
0L	FLAT internal			20 10		02 20	+46°		30	1200
1C	Comp for α Boo			20 28				ThA	10	182
2S	HD 124897 α Boo			20 32	20 38	01 42 E	+19 09			5388
3C	Comp for α Boo			20 39					10	185
	HD 8890 ^{Polaris}	01 22.6	+88 46				* Reversed +89 16			
4,5,6,7L	Flats x4 Internal		at Polaris position	21 18		11 10W	+89 16		10 sec	1000
8,9,10,11L	Flats x4 Internal	"	"	21 20			"		30 sec	3000
12C	Comp for α Boo ^{Polaris}			21 24			"		10 sec	
	HD 8890	01 22.6	+88 46	21 28			"			
	"		Near start *	21 40	<u>22 25</u>	11 45 E	"			6120
	Comp "Long"		after Polaris	22 26					45	865
	Comp "short"	"	"	22 27					10	193
	Comp at B Cr B posn.			22 35					45	811
	HD 137909 B Cr B	15 23.7	+29 27	22 40	23 31		+29 06			2760
	Comp after B Cr B		at same posn of course					ThA	45	860

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

Spectr. Temp. Dome Temp./Hum. 63°F / 70% H Transparency Conditions SI Hazy 70
 Focus Focus at 65°F = 0.328 !no; it was at 0.325 at start.
 Spectr. Temp. Dome Temp./Hum. changed focus @ 23:38 to 0.328 Dome T = 60°F

Comparison Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30	5000				1872 Reticon	600 6728	50μ 400	6728A	Echelle tilt 18.50		T = +0.130	4298
10	182		B 1.29	K2 IIIp							3 lines visible	4870
	5388									std Vel		4773
10	185											4975
											* centered on slit 10hr 50min WE 21:00 EST	
10 sec	~1000									waiting for clouds to depart 1176 sec for each		
3 sec	~3000										for each Approx. →	4670
10 sec											T = +0.227	4004
			B = 1.9	F8	* Echelle bombed when I tried to plot a previous file. I printed error messages.				Asm Sp-KK		getting cloudy again	3183
45	6120										I had about 200 sec before it bombed.	24451
	865											4046
10	193											4424
45	811											1519
	2760	OK	B = 3.93	FOP					Asm Sp-KK		T = +0.199	1519
45	860										Dome T = 62°F	4426

71

py #2

Notes: PS/2 Time is 35 secs behind
Astro clock

Emulsion Batches:

Date MAY 24/25 cont....

Observers Ty.....

Times Noted are from

Echelle program PS/2 clock

Plate No.	Object	R. A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	Comp for BCrB	after changing focus		23 43 from 0.325 → 0.328 →		and back to	0.325 again	ThA	45
	HD 137 909	15 23.7	+29 27	23 47.21	00 14.37	01 12 W	+29 06		2410
	Comp for HD 137 909	at same pos'n				"	"	ThA	45
	Flats (Internal)	at same pos'n		00 48		"	"	Tung	20 sec 23000
	Flats x 5 n	"	"	00 50	10 sec + 4 x 15 sec.			"	10 sec
	Then top up @ 01 00 EST			T = +0.178					
	Comp for β Boo			01 05				ThA	45 sec
	α Boo HD 124 897	14 11.1	+19 42	01 10	01 14.13	02 55 W	+19 11		5168
	Comp for + Boo			01 16				ThA	45 sec 1053
	Comp for ↓			01 23.39			+12 28	"	45 sec
	HD 159 561	17 30.3	+12 38	01 28.19	01 56.43	00 19 W	"		5015
	Comp				"	"	"	ThA	45 sec 978
	Comp for SAql						+03 02	"	45 sec 968
	HD 182 640	19 20.5	+3 06	02 10.12	03 05	E	"		2751
	Comp for HD 182 640					"	"		45 910

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions *getting hazzy - cloudy*

Focus

Spectr. Temp.

Dome Temp./Hum. *185/6*

72

Comparison
Face Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality	
<i>7/14 45</i>				1872 Ref	600, 6728	<i>50 width 400u.H</i>	6728 R			Ech tilt = 19.50 GROSS = 0.3092	Dome temp = 60° F Focus 0.325	14493
2410	OK	B 343	FOP						Asm Sp-KK	Telescope focussed before to max signal when on slit	1179	
										Dewar T = +0.198	14499	
<i>Aug 2002</i>										2717 T = +0.227	2717	
										1121, 1916, 1923, 1914, 1910		
											15791	
5168		B 1.29	120p						Std Vel	Lower Finder image a 3/4" to Right of center	B557	
1053											13796	
											14468	
5015	OK	B 2.2	A5 III						Asm Sp-KK	T = +0.204 Dome T = 57° F	2209	
978											14460	
968											14622	
2751	Fire	B* 3.68	FOLV						Asm Sp-KK	* I guess this is pushing it.	1593	
970										Image a 1/2" below center in finder when on meridian. OK	14455	

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions *cloudy*

Focus

74

Spectr. Temp.

Dome Temp./Hum. *87.9 / 85.7*

Comp. Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emission	P.H.	Program	Remarks	Quality
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1585

6728A

ADH
1875, 1887, 1873, 1888

T=10.213 2350, 1802, 2308, 2190

Ret. DAT (388,288) backed up as MAY2489.DAT, RepACK done,
Kermit started.

75 Fri-Sat

Date MAY 26/27/89... Observers Tn.....

Emulsion Batches: ^{1 25 hrs @ 24"²}
 Yes 5^m 68° III a.s. e.s.g. I.A.F. - MAY 6 3+, 0.42, 0.32
 8^m 68° II a.o. e. I.I.S. ... MAY 20

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
FM000193.TN	HD 108100 seeing test	12 24.9	²⁰⁰⁰ +42 51	20 33		00 09 W	+42 52	Int x4 "N made"	
50616	HD 76644	08 52.4	¹⁹⁰⁰ +48 26	20 47	21 16	04 23 W	+48 02	FeNe clear	FeNe 60-60
50617	HD 112028	12 48.3	+83 58	21 27	23 30	02 45 W	+83 34	"	60-60
50617T	Spot Calc for	50616 - 18,	50620, 23	15 min @ D4		^{17.5V 15V} 3900 4300	^{15V} 4810		
50618	HD 124897	14 11.1	+19 42	23 40	23 45	01 35 W	^{Reversed} +19 22	FeNe clear	85-85
50618F1	Focus test			23 48		"	"	"	200/100
50618F2	" "			23 59		"	"	"	200/200
50619	HD 124897	14 11.1	+19 42	00 15	00 18	02 08 W	"	"	80-80
50620	HD 137909	15 23.7	+29 27	00 26	01 18	01 53 W	^{Reversed} +29 15	"	90-90
50621	HD 8890	01 22.6	+88 46	01 30	01 35	08 52 E	+89 07	"	90-90
50622	"	"	"	01 41	01 49	08 38 E	"	"	90-90
50623	HD 182640	19 20.5	+02 55	02 04	02 52	00 33 E	+03 01	"	90-90
	A Drive Test		"			0			

Spectr. Temp
 Focus...
 Spectr. Temp

Exp. Mir
 5/13/89
 F-300
 F-300/1500
 H-200/1500
 26500
 17-600
 1500/1400
 13-300
 2-15K
 1600/300

Spectr. Temp. $+70^{\circ}\text{F}$

Dome Temp./Hum. $+65^{\circ}\text{F}/50\% \text{H}$

Transparency Conditions *OK - slight haze that...*

Focus ... *385*.....

Spectr. Temp. $+58^{\circ}\text{F}$

Dome Temp./Hum. $+50^{\circ}\text{F}/80\%$

gave a pale yellow/white sunset. i.e. not Redish orange as is usual.

76

Shutters opened at 19:30, no ferson

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>31 x 31 prints</i> B filter IN	<i>poor</i>	<i>7.14</i>	<i>F2</i>	<i>(Box and camera good)</i>		<i>150u</i>	<i>4 frames</i>		<i>Dome West</i>	<i>* Dec seems too far North Wind 20kph from NW gusty</i>	
<i>15380/15300</i>	<i>so so</i>	<i>3.32</i>	<i>A5</i>	<i>BC</i>	<i>G=4238 830/40.2</i>	<i>BS</i>	<i>IIIa-e</i>	<i>1</i>	<i>Asm Sp-KK</i>	<i>60 sec Fe Ne @ 1000 c/s</i>	<i>fine</i>
<i>14,200/14500</i>	<i>poor</i>	<i>5.28</i>	<i>B8</i>	<i>BC</i>	<i>830/40.2</i>	<i>BS</i>	<i>IIIa-e</i>	<i>1</i>	<i>Shell-Blu</i>	<i>Lower left of pair in guiding view + brighter</i>	<i>fine</i>
<i>26500</i>		<i>1.29</i>	<i>K210p</i>	<i>BC</i>	<i>830/40.2</i>	<i>BS</i>	<i>IIIa-e</i>	<i>1</i>	<i>std vel</i>	<i>62°F</i>	<i>Str to</i>
				<i>"</i>	<i>830/40.2</i>	<i>BS</i>	<i>IIIa-e</i>	<i>1</i>		<i>T=61.5°F set still @ 385</i>	
				<i>"</i>	<i>G=5440 1200/50.8</i>	<i>"</i>	<i>"</i>	<i>1</i>		<i>" " " 385</i>	
<i>4600</i>		<i>1.29</i>	<i>K210p</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>IIIa-e</i>	<i>1</i>	<i>std vel</i>		<i>Fine</i>
<i>18000/17400</i>	<i>so so</i>	<i>3.93</i>	<i>F0p</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>IIIa-e</i>	<i>1</i>	<i>Asm Sp-KK</i>	<i>G set should be 5730 but ok</i>	<i>fine</i>
<i>12300</i>		<i>1.09</i>	<i>F8</i>	<i>"</i>	<i>* G=5440 1200/50.8</i>	<i>"</i>	<i>IIIa-e</i>	<i>1</i>	<i>"</i>	<i>* Grating Tilt really 50.9</i>	<i>fine</i>
<i>15K</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>1</i>	<i>"</i>	<i>prob strong</i>	<i>fine</i>
<i>16000/300</i>	<i>poor</i>	<i>3.68</i>	<i>F0TU</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>IIIa-e</i>	<i>1</i>	<i>"</i>	<i>some cloud - v cloudy</i>	<i>wk.</i>

Spectr. Temp. 54°F

Dome Temp./Hum. 48°F/70% H

Transparency Conditions Fine

Focus 388.68/391.6/2

N West wind

Spectr. Temp. 50°F

Dome Temp./Hum. 42°F/70% H

78

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B Filter	poor										
12,300	poor	5.5	FTV	BC	G: 5430 1000/50.8	BS	IT40-e	1	Hsm Sp-KK		fine
12,658	poor	1.9	F8	"	"	"	"	1	"		fine
13,400	"	"	"	"	"	"	"	1	"		fine
5500/5300	poor	5.94	O9 (100)	BC	G 4238 830/40.2	BS	IT40-e	1	Bln Ostr	Set 391 T=52°F	fine OK
							IT40-e				✓
6000	poor	4.24	K3 II	BC	830/40.2	BS	IT40-e	1	std Vol	RV = -2.1 J02 Frm NA/m	fine OK

79

Date *MAY 28/29, 1894* Observers *KK - Tests / T. n.*Emulsion Batches: *2.92, 0.25* ^{*± 26 hrs*}
5^m 68° *Yes. Wal. ety. 1A7 - MAY 27* ^{*N 342*}
8^m 68° *... Hal. C. 118 - MAY 20*

Plate No.	Object	R. A. 1900	Declination 1900	Starting Time E. S. T.	Ending Time E. S. T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	Foucault tests								
on	β Leo			20 10	20 30	1-2 ^h			
	Speedometer tests								
on	α Boo								
50629	HD 112028	12 48.3	+83 58	22 25	00 04	03 25 W	Reversal +83 36	Fe/No Clear	60-60-0
50630	HD 8890	01 22.6	+88 46	00 14	00 19	10 01 E	unreversed +89 06	"	90-90
50631	"	"	"	00 26	00 33	09 47 E	"	"	90-90
50632 ^{31st}	HD 137909	15 23.7	+29 27	00 46	01 15	01 57 W	+29 06	"	160-160
50632 T	Spot Calc for 50629, 50632 50631					15 min @ D4	17.5V 15V 3900 4300	15V 4810	
DT 000 167. TN	HD 188041	19 53.3	-03 07	01 33	01 38	02 03 E	-03 03	"N" made, "O" Int	
DT 000 168. TN	"	"	"	01 46	01 46	01 53 E	"	"	"
50632 F	Focus test			01 56		0 0	- "	Fe/No Clear	160/120

Spectr. Temp. 61°F Dome Temp./Hum $63.7^{\circ}\text{F}/60.7\text{H}$ Transparency Conditions ... *Fine*

Focus ... $388.6/2, 386.68$

80

Spectr. Temp. 58°F Dome Temp./Hum $50^{\circ}\text{F}/70.6\text{H}$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
5mm astigmatism EW out NS in, some coma in NS direction (i.e. knife edge EW) as on Apr 16											
B.F.149											
5,100/15,700	Fine	5.28	B8	BC	G=4238 830/50.8	BS	Ilford	1	Shell-Blk	BS monitor view Lower left & right of pair	fine
12000		1.9	F8	BC	G=5430 1200/50.8	"	Ilford	1	Asm Sp-Ktc	T=+61°F set to 386	Fine
12900		"	"	"	"	"	"	"	"	broken 2 pcs seal box,	stuck in, not devd.
35,400	OK	3.93	F0p	"	"	"	Ilford	"	"	some dust of end	
39 columns	OK	5.85	A5p	No wind at all		150u	Ilford	T=4		leaving worm on left at start	
"	"	"	"	"		150u	Ilford	T=8		leaving worm @ end	200 frames
"	"	"	"	"		150u	Ilford	T=5		leaving worm @ end	100 frames
					1200/50.8	BS	Ilford	1		set 386, T=58°F	center 5/18/42

Mon - Tues

Emulsion Batches:

.Hal. e. I.S. - MAY 20

Date MAY 29/30/89... Observers 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.
50632	H0122742	13 58.6	+11 16	20 29	21 25	00 20E	+10 46	Fokk CLEAR	65-65-65
<p>JUNE 1/89 - Flexure tests of Echelle Reticon with Camera temporarily damped in. Tn</p> <p>Tn/SBL, early evening</p> <p>Series starting at 06 hrs East in most cases & as far West as possible for</p> <p>3 hr intervals 6E-6W +70°</p> <p>3 hr intervals 6E-6W +45°</p> <p>6E, 3E, 0hrs, 3W, <5W +20°</p> <p>5<6E, 3E 0hrs, 3W <4W 00°</p>									

Spectr. Temp
Focus... 3.8
Spectr. Temp

Exp. Mtr
P. 3. 1/100

in. Tn

Head

Spectr. Temp. 65.7.....

Dome Temp./Hum. 65.7/50% Humidity Transparency Conditions ... Sl. Hazy ... Cloudy.....

Focus ... 3.86.....

Spectr. Temp.

Dome Temp./Hum. /

82

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
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B 5128	OK	6.8	G8V	BC	1200/508	B5	IIa0-e	1	Asm Sp-Hr	cut short Cloud from SW quickly	wk.
--------	----	-----	-----	----	----------	----	--------	---	-----------	------------------------------------	-----

in. These notes based on my memory the next day. JBL kept detailed Log of Tests.

the declination set at, usually intervals of 3 hrs gradually moved to.

93 Fri./Sat. Page #1 Blk Tour looked at M3 ≈ 2 hrs
 Date 2/3 June 1989 Observers KK-Tn/Yee

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.
OL	Flat (Prompted Flat)							Tung	40
	Comp. [note]							th A	30
2S	HD 8890 (Polaris)	01 22.6	+88 46	22 35	23 03	10 59 E	+89 07		
	Comp			23 12 3				Th A	30
	Comp for α Boo			23 12 34					30
5S	HD 124897 (α Cen)	14 11.1	+19 42	23 18	23 20	01 35 W	+19 10		
	Comp								30
	Comp.								30
8S	HD 137909 (β Cen)	15 23.7	+29 27	23 31	00 38	01 42 W	+29 05		
	Comp.								30
	Comp.								30
11S	HD 172167 (Vega)	18 33.6	+38 41	00 57	00 59	01 07 E	+38 42		
	Comp.								30
	Comp.								30
14S	HD 182640 (δ Aps)	19 20.5	+02 55	01 06	02 27	00 48 E	+03 01		
	Comp.								30

Spectr. Temp.
 Focus.....
 Spectr. Temp.
 Exp. Mtr
 3664
 249
 5029
 247
 239
 4231
 223
 223
 4003
 270
 261
 4589
 199
 4082
 203

Spectr. Temp. Dome Temp./Hum. Transparency Conditions ... *Clear* 86

Focus

Spectr. Temp. Dome Temp./Hum. *60°F* /

Comparison Type Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30	290				Echelle Tilt = 18.50 X Tilt = 0.4321	400H 50H						1509
45	4004	OK	1.9	F8						Asm Sp-kk	T = +0.160	3742
	3840										ADCU = 1852 / 1834 / 1825 / 1825 1826	
											DPCU { 1768, 2054, 3400, 3162	

Note On finding Polaris with lower finder.

After cross hairs centered on Star near zenith, Polaris should be centered on echelle when it is $\approx 1/30$ Radius distance $\approx 1/8"$ to the left and slightly above horizontal x hair. (Toggle switch at left.)

It's easy to reach prism knob from top of steel ladder at 7^h30^m E.

Not so easy at end @ 06 40 East, ~~but~~

97 Tues./Wed.

Date 6/7 Jun 1989 Observers Yee

Emulsion Batches:

IIa0-e IIF May 20
 IIa0-e* IIS May 29
 IIIaJ-efg IIF May 27

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
50633	HD8890 (Polaris)	01 22.6	+88 46	21 42	21 46	11 58 E	+89 07	FeNe Clear	Diff. OUT 80-80
50634	HD8890 (Polaris)	01 22.6	+88 46	21 54	21 57	11 47 E	+89 07	FeNe Clear	80-80
50635	HD 124897 (α Boo)	14 11.1	+19 42	22 20	22 21	00 50 W	+19 11	FeNe Clear	80-80
50636	HD 122742	13 58.6	+11 16	22 44	23 06		+10 46	FeNe Clear	80-
50636	HD 137909 (β CrB)	15 23.7	+29 27	23 25	23 56	01 15 W	+29 06	FeNe Clear	80-80
50636 F	Focus test					00 00	+30 00	FeNe Clear	240/120
	Spot plate 50637T for plate 50635.								
	Spot plate 50638T for plate 50636								

Spectr. Temp
 Focus
 Spectr. Temp
 Exp. Mir
 8 filter
 10196
 10157
 10082
 409
 1535/1545
 1552
 1518

Spectr. Temp. ... 59F

Dome Temp./Hum. 17C./79%.

Transparency Conditions ... Clear ... -hazy- cloudy ... 88.

Focus 384

Dome opened @ 8 & fans turned on @ 20:10

Spectr. Temp. ... 66F

Dome Temp./Hum. 16C./88%.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B filter											
10196	O.K. - good	B = 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK	80-s comp. = 1734	good
10157	O.K. - good	B = 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK		good
10082	O.K. - good	B = 1.29	K2IIIp	BC	G=5430 1200/50.8	BS	IIa0-e ^{OK}	1	std. vel.		good
409	✓ poor	B = 6.8	G8V	BC	G=5430 1200/50.8	BS	IIa0-e	+	Arm Sp - KK	Too hazy - plate not saved.	
15035/15043	poor	B = 3.93	Fop	BC	G=5430 1200/50.8	BS	IIIa Jee fg	1	Arm Sp - KK		sl. fog good
5558 /8968				BC	G=5430 1200/50.8	BS	IIa0-e ^{OK}	1		T=66F, Frame = 384 center vu s 1 Aed	

89 Thur, / Fri.

Echelle test

Emulsion Batches:

Date 8/9 June 1989... Observers JBL-Yee.....

.....

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

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	Flat							Tung	30
	Comp.							Th A	30
	Comp.								40
	Flat (hubb)					00 00	Platform	Tung	12
	Flat (hubb)					00 00	Platform		26
	Flat (hubb)					00 00	Platform		26 29
	Flat					00 00	Platform		25
	Flat					00 00	Platform		60
	Comp.					00 00	Platform		40
RET.DAT backed up as JUN0889.DAT. Repacked & permitted.									

Exp. Mtr

4680

244

at Sat./Sun.

Date 10/11 Jun. 1989 Observers Yee - J. Grider

(RASC member)

Emulsion Batches:
 8m 680 Had-e. I.F. May 29... 156, 0.25
 5m 68' IIIaf - ety. I.A.T. May 27... 34, 0.70, 0.60

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
50637	HD 137909 (β CrB)	15 23.7	+29 27	00 36	00 47	02 20W	+29 05	FeNe Clear	246-OUT 80-80
50637T	Spot calibration for	50635+37, 39				15 min @ 15V	74 D3 3900 4300	D2 4810	
50638	HD 159561 (α Oph)	17 30.3	+12 38	01 22	01 32	01 00 01 00 W	+12 30	FeNe Clear	140-140 140-140
50638T	Spot calibration for	50636 +38 +45				15 min @ 14	17.5V 15V 3900 4300	15V 4810	
50639	HD 186791 (γ Aql)	19 41.5	+10 22	02 43	03 02	00 18W	+10 32	FeNe Clear	80-80
50639F	Focus test			03 23		00 00	+38 48	FeNe Clear	240/120

Spectr. Temp
Focus
Spectr. Temp

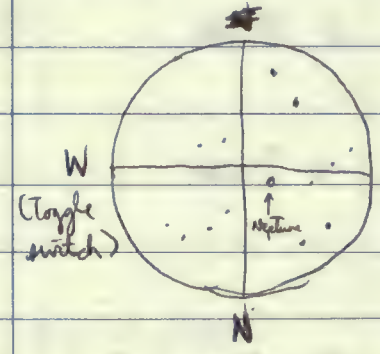
Exp. No. & Filter
10059
35250
10054
5284/762

Spectr. Temp. ... 62F
 Focus ... 385
 Spectr. Temp. ... 386

Dome Temp./Hum. ... 13C/90%
 Dome Temp./Hum. ... 11C/90%

Transparency Conditions ... Clear
 Sat. pub. Trans before, viewed M3.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
6 filter 10059	O.K.	B= 3.93	F0p	BC	G=5430 1200/50.8	BS	IIa0-e IIa0-e	1	Asmp-KK	So-s comp. = 1623	O.K.
35250	O.K.	B= 2.2	A5III	BC	G=5430 1200/50.8	BS	IIIaJ-efg IIIaJ-efg	1	Asmp-KK	Forgot to uncap, redo exp.	sl. fog good
10054	poor	V= 2.72 B=4.24	K3II	BC	G=5430 1200/50.8	BS	IIa0-e	1	std. vel. T=58F Focus = 386	Took dome out to view Saturn & Neptune visually.	good center v.sl. red overall



QB Sun./Mon.

Page 1

Emulsion Batches:

8^h 68^m . IIa.O-e.IFS.. May 27..... 1.62, 0.26

Date 11/12 Jun 1989 Observers KK-Tea

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter Exp.	
	Foucault tests	1989.5	1989.5						
1, 2	α CVn A	12 55.5	+38 22		20 48	55 W			
3, 4	"	"	"		"	"			
5, 6, 9, 10	K Vir	14 12.4	-10 14						
7, 8, 11, 12						15 W			
5, 6	ν UMa	11 17.9	+33 09						
7, 8					21 09	2 ^h 55 W			
	α Boo	14 15	+19 15						
13, 14, 15									
50640	HD 124897 (α Boo)	14 11.1	+19 42	21 51	21 52	00 41 W	+19 11	F ₄₅₀ Ne Clear	80-80 D-off out
50641	HD 8890 (Polaris)	01 22.6	+88 46	22 13	22 15	11 10 E	+89 07	F ₄₅₀ Ne Clear	80-80
50642	HD 8890 (Polaris)	01 22.6	+88 46	22 23	22 25	11 00 E	+89 07	F ₄₅₀ Ne Clear	80-80
50643	HD 137909 (β CrB)	15 23.7	+29 27	22 39	22 43	00 20 W	+29 05	F ₄₅₀ Ne Clear	80-80
50643T	Spot calibration for	50640-44, 46				15 min @ 15V	D4 3900	D3 4300	D2 48-10

Spectr. Tem
Focus
Spectr. Tem
Exp. Mir
6^s, 2^s
5^s, 2^s
5, 5
4, 5
15, 5
15, 5
3
8x0.5
8 filter
12497
11203
11381
10101

Spectr. Temp. ... 67.F.....

Dome Temp./Hum. 17.C/58.2a.

Transparency Conditions Clear.....

Focus 384.....

Dome opened @ 20:15

Spectr. Temp.

Dome Temp./Hum.

Comparison
no Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		V		knife edge	focus	knife	HP-5		miranda	settings were difficult	
5 ^s , 2 ^s		2.90			-2 mm	NS				knife NS means EW diameter tested	
5 ^s , 2 ^s					+2 mm	EW				+ focus = extra focal	
15, 5		4.19			-2	EW					
15, 5					+4	NS					
15, 5		3.48			+5	NS					
15, 5					-3	EW					
		0			+2	NS					
5 x 0.5					0	EW					
B filter											
12497	good	B=1.29	K2IIIp	BC	G=5430 1200/50.8	BS	IIa0-e	1	std. vel.	80-s comp. = 1734	good
11203	good	B=1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp - KK		good
11381	good	B=1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp - KK		good
10101	good	B=3.93	F0p	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp - KK		good
							IIa0-e				good

95 Sun./Mon.

Page 2

Emulsion Batches:

..Ia.0-e.II.8..May.29.....

..III.J:ctg.IA7..May.27....

Date ..11/12 Jun. 1989..... Observers ..KK-Yee.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time		Ending Time		Hour Angle	Declination	Comparison	
				E.S.T.		E.S.T.		End		Type/Filter	Exp.
50644	HD 140538 (γ Ser)	15 39.1	+02 50	23 02	00 42	02 04W	+02 29	FeNe Clear	80-80		
50645	HD 159561 (α Oph)	17 30.3	+12 38	00 58	01 02	00 32W	+12 31	FeNe Clear	140-140		
50646	HD 185144 (σ Dra)	19 32.5	+69 35	03 08	03 28	00 00W	+69 36	FeNe Clear	80-80		
Spot plate 50638T for plate 50645											

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

Exp. Mtr

10005
35388
10030

97. Tues./Wed.

Page 1

Emulsion Batches:

Date 13/14 Jun 1989 Observers Tn-Yee

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
	Plat. (sect on α Boo)						+19 09		30
	Comp.								30
	HD 124897 (α Boo)	14 11.1	+19 42	00 24	00 27	03 26W	+19 09		
	Comp.								30
	Comp.								30
	HD 8890 (Polaris)	01 22.6	+88 46	00 42	01 11	08 52E	+89 07		
	Comp.								30
	Plat. (sect on Polaris)						+89 07		30
	Plat. sect						+89 07		20
	Comp.								30
	HD 172167 (Vega)	18 33.6	+38 41	01 28	01 32	00 10W	+38 42		
	Comp.								30
	HD 172167 (Vega)	18 33.6	+38 41	01 36	01 39	00 17W	+38 42		
	Comp.								30
	HD 172167 (Vega)	18 33.6	+38 41	01 43	01 47	00 25W	+38 42		

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

190

4500

205

364

2600

412

~4600

~3100

395

4011

375

4500

390

4552

Spectr. Temp. Dome Temp./Hum. ^{59F} ~~80%~~ / 80% ...
 Focus
 Spectr. Temp. Dome Temp./Hum.

Transparency Conditions *Clearing* 98"
 Dome opened & filter turned on @ 00:10

Comparison
 Type Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30						W=50 μ H=400 μ	600, 5190 Å				1561
30	190										1133
	4500	B=1.29	K2IIIp						Am Sp - KK std. vel.		1583
30	205										1131
30	364										1388
	2600	B=1.9	F8						Am Sp - KK	T=+0.169	1837
30	412									T=+0.178	1484
30	≈4600										3204 3204
20	≈3100										2033
30	395										1423
	4011	B=0.04	A0II						JBL	Normalized Lower Fincher baseline at zenith	1291
30	375										1427
	4500	B=0.04	A0V						JBL		1640
30	390										1355
	4552	B=0.04	A0V						JBL	T=+0.176. Some clouds.	1787

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions ... *sl. cloudy - cloudy 100*

Focus

Spectr. Temp.

Dome Temp./Hum. *85.8*

Comparison Type Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	<i>30</i>	<i>432</i>						<i>W=50μ H=400μ</i>	<i>600, 5190Å</i>				<i>1339</i>
		<i>337</i>										<i>Note - Image in Low Finder</i>	<i>1186</i>
		<i>1210</i>		<i>B=3.68</i>	<i>F0IV</i>						<i>AmSp - KK</i>	<i>2 1/8 inches x hairs @ sl left of xhair center</i>	<i>349</i>
	<i>30</i>	<i>262</i>										<i>Exp. terminated due to clouds.</i>	<i>1088</i>
	<i>30</i>	<i>≈4000</i>										<i>T=+0.180</i>	<i>2457</i>
	<i>20</i>	<i>≈2650</i>										<i>ADCU = 1546/1472/ 1468/1475</i>	
<i>RET.DAT = 202,880 bytes / Repack Done</i>													

101 Sun-Mon
Date JUNE 18/19. 189.

Tests
Observers KK-T.G./Tm.....

1.46,022
34,099,0.75 Emulsion Batches:
Dev 27 June III - efg. IAT... MAY 27 25 hrs N²⁴H²
Dev 27 June III - efg. IAT... MAY 27 25 hrs N²⁴H²
34,040,0.31 Dev June 27 III - efg. IAT... JUNE 16 25 hrs N²⁴H²

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
50645	Regulus α Leo	10 07.8	+12 01	20 20	20 30	03 45 W	+12 00	3x10 ³	
" "	Arcturus α Boo	14 15.2	+19 14	20 45		00 00		3x10 ³	
"	"					+ 30 ⁰ EW	at -1 30 ⁰ EW	at 0	
50647	HD 124897	14 11.1	+19 42	21 19	21 21	00 40 W	+19 11	FENE Clear	120-120
50647F	while on α Boo			21 30		00 50 W	"	"	240-120
50648	HD 137909	15 23.7	+29 27	21 42	22 06	00 09 W	+29 04	"	90-90
50649	HD 8890	01 22.6	+88 46	22 25	22 32	10 25 E	+89 07	"	80-80
50650	"	"	"	22 36	22 39	10 18 E	"	"	80-80
50650T	Spot Cal'n for 50649-50			15 min @ 15V		D4 D3 02 3900 4300 4810			
50651	HD 112028	12 48.3	+83 58	23 00	00 17	05 03 W	+83 34	FENE Clear	60-60
50651T	Spot Cal'n for 50651, 53			15 min @ D4		17.5V 15V 15V 3900 4300 4810	Reversed		
50652	HD 186791	19 41.5	+10 32	00 29	01 00	01 15 E	+10 33	FENE Clear	140-140
50652F	Focus test			01 03		01 09 E	"	"	140-100
50653	HD 159561	17 30.3	+12 38	01 17	01 30	01 31 W	+12 31	"	140-140
50653T	Spot Cal'n done JUNE 19 @ 23 EST			15 min @ D4		17.5V 15V 15V 3900 4300 4810			

Spectr. Temp
Focus
Spectr. Temp
Exp. Mtr
B filter
41,000
4400/7700
9100/18000
213000
13,100
15380/15200
98070
2500/5500
4000
For plates 50

Spectr. Temp. 69°F
 Focus $383.68, 386.62$
 Spectr. Temp. 67°F

Dome Temp./Hum $67^{\circ}\text{F}/64\%$
 Dome Temp./Hum $63^{\circ}\text{F}/85\%$

Transparency Conditions \dots Fine - sl heavy 102
 Dome opened @ 1945
 Fans on (Unable to do seeing tests due to wire break)

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
knife edge	EW	-13mm	NS	-3mm	in between	-10mm	+ coma W/NS			Dome W SW	
	NS	-3	EW	-1			-3			Dome SSW	
B filter	v. poor										
41,000		1.29	K20p	BC	1200/508	BS	IIIaJ-eg	1	std Vel	120 secs comp = 2250 cuts	sl. High fog
4400/7700				BC	"	BS	IIIaJ-eg	1		69 f SET 383	High fog
21000/18000	5050	3.93	Fop	BC	"	BS	IIIaJ-eg	1	Asm Sp-kk	Lower finder normalized to center for star on BS.	Fine High fog
213000		1.9	F8	"	"	"	IIe0-e	1	" " "	Note when BS centered, image on lower finder was $\sim 3/4$ to the left of center. Toggle switch at the left too.	Fine
13,100		"	"	"	"	"	"	1	" "		Fine
15380											
5380/15200	OK	5.28	B8	BC	G=4238 830/402	BS	IIIaJ-eg*	1	Shell-Bln	Lower Left of pair, BS view Focus Set to 386	Fine
							IIIaJ-eg				
28070	OK	4.01	K3II	BC	830/402	BS	IIIaJ-eg	1	std Vel	Also, the slightly brighter of the pair ideal focus = 2663 Comp prob too strong	Comp. shell. too strong. High fog
2500/6500				"	"	"	"	1		T=67.5 f Set 386	High fog
40 000		2.2	A5III	"	1200/508	BS	IIIaJ-eg*	1	Asm Sp-kk	Set 383	Fine
							IIIaJ-eg				

For plates 50647, 48, 52

103 Fri./Sat.

Date 23/24 Jun. 1989 Observers Tu-Yee

Emulsion Batches: June 8
 8^m 68°, 28 Jun. IIa0-e. IIR. 118 - ~~118~~ 118
 Dev 27 JUNE. IIIaJ-e. IAT. May 27. 26 hrs N2H2

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
50654	HD 122742	13 58.6	+11 16	21 18	23 39	03 28 W	+10 46	FNe clear	Diff. out 60-60-60
50655	HD 124897 (α Boo)	14 11.1	+12 42	23 49	00 05	03 42 W	+19 12	FNe clear	140-140
50656	HD 8890 (Polaris)	01 22.6	+88 46	00 18	00 25	08 15 E	+89 07	FNe clear	80-80
50657	HD 8890 (Polaris)	01 22.6	+88 46	00 33	00 38	08 02 E	+89 07	FNe clear	80-80
FM00096.TN	HD 176844 Seeing test	(2000.0) 19 00.3	+40 41			00 00	+40 37		
FM00097.TN	HD 176844 Seeing test	(2000.0) 19 00.3	+40 41			00 09 W	+40 37		
50658	HD 159561 (α Oph)	17 30.3	+12 38	01 29	01 49	02 07 W	+12 30	FNe clear	140-140
50658F	Focus test			02 00		0 0	"		220-140
FM00098.TN	HD 195047 Seeing test	(2000.0) 20 27.0	+47 55	02 24		00 11 E	+47 50		
	Spot plate 50662T for plates 50654, 56, 57								

Spectr. Tem
 Focus
 Spectr. Tem
 Exp. Nr
 6 filter
 349/2000
 27141
 10121
 10084
 39739 pixels
 31631 pixels
 35138
 3920/
 31631 pixels

June 8
8-1111429
25101442

Spectr. Temp. ... 75 F
Focus 382
Spectr. Temp. .. 71 F

Dome Temp./Hum. +22 C / 69 %
Dome Temp./Hum. +15 C / 97 % *

Transparency Conditions Hazy - cloudy by 2345.
Dome opened @ Fans on 10/1
+ 19 40 EST
Seeing test attempted * But
CED doesn't work tonight. Observed using eyepiece.

Comparison
Filter Exp
Clear 110-140
Clear 140-180
Clear 180-220
Clear 220-260

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B filter 3490/2080	OK	B= 6.8	G8I	BC	G=5430 1200/50.8	BS	IIa0-e	1	AmSp - KK	60-s comp. = 959	wk.
27141	O.K.	B= 1.29	K2IIIp	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	std. vel.	Getting cloudier.	Fine High fog
10121	O.K.	B= 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	AmSp - KK	focus centered, xhair image (x 3/4 to left = x 1/5 above xhair)	fine
10084	O.K.	B= 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	AmSp - KK		fine
39x39 pixels		V= 6.7	M2III			150µ		Int. x 4, 4 frames "N" mode		Dome faced ^{WSW} , wind from calm Guide psg. failed, couldn't move box.	
31x31 pixels		V= 6.7	M2III			150µ		Int. x 4 4 frames "N" mode		Dome faced ^{WSW} , wind from calm Shaky double-box.	
35138	O.K.	B= 2.2	A5III	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	AmSp - KK	Pub. fixed CCD, obs. resumed with camera. Some clouds.	Fine High fog
3920/				"	"	BS	IIIaJ-e	1		T=71 F, Focus = 382	
31x31 pixels		V= 7.9	G5IV			150µ		Int. x 4 4 frames "N" mode	Field down	Dome faced WNW (sl cloudy light NW breeze) or haze	High fog

105 Sat./Sun.

2 Ray Set night hours, look at Mizar

8^m68° Emulsion Batches:
 IIa.d.-e. I.F. June 8... 1.70, 0.31
 IIIa.J.-e. (A7. May 27).....

Date 24/25 Jun. 1989... Observers Th-Yee.....

Plate No.	Object	R.A.		Declination		Starting Time		Ending Time		Hour Angle End	Declination	Comparison	
		1900		1900		E.S.T.		E.S.T.				Type/Filter	Exp.
50658	HD 8890 (Polaris)	01	22.6	+88	46	23	12	23	22	09 13E	+89 07	FeNe Clear	Diff. out 80-80
50660	HD 8890 (Polaris)	01	22.6	+88	46	23	31	23	39	08 57E	+89 07	FeNe Clear	80-80
50661	HD 161096 (β Oph)	17	38.5	+04	37	23	52	00	30	00 44W	+04 30	FeNe Clear	80-80
FM000199.TN	HD 176844 ^{Seeing} test	19	00.3	+40	41					00 25E	+40 38		
FM000200.TN	HD 176844 ^{Seeing} test	19	00.3	+40	41					00 23E	+40 38		
50662	HD 186791 (γ Aql)	19	41.5	+10	22	01	00	01	18	00 32E	+10 32	FeNe Clear	50-50
50662T	Spot calibration for	50654, 56, 57 + 50659-63 + 65, 66								15 min @ 15V	74 33 3900 4300	32 4410	
50663	HD 193322 AB	20	14.8	+40	25	01	24	02	59	00 38W	+40 39	FeNe Clear	35-35-35
50663F	Focus Test										+36 42	"	160/90
FM000202.TN	HD 201750 ^{Seeing} test	21	105	+36	48					00 06W	+36 42		

Spectr. Temp
Focus...
Spectr. Temp

Exp. Mir
= 3/16"

10187

10332

6602

39x39 pixels

31x31 pixels

4477

507/509

2670/4000

31x31 pixels

Spectr. Temp. 76 F Dome Temp./Hum. 22 C / 9(?)

Transparency Conditions Hazy

Focus 381 For G8, 384 For G2

Fans turned on @ 23 25 EST 106
after 2 tours.

Spectr. Temp. 73.5 F Dome Temp./Hum. 19 C / 95%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B filter											
10187	O.K. - poor	B = 1.9	F8	BC	f=5430 1200/50.8	BS	IIa0-e	1	Amp Sp - KK	90-s comp. = 1091	fine
10332	O.K. - poor	B = 1.9	F8	BC	f=5430 1200/50.8	BS	IIa0-e	1	Amp Sp - KK	image in finder = 3/4 left	fine
6602	poor	B = 3.93	K2 III	"	"	BS	IIa0-e	1	std - Vel	clouding in	O.K.
39x39 pixels		V = 6.7	M2 III			150µ		Int. x 4	"N" mode	Dome WSW; wind Finder center normalized	
3(x31) pixels		V = 6.7	M2 II			150µ		Int. x 4	"N" mode	Dome WSW; wind	
4877	O.K. - poor	B = 4.24	K3 II	BC	G = 4235 830/40.2	BS	IIg0-e	1	std vel	50-s comp. = 846 T = 74°F, Set 384	O.K. fine
							IIa0-e				
5007/5009	V. poor	B = 5.94	O9 V	BC	G = 4238 830/40.2	BS	IIa0-e	1	Blu pgn		O.K.
2670/4900				BC	830/40.2	BS	Wireless	1		T = 73.5°F Set = 384	High fog.
3(x31) pixels		V = 7.6	F2 V			150µ		Int. x 4	"N" mode	Dome WSW.	

Spectr. Temp. 80°F
 Focus 382
 Spectr. Temp.

Dome Temp./Hum. $76^{\circ}\text{F}/76\%$
 $21^{\circ}\text{C}/98\%$
 Dome Temp./Hum. $(69^{\circ}\text{F})/98\%$

Transparency Conditions *Haze 5. f. per. to clouds*
 Dome opened & fins turned on @ 20:00
 108

Comparison
 Exp. Filter Exp
 Feile 24-1
 Clear 10/90
 20-20-70
 Clear 10-80
 20-80
 Clear 140-140
 140-140
 Clear 90-90-70
 Clear 240-120

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B filter 2956/5205				BC	$f=4238$ $830/40.2$	BS	IIIaJ-e Int. x4	1		T=80F, Focus=382 X hairs (Finder) normalized center Tel/Temp 25.3, 25.6, 24.1 C 170 windatoll Done West	High fog
	OK	V= 6.7	F2			150 μ		"N" mode			
18023/18032	O.K.	B= 3.93	F0p	BC	G-5430 1200/50.8	BS	IIIaJ-e	1	Asm Sp - KK	90-8 comp. = 1529. Getting condenser Centered on Finder X hairs at end toggle switch at left	fine
10017	O.K. - poor	B= 1.9	F8	BC	$f=5430$ 1200/50.8	BS	IIa0-e	1	Asm Sp - KK	(image 3/4 to left & vs down) in finder view when centered	fine
10059	poor	B= 1.9	F8	BC	$f=5430$ 1200/50.8	BS	IIa0-e	1	Asm Sp - KK	Fairly cloudy.	fine
30130	O.K.	B= 1.29	K2IIIp	BC	$f=5430$ 1200/50.8	BS	IIIaJ-e	1	std. vel.	(vs) above center too Finder image = 1/2 to Right of center	Fine
40153	O.K.	B= 2.2	A5III	"	"	BS	IIIaJ-e	1	Asm Sp - KK	Finder image vs! To Rotator Dec Rotation - X hairs	Fine
		V= 6.5	K0III			150 μ		Int. x4 "N" mode 4 frames		Done W.	
20070/200+7	good	B= 3.68	F0TV	BC	$f=5430$ 1200/50.8	BS	IIIaJ-e	1	Asm Sp - KK		O.K.
4150/6625				BC	$f=5430$ 1200/50.8	BS	IIIaJ-e*	1		T=76F, Focus=382 Done W.	High fog
						150 μ		Int. x4 4 frames "N" mode			

109

Mon-Tues

Eckelle Reticon night

Emulsion Batches:

Date 26/27. JUNE. 1989. Observers Tn.....

Plate No.	Object	R.A.		Declination		Starting Time		Ending Time		Hour Angle		Comparison		Exp. Mtr
		1900	1900	1900	1900	E.S.T.	E.S.T.	End	Declination	Type/Filter	Exp.			
0L	Flat (Bulb) prompted 1st Flat					20 38				0 0	platform	Tung	25 sec	2/3000
1c2.5	Flat (Bulb) internal x2 (Labelled Flat Int)					20 44				"	"			2/3000
F11110 206.TN	HD 135891 ^{seeing} _{test}	15 16.3	²⁰⁰⁰ +37 04			21 00				00 10E	+37 02			
3C	Comp @ α Boo					21 18						ThA clear	30 sec	750
4S	HD 124897	14 11.1	¹⁹⁰⁰ +19 42			21 21	21 27			01 18W	+19 11			6500
5C	Comp											ThA	30 sec	
6S	HD 124897	14 11.1	+19 42			21 31	21 41.25			01 32W	+19 41			4562
7C	Comp at α Boo					21 42.25						ThA	30 sec	774
8-11"	L FLAT (internal) at α Boo pos'n.					(4 flats) 21 48						Tung	30 sec	687
12	Comp at Vega pos'n											ThA	30 sec	687
	Vega	18 36.6	^{1989.5} +38 44			22 00	22 10.15			02 24 E	+38 43			5100
	Comp					22 12						ThA	30 sec	591
	L FLATS x 3 at Vega pos'n					22 13	22 15					Tung	30 sec	
	Comp	n n n				22 18.36						ThA	30	595
	Vega					22 21.39	22 31			02 04 E				5780
	Comp for Vega											ThA	30	629

Spectr. Temp. Dome Temp./Humt ^{77°F} / 69% Transparency Conditions V. Hozy
 Focus Dome opened & Fans turned on @ 20:10 EST
 Spectr. Temp. Dome Temp./Humt 7. 190% 110

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2/3000					x Grating 40319 Actual Set (Echelle tilt 18.15)	400 H 50μ	600, 5190A		(Camera Focus (Fixed?) not altered anyway)	(3.25)	2124
213000, 75000						"				3244, 4201	3244
	OK	7.1V	F8V	Dome SW, mounted		150μ	"n" made Int x 4		[Cass slit view]	Normalized center on X hairs	
750						400 H 50μ					2901
6500		1:29B	K200p		x grating Echelle	50μ			std vel		2445
						"					3008
4562		1:29B	K200p			"			std vel	cloud image on X hairs 81 to right	1820
774						"					3082
5500						"					
										8500, 2724, 2743,	1881
687											2889
5100		0.0V	A5.							more cloud.	2718
591											2944
										10sec 750 7500 4141, 2891, 2904	
595											3015
5780										note Image in Lower Finder 1/2 to	2916
629										the left of center @ 2 hrs East	3026

Spectr. Temp. ... 66.9°F

Dome Temp./Hum. ... 56°F/80%

Transparency Conditions Clear

Focus ... 3.85

FANS OFF @ 0300

Spectr. Temp.

Dome Temp./Hum. 14°C/92%

115

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20069/20052	d.K. - poor	B = 5.19	B3 IV	B3 C	G = 5430 1200/50.8	B3 S	IIIa-Je	1	S13-B1u	90-s comp. = 1722	Wk. one Sl. Str.
							IIIaJ-e				
39x39 pixels	poor	V = 7.6	F2V			150μ	Int. x 4 4 frames	"N" mode		Dome WSW.	
39x39 pixels	poor	V = 7.6	F2V			150μ	Int. x 4 4 frames	"N" mode		Different focus.	
39x39 pixels	poor	V = 7.6	F2V			150μ	Int. x 4 4 frames	"N" mode		Still different focus	

15 Thur. / Fri.

Emulsion Batches:

Date 29/30 Jun. 1989... Observers JBL - Tn/Yee.....

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

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Comparison Exp.
OL	1st Flat (Internal)			19 55		00 00	platform	Tung	15 15
1925	Plats (external)			30 sec, 37		00 00	platform	Tung	
3	Comp.			20 07					15 37
F1000210.7A	HD 135891 ^{seeing} Test	15 16.3	(2000.0) +37 04	20 07		00 20E	+37 04		
4	Comp.			20 59					15
5	HD 124897 (α Boo)	14 11.1	+19 42	21 01	21 11	01 10W	+19 10		
6	Comp.			21 13					15
7	Flat (Internal)								35
8	HD 124897 (α Boo) ^{Comp}	14 11.1	+19 42	21 18					15
9	HD 124897 (α Boo)	14 11.1	+19 42	21 19	21 26	01 26W	+19 10		
10	Comp			21 28					15
11	Flat (external)			21 31					25
12	Comp			21 32					15
135	HD 124897 (α Boo)	14 11.1	+19 42	21 34	21 40	01 40W	+19 10		
4C	Comp.			21 41					15

Exp. Mtr
20089
~~5128~~
1700, 300
317
3.3 weeks
403
20000
385
~~4299~~
~~388~~
382
12000
388
10000
386

117. Thur. / Fri.

Emulsion Batches:

Date 29/30 Jun 1989 Observers JBL - Tu/Yee

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr
	Flat (internal)								15	16092
	Comp			21 44				ThA	15	388
	HD 124897 (α Boo)	14 11.1	+19 42	21 46	21 51	01 51W	+19 10			11000
	Comp.			21 52					15	381
	Flat (internal)			21 53					20	2309
	Comp for Boph			22 20				ThA	15 sec	
	HD 161096 Boph	17 43.0	+4 34	22 21	23 21	00 06E	+04 31			7500
	Comp.			23 24					15	365
	Flat			23 26					10	18107
	Comp for Vega							ThA	15 sec	
	HD 172167 (Vega)	18 36.6	+38 46	23 33	23 39	00 42E	+38 43			10000
	Comp.			23 41					15	420
	Flat								18	34129
	Comp.			23 45					15	424
	HD 172167 (Vega)	18 33.6	+38 41	23 48	23 53	00 28E	+38 43			10000

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions

Clear

Focus

118

Spectr. Temp.

Dome Temp./Hum.

Comparison Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
15	8092											3022
J/A 15	388											1300
	11000		B= 1.29	K2IIIp						std vel		4092
15	381											1269
20	23809											4123
J/A 15		poor	2.77								Focus maximized for max signal on slit ↓	1256
	7500	poor	2.77V	K2III						std vel		3168
15	365											1220
18	18107 27490											2983
J/A 15												1200
	10000		B= 0.04	A0V						JBL	T=+0.150	4561
15	420											1243
18	34129											4707
15	424											1301
	10000		B= 0.04	A0V						JBL		3321

119 Thur./Fri.

Emulsion Batches:

Date 29/30 Jun 1989 ... Observers JBL - Tu/Yee

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.
	Comp.			23 55					15	345
	Flat								10	14198
	Comp.			23 58					15	342
	HD 172167 (Vega)	18 33.6	+38 41	00 00	00 06	00 15 E	+38 43			10000
	Comp.			00 08					15	428
	Flat			00 10					18	28095
	Comp.			00 19					15	397
	HD 187642 (Altair) ^{α Aql}	19 45.9	+08 36	00 26	00 38	00 57 E	+08 46			10000
	Comp.			00 40					15	370
	Flat								15	28857
	Comp.			00 52					15	378
	HD 182640 (SAql)	19 20.5	+02 55	00 56	01 56	00 47 W	+03 01			460
	Comp.			01 57					15	376
	Flat			02 01					10	13432
		RET.DAT backed up as JUN2989.DAT. Repackaged & permitted to VAX.								

Spectr. Temp. Dome Temp./Hum. Transparency Conditions *Clear* *120*

Focus *Broken CASS*

Spectr. Temp. Dome Temp./Hum. *Note set focus. Bus display @ WEST = 2204*

Echelle Ret 7

Comparison
Type Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
15 345											1301
10 14198											2995
15 342											1327
10000		B=0.04	A0V						JBL		4454
15 428											1331
18 28095											4083
15 397											1285
10000		B=0.99	A7V							T=+0.154	4283
15 370											1275
15 28857											4808
15 378											1295
4660		B=3.68	F0IV						Amp - KK		1952
15 376											1172
10 13432											2209

* VAX

23 Fri./Sat.

Date 30 Jun / 1 Jul 1989... Observers Yee.....

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	Flat			21 04		00 00	platform	Tung	15
	Comp.			21 24					15
	HD 124897 (α Boo)	14 11.1	+19 42	21 31	21 34	01 38W	+19 11		
	Comp.			21 36					15
	Flat			21 38					15
	Comp.			21 45					15
	HD 121370 (η Boo)	13 49.9	+18 54	21 53	22 06	02 30W	+18 24		
	Comp			22 08					15
RET. DAT backed up as JUN3089.DAT. Repacked but <u>NOT</u> submitted to VAX.									

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr

23899

367

10000

376

19453

377

1106

379

125 Sat. / Sun.

Date 1/2 Jul 1989 Observers Yee

Emulsion Batches:

5^m68° IIIaJe 1A7 June 16

8^m68° IIaO-e 1I8 June 26 1.82, 0.35

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison		Exp. No.
								Type/Filter	Exp.	
50671	HD 124897 (α Boo)	14 11.1	+19 42	22 08	22 13	02 21W	+19 10	FeNe Clear	Diff OUT 140-140	35222
50672	HD 137909 (β CrB)	15 23.7	+29 27	22 35	23 23	02 20W	+29 06	FeNe Clear	90-90-90	18049/18043
FH000212.TN	HD 176844 ^{Being} test	19 00.3 (2010.0)	+40 41			00 19W	+40 40			31631 para
50673	HD 203064 (68 Cyg)	21 14.7	+43 31	01 27	01 54	01 00E	+43 53	FeNe Clear	90-90	10574
50674	HD 199579	20 53.1	+44 33	02 11	03 18	00 45W	+44 52	FeNe Clear	90-90	10508
50674T	Spot calibration for 50673, 74, 75									
50675	HD 206778 (ε Peg)	21 39.3	+09 25	03 29	03 36	00 16W	+09 48	FeNe Clear	60-60	7637
1616	Sheetograph test - flat field exposure for 150 ^{sec}									
	Plate 50674 Spot plate 50676T for plates 50671, 72									

Spectr. Temp. 76 F.
 Focus 382
 Spectr. Temp. 69 F. for G12.

Dome Temp./Hum. (70 F.) / 65%
 Dome Temp./Hum. (66 F.) / 84%

Transparency Conditions Hazy
 Dome opened & fans turned on @ 20:30
 Time-out to view Saturn & Neptune.

Comparison
 Exp. Filter Exp
 Clear Diff-20
 Clear 140-140
 Clear 90-90-90
 Clear 90-90
 Clear 90-90
 Clear 60-60

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B filter											
35222	O.K.	B=1.29	K2IIIp	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	std. rel.	140-s comp. = 2095	Sl. Str.
18049/18043	O.K. - poor	B=3.93	F0p	BC	G=25430 1200/50.8	BS	IIIaJ-e	1	Amp - KK	Dome WSW	Comp slat exp slat
31x31 pnc do		V=6.7	M2III			150µ	Int. X4 4 frames "N" mode				
10574	O.K.	B=4.98	08V	BC	G=4238 830/40.2	BS	IIa0-e	1	Blu - 0*	90-s comp. = 1689 T=72F, Focus = 383	v. Sl. Str.
10508	O.K. - poor	B=5.97	06V	BC	G=4238 830/40.2	BS	IIa0-e	1	Blu - 0*	Seeing deteriorated.	v. Sl. Str.
							IIa0-e				
7037	O.K.	B=3.98	K2Ib	BC	G=4238 830/40.2	BS	IIa0-e	1	std. rel.		Fine

Spectr. Temp. ... 78 F

Dome Temp./Hum. (73 F) / 62%

Transparency Conditions ... Clear (a bit hazy) ... 128

Focus ... 38 I

Dome opened & fans started on @ 20:40

Spectr. Temp. ... 74 F

Dome Temp./Hum. (68 F) / 80%

CCD failed after dinner break, couldn't do seeing test.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20016/20224	O.K. - poor	B= 5.19	B3IV	BC	f=5430 1200/50.8	BS	IIIaJ-e	1	SB - Blu	80-s comp. = 1416 Seeing gets better in 1st half but deteriorated in 2nd half.	Guiding S1. Str.
30025	O.K. - poor	B= 3.93	K2III	BC	f=5430 1200/50.8	BS	IIIaJ-e	1	std. vel.	Viewed Saturn after exp. Couldn't see much of occultation of 2P Sag.	Fine

133 Thur./Fri.

Date 13/14 Jul 1989. Observers JBL - Yee

Emulsion Batches:

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

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	Plat					00 00	Platform		15
	Plat X 03					00 00	Platform		15
	Plat (bulb) X 4					00 00	Platform		
	Comp.			20 41					15
	Moon			20 44	21 28	01 11W	-25 06		
	Comp.			21 30					15
	Plat			21 32					7
	Plat			21 33					8
	Comp.			21 45					15
	HD 124897 (α Boo)	14 11.1	+19 42	21 51	22 11	03 07W	+19 13		
	Comp.			22 12					15
	Plat			22 13					20
	Plat			22 14					22
	Comp.			22 43					15
	HD 124897 (α Boo)	14 11.1	+19 42	22 50	23 12	04 07W	+19 13		

Exp. Mtr. S
 21900
 21492/21671
 22220 25
 374
 5358
 377
 10659
 12188
 397
 14344
 382
 24238
 26404
 391
 668

Spectr. Temp.

Dome Temp./Hum. 70F./78%..

Transparency Conditions A few clouds... - cloudy... 1:34
Dome opened @ 19:55

Focus

Spectr. Temp.

Dome Temp./Hum.

Comparison Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
15	21900			Echelle tilt = 18.15 X-grating tilt = 0.4328			W=50 μ H=400 μ	600, 590 \AA			T=to.083	4621
15	21892/21811/21818										ADCU=4660/4707/4755	
	22000 25000										ADCU=4435/4464/4456/4447	
15	374											1620
	5358										T=to.110 T mins. before spectrograph hit N. per!	2403
15	377											1781
7	10659											2265
8	12188											2617
15	397											1741
	14344		$\beta = 1.29$	K IIIp							T=to.106. Clouds.	3933
15	382											1658
20	24238											5573
22	26404											6196
15	391							600, 4860 \AA			X-grating tilt = 0.4590	11598
	668		$\beta = 1.29$	K IIIp							Quite cloudy. Not saved	306

135 Fri./Sat.

Emulsion Batches:

Date 14/15 Jul 1989..... Observers KK-Yee.....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Nr.
	Flat			19 56		00 00	Platform		15	25266
	Comp			20 19					15	354
2	Moon			20 21	21 02	00 04E	-27 31			~ 2000
	Comp			21 04					15	350
	Flat			21 08					20	3583
	Comp			21 25					15	362
6	HD(24897 (α Bm))	14 11.1	+19 42	21 30	21 41	02 40W	+19 10			~ 15000
	Comp.			21 43					15	394
	Flat			21 45					30	36148
	Comp.			21 51					15	392
10	HD(24897 (α Bm))	14 11.1	+19 42	21 53	22 00	02 59W	+19 10			7600
	Comp.			22 01					15	289
12	HD HD(24897 (α Bm))	14 11.1	+19 42	22 03	22 08	03 08W	+19 10			7650
	Comp.			22 09					15	327
	Flat X 4			22 10					12	~ 14000

137

Page 2

Emulsion Batches:

Date ..14/15 Jul 1989..... Observers ..K.K.-Yee.....

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.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mir
	Comp. (for Polaris)			22 30					15	338
19	HD 8890 (Polaris)	01 22.6	+88 46	22 33	23 25	07 55 E	+89 07			5105 3
	Comp.			23 26					15	339
	Flat X 2			23 26					12	23326
	Comp.			23 43					15	304
	HD 196524 (β Del)	20 32.9	+14 15	23 46	00 56	00 26 E	+14 27			3000
	Comp.			00 58					15	343
	Flat			00 59					4	7066
	Comp.			01 27					15	345
	HD 206778 (ϵ Peg)	21 39.3	+09 25	01 33	02 16	00 11 E	+09 44			6513
	Comp.			02 18					15	368
	Flat			02 21					7	13978
	RET.DAT backed up as JUL 1489.DAT, repacked but not permitted to VAX.									

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mir

139 Sun./Mon.

Date 16/17 Jul 1989 Observers Yee

Emulsion Batches:
 5^m68° IIIJ-e. IAT June 16
 8^m68° IIIJ-e. IIS June 26
 5^m68° * IIIJ-e. IAT June 28

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. No. & filter
50679	HD 137909 (β CrB)	15 23.7	+29 27	21 22	22 19	02 29W	+29 03	FeNe clear	90-90-90	1752/1754
50679T	Spot calibration for 50679					15 min @ D4	17.5V 15V 3900 4300	15V 4F10		
PH000215.YEE	HD 163075 ^{seeing} test	17 52.0 ^(2000, 0)	+46 39			00 11W	+46 34			3163/3164
50680	HD 8890 (Polaris)	01 22.6	+88 46	23 24	23 29	07 41E	+89 07	FeNe clear	90-90	10064
50681	HD 8890 (Polaris)	01 22.6	+88 46	23 43	23 49	07 21E	+89 07	FeNe clear	90-90	10091
50682	HD 161076 (β Cep)	17 38.5	+04 37	00 26	01 37	03 17W	+04 29	FeNe clear	90-90-90	1501/1503
50682T	Spot calibration for 50682, 83					15 min @ D4	17.5V 15V 3900 4300	15V 4F10		
50683	HD 196524 (β Del)	20 32.9	+14 15	01 55	02 35	01 22W	+14 27	FeNe clear	90-90-90	1608/1651
1616	Spectrograph test - flat field			150 ^{sec}						

Spectr. Temp. 73F

Dome Temp./Hum. (66F) / 74%^{19c}

Transparency Conditions Hazy

Focus 382

Done opened & film turned on @ 20:30

Spectr. Temp. 67F

Dome Temp./Hum. (63F) / 81%^{17c}

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B-filter											
17521/17594	≈ 5"	B=3.93	F0p	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	Arm Sp - KK	90-s comp. = 1546	comp wk exp OK
							IIIaJ-e				UV
31x31 pixels		V=6.5	K0III			150μ	Int. x4 4 panels "N" wide			Done W.	
10064		B=1.9	F8	BC	G=25430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK	T=70F, focus=383	OK
10091		B=1.9	F8	BC	G=25430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK		OK
15018/15023	≈ 5"	B=3.93	K2III	BC	G=5430 1200/50.8	BS	IIIaJ-e*	1	std. vel.		comp wk exp OK
							IIIaJ-e*				V
16018/16051	≈ 4"	B=4.07	F5IV	BC	G=5430 1200/50.8	BS	IIIaJ-e*	1	Arm Sp - KK		comp wk exp OK

14 Mon. / Tues.

Date .17/18 Jul 1989... Observers ..Bln - Yes.....

Emulsion Batches: 8th 68th DaO-e (18 June 26.....

Plate No.	Object	R.A.		Declination		Starting Time		Ending Time		Hour Angle	Declination		Comparison	
		1900	1900	1900	1900	E.S.T.	E.S.T.	End	End	End	Type/Filter	Exp.		
FM000216.YEE	HD 144579 ^{Seeing} _{test}	16 04.6	(+989.5) +39 11					00 40W	+39 07					Diff. out
50684	HD 188001	19 47.9	+18 25	21 38	23 23	01 02E	+18 33				FNe	Clear	80-80-80	
50684 T	Spot calibration for 50684, 81 + ⁵⁰⁶⁸⁴⁻⁸⁷ 50684, 85					15 min @ 15V	D4 D3				D2			
50685	HD 193322 AB	20 14.8	+40 25	23 32	00 45	00 06E	+40 37				FNe	Clear	80-80-80	
50686	HD 199379	20 53.1	+44 33	00 52	02 13	00 45W	+44 48				FNe	Clear	80-80-80	
50687	HD 206778 (E Peg)	21 39.3	+09 25	02 31	02 45	00 28W	+09 44				FNe	Clear	120-120	

Spectr. Temp.
Focus.....
Spectr. Temp.
Exp. Mfr
D-fiber
31x31 pixels
604/6091
606/611
604/6057
10054

Spectr. Temp. ... 74 F
 Focus 384
 Spectr. Temp. ... 70 F

Dome Temp./Hum. ^{21 C} (69 F) / 78 % ..
 Dome Temp./Hum. ^{18 C} (64 F) / 88 % ..

Transparency Conditions ... Clear - hazy
 Dome opened & fans turned on @ 20:15 142

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B filter		V=									
3(x31 pixels)		6.66	dG8			150 μ	Int. x 4 4 frames			Dome WSW.	
6004/6091	$\approx 3''$	B= 6.24	07.5Iaf	BC	f=4238 830/40.2	BS	IIa0-e	1	Bln - 0*	80-s comp. = 1362	Good day? Sl. Str.
							IIa0-e				✓✓
6006/6011		B= 5.94	09II	BC	f=4238 830/40.2	BS	IIa0-e	1	Bln - 0*		Sl. Str.
6004/6051	2-3	B= 5.97	06V	BC	f=4238 830/40.2	BS	IIa0-e	1	Bln - 0*	Intermittent cloud @ 01:00	Sl. Str.
10054	$\approx 3''$	B= 3.98	k2Ib	BC	f=4238 830/40.2	BS	IIa0-e	1	std. vel.		Fine

143 Sun./Mon.

Page 1

PCS obs.

Emulsion Batches:

Date 23/24 Jul 1989. Observers Mki - Yee

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	Flat			21 04	21 23	00 00		Tung A=1/2	1130
	Comp			21 48	21 41			FeA A=1/4	200
	HD 144579	(1989.5) 16 04.6	+39 11	21 45	21 55	01 41W	+39 10		600
	Comp.			21 57				FeA A=1/4	200
	Comp.			22 16				FeA A=1/2	200
	BM Cass. → Wrong star?!	(1986) 00 53.9	+64 01	22 25	22 55	06 13E	+63 59		1800
	Comp.			22 59					200
	Comp.			23 51				FeA A=1/2	200
	HD 192281	(1950) 20 10.8	+40 07	23 56	00 26	00 05W	+40 17		1800
	Comp.			00 28				FeA A=1/2	200
	Comp.			00 39				FeA A=1/2	200
	HD 187691 (O Aql)	(1989.5) 19 50.5	+10 23	00 44	00 54	00 54W	+10 23		600
	Comp.			00 55				FeA A=1/2	200
	Comp.			01 21				FeA A=1/2	200
1637	BM Cas	(1986) 00 53.9	+64 01	01 27	01 41	03 23E	+64 00		1800

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

A

B

100

11

400

10

80

10

380

19

20

3

380

20

300

20

470

25

370

15

330

20

600

25

320

15

300

15

30

5

Spectr. Temp. Dome Temp./Hum. ^{25c} (77F) / 74% ..

Transparency Conditions *Hazy* ..

Focus

Dome opened @ 19:30

1-44

Spectr. Temp. Dome Temp./Hum.

Comp. Filter Exp	Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
RA A=K 130					RC/BS	1800/48°	BS	HQ	IA			
RA A=K 200	109	11							IA			
RA A=K 600	400	10	V=6.66	d68	RC/BS	1800/48°	BS	HQ	IA	std. vel.		
RA A=K 200	80	10							IA			
RA A=K 200	380	19							IA			
RA A=K 1800	20	3	V≈9		RC/BS	1800/48	BS	HQ	IA	Mki	Count as high as 45. R.A. = 00h 54m	
RA A=K 200	380	20							IA			
RA A=K 200	300	20			RC/BS				IA			
RA A=K 1800	470	25	B=7.93	05f	RC/BS	1800/48	BS	HQ	IA	Mki	Count as high as 650.	
RA A=K 200	870	15							IA			
RA A=K 200	330	20							IA			
RA A=K 600	600	25	V=5.11	F8V	RC/BS	1800/48	BS	HQ	IA	std. vel.	Count as high as 1250.	
RA A=K 200	320	15							IA			
RA A=K 200	300	15			RC/BS				IA			
RA A=K 1800	30	5	V≈9		RC/BS	1800/48	BS	HQ	IA	Mki.	Exp. terminated after 840s, probably on wrong star again!!	

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions *Hazy*

Focus

Spectr. Temp.

Dome Temp./Hum. $\frac{22C}{(72F)}$ / $\frac{86\%}{}$

146

Companion
Filter ExpRA
M=K
200

1800

RA
M=K
200RA
M=K
200RA
M=K
200

600

RA
M=K
200RA
M=K
200RA
M=K
200RA
M=K
200

Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
250 15								IA			
130 10		B= 8.28	05	BS/ RC	1800/48	BS	HX	IA	Mki	Very weak signal !! -> Maybe it is a graphics problem with PS/2. Channel is faulty, or software problem?	
280 20								IA			
380 30								IA			
3000 100		V= 4.13	F7V	BS/ RC	1800/48	BS	HX	IA	std. vel.	Count as high as 4100.	
380 15								IA			
2900 100								IA			
700 30								IA			
470 25								IB			

147 Mon./Tues.

Page 1

Emulsion Batches:

Date 24/25 Jul 1989. Observers Fds - Yee

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	Hartmann Test	shift = -0.61 pixels		@ Dome temperature		69°F			
0	Flat				10 sec			Tung.	
2C	Comp.			20 35					15
3S	HD 147394 (2 Her)	16	⁽²⁰⁰⁰⁾ 19.7 +46 18	20 58	21 27	01 02 W	+46 19		
4C	Comp.								15
5C	Comp.			21 34					15
6S	HD 160762 (2 Her)	17	⁽²⁰⁰⁰⁾ 39.5 +46 00	21 36	22 01	00 16 W	+46 00		
7C	Comp.								15
8C	Comp.			22 07					15
9S	HD 180554 (1 Vul)	19	⁽²⁰⁰⁰⁾ 16.2 +21 23	22 10	22 43	00 38 E	+21 22		
10C	Comp.			22 44					15
11C	Comp.			22 53					15
12S	HD 147394 (2 Her)	16	⁽²⁰⁰⁰⁾ 19.7 +46 18	22 55	23 14	02 49 W	+46 19		
13C	Comp			23 15					15
14C	Comp.			23 19					15

Spectr. Temp.
 Focus.....
 Spectr. Temp.
 Exp. Mtr. Se

14453
 1097
 6620
 1391
 6006
 1420
 1431
 2000
 1462
 1451
 3500
 1453
 1439

149 Mon./Tues.

Emulsion Batches:

Date 24/25 Jul 1989 Observers ... Fds. - Yee

.....

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

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison		Exp. Mtr.
								Type/Filter	Exp.	
15S	HD 160762 (2 Her)	17 39.5 ⁽²⁰⁰⁰⁾	+46 00	23 21	23 37	01 52W	446 00			3501
16C	Comp.			23 38					15	1473
17C	Comp			23 43					15	1505
18S	HD 184930 (2 Aql)	19 36.6 ⁽²⁰⁰⁰⁾	-01 17	23 47	00 20	00 38W	-01 20			2530
19C	Comp			00 00 21					15	1450
20C	Comp			00 24					15	1617
21S	HD 180554 (1 Vul)	19 16.2 ⁽²⁰⁰⁰⁾	+21 23	00 29	01 11	01 50 W	+21 22			3000
22C	COMP			01 01 12					15	1617
23C	COMP			01 17					15	1519
24S	HD 206672 (80 Cyg)	21 42.1 ⁽²⁰⁰⁰⁾	+51 11	01 21	01 54	0008 0008 W	+51 06			3000
25C	COMP			01 55					15	1433
26C	COMP			02 01					15	1558
27S	HD 219688 (43 Aqr)	23 17.9 ⁽²⁰⁰⁰⁾	-09 11	02 05	02 35	00 47E	-09 15			1500
28C	Comp			02 36					15	1648
29C	Comp			02 39					15	1623

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions *Clear (a bit hazy)*

Focus

23C

152

Spectr. Temp.

Dome Temp./Hum. (73P) / 85%

Comp. on Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	6000		2.5	B9D						Fds - lpu	T = +0.075	2646
15	1644											1453
15	1568		4.7	B8IV							T = +0.063	1343
	3000		4.7	B8D							T = +0.063	1216
15	1452											1255
15	1406											1177
	3500		3.3	B3III						"	T = +0.052	1285
15	1362											1210
2.2	4500										770, 768, 793, 778	
	6270										1141, 1131, 1133, 1126	
	8510										1566, 1560, 1558, 1542	
	14480										2663, 2669, 2663, 2657	

153 Tues./Wed.

Page 1

Emulsion Batches:

Date 25/26 Jul 1989 Observers Fds - Tu/Yee

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Spectr. Temp

Focus.....

Spectr. Temp

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
0	Flat								
2	Comp.								15
3	HD 120315 (γ UMa)	13	⁽²⁰⁰⁰⁾ 47.5 +49 18	20 36	20 41	02 51W	+49 20		
4	Comp.			20 42					15
5	Comp.			20 46					15
6	HD 147394 (2 Her)	16	⁽²⁰⁰⁰⁾ 19.7 +46 18	20 51	21 13	00 52W	+46 18		
7	comp								15
8	Comp.			21 17					15
9	HD 160762 (2 Her)	17	⁽²⁰⁰⁰⁾ 39.5 +46 00	21 18	21 39	00 03E	+45 59		
10	Comp			21 39					15
11	Comp			21 45					15
12	HD 180554 (1 Vul)	19	⁽²⁰⁰⁰⁾ 16.2 +21 23	21 52	22 39		+21		
13	comp								15
14	comp								15
15	HD 206672 (80 Cyg)	21	⁽²⁰⁰⁰⁾ 42.1 +51 11	22 49	23 29		+51 04		

Exp. Nr

1372

400

1364

1365

3450

1342

1335

3000

1338

1336

1230

Spectr. Temp. Dome Temp./Hum. 25C / 83.6% Transparency Conditions Hazy
 Focus Reading taken from meter inside warm room. Dome opened & fans turned on @ 20:15 154
 Spectr. Temp. Dome Temp./Hum.

Comp. or Type Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						Echelle tilt = 18.18	600/0.4553	W=160μ H=400μ	4922 Å				
15		1372.											1076
		4000		1.9	B3IV						Fds - lpu		1576
15		1364											1100
15		1365											1196
		3450		3.9	B5IV						"	T = +0.025	1303
15		1342											1106
5		1335											1128
		3000		3.8	B3IV						"	T = +0.038	1283
15		1338											1096
15		1336											1116
			OK	4.7	B4IV						"		833
15													1207
15													1208
		1250		4.7	B3IV						"	T = +0.063	531

155 Tues./Wed.

Page 2

Emulsion Batches:

Date . 25./26. Jul. 1989... Observers ... H.S. ... Tu/Yea.....

.....

Plate No.	Object	R.A.		Declination		Starting Time		Ending Time		Hour Angle		Comparison		Exp. Mtr
		1900		1900		E.S.T.		E.S.T.		End	Declination	Type/Filter	Exp.	
16	Comp.					23	32						15	1307
17	Comp.					23	36						15	1502
18	HD 160762 (2 Her)	17	39.5 ⁽²⁰⁰⁰⁾	+46	00	23	38	00	07	02	26W	+45	56	3000
19	Comp					00	08						15	1508
20	Comp					00	18						15	1403
21	HD 218045 (α Peg)	23	04.7 ⁽²⁰⁰⁰⁾	+15	12	00	21	00	37	02	58 E	+15	04	4000
22	Comp					00	39						15	1342
23	COMP												15	1444
24	HD 206672 (80 Cyg)	21	42.1 ⁽²⁰⁰⁰⁾	+51	11	00	51	01	36	00	08 E	+51	04	2915
25	Comp.					01	37						15	1428
26	Comp.					01	41						15	1337
27	HD 11415 (ε Cas)	01	54.4 ⁽²⁰⁰⁰⁾	+63	40	01	44	02	03	03	52 E	+63	32	3000
28	Comp					02	05						15	1326
29	Comp					02	10						15	1355
30	HD 213420 (6 Lac)	22	30.5	+43	07	02	12	02	42	00	10W	+43		3000

Spectr. Temp. Dome Temp./Hum. $24.1^{\circ}\text{C}/82.7\%$

Transparency Conditions *Very hazy* 156°

Focus
Spectr. Temp. Dome Temp./Hum. $23.4^{\circ}\text{C}/80.3\%$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
15 1307											1136
15 1502											1274
3000	3.8	B3IV							Fds-lpu	T = +0.062	1149
15 1508											1253
15 1403											1229
4000	2.5	B9V							"	T = +0.028	1750
15 1342											1238
15 1444											1850
2915	4.7	B3IV							"	T = +0.075	1207
15 1428											1295
15 1337											1266
3000	3.3	B3III							"	T = +0.075 image a 3/4' towards slit below X	1252
15 1326											1299
15 1355											1348
3000	4.5	B2V							"	T = +0.080	1245

157 Tues./Wed.

Emulsion Batches:

Date 25/26 Jul 1989... Observers Fds.-Tn/Yee.....

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
31	Comp.			02 43					15
32	Comp.			02 46					15
33	HD 218045 (α Peg)	23 04.7	(2000) +15 12	02 48	02 55	00 11 E	+15 04		
34	comp			02 56					15
35	Comp.			03 00					15
36	HD 22928 (δ Per)	03 42.6	(2000) +47 47	03 02	03 25	04 18 E	+47		
37	Comp								15
38	Comp.			03 30					15
39 39	HD 224577 (ζ Cas)	23 59.0	(2000) +55 45	03 34	03 38		+55		
39 40	Comp.			03 41					15
40	HD 218045 (α Peg)	23 04.7	(2000) +15 12	03 42	03 49		+15 04		
41	Comp			03 50					15
42	Comp			03 54					15
43	HD 11415 (ϵ Cas)	01 54.4	(2000) +63 40	03 56	04 14	01 40 E	+63 32		
44	Comp			04 15					15

Spectr. Temp
 Focus.....
 Spectr. Temp
 Exp. Mtr
 1400
 1394
 4000
 1415
 1324
 3000
 1278
 1296
 123
 1414
 3000
 1446
 1401
 2500
 1350

161

wed. Thurs

Echelle Ret Obs with new CCD guide camera Emulsion Batches:

Date July 26/27/89. Observers ... Fds. - Tn

.....

Plate No.	Object	R.A. 2000	Declination 1900 2000	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	
0L	Flat									
1C	Comp									
2C	Comp								15s	
3S	HD 20315 η UMa	13 47.5	+49 18	21.02	21 09		W			
4C	Comp	Note - 2 Frames taken of HD 20315 @ \approx 21 15 (slit view and star height slit)							15s	
5C	Comp									
6S	HD 14739 4 γ HER	16 19.7	+46 18	21 26	21 52	01 33 W	+46 17			
7C	Comp								15 sec	
8C	Comp								15	
9S	HD 160762 δ HER	17 39.5	+46 00	21 55	22 40	01 01 W	+45 56			
	Comp								15	
	Comp								15	
	HD 155763 β PRA	17 08.7	+65 43	22 55	23 24	02 18 W	+65 39			
	Comp								15 secs	
	4 Flats @ 4.4s									
	4 Flats @ 3.8									

Spectr. Temp
 Focus.....
 Spectr. Temp
 Exp. Mtr
 1683
 4040
 1382
 ?
 2058
 1296
 1265
 2655
 1099
 1303
 3000
 1320
 1.500
 9980

Spectr. Temp. Dome Temp./Hum. $23.4^{\circ} / 88.4\%$ Transparency Conditions ... *Hazy* \rightarrow *cloudy*
 Focus *On mirror cell sensors* $W = 160\mu = 0.237$ on micrometer
 Spectr. Temp. Dome Temp./Hum. $22.8 / 1.90-1.76$ $H = 100\mu = 0.225$ on micrometer 162

Comparison Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst. <i>Echelle Tilt</i>	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					17.95^*	$600, 4922$	$W=160\mu$ $H=100\mu$	$4922A$		<i>X grating</i> 4553	<i>* Echelle tilt probably bumped during day.</i>	
					17.95^*						<i>18.18 is what is prompted</i>	16
B5	1683				18.18						<i>& Reset here to 18.18.</i>	1339
	4000		1.86	B3V						<i>Fels lpu</i>		1495
15s/15s	1382											1191
	?											1290
	3058		3.9	B5IV						"		1188
15sec	1296											1185
15	1265											1218
	2655		3.5	B3IV							<i>image OK through thin cloud</i>	964
15	1089											1219
15	1323											1257
	3000		3.2	B6III								1120
15sec	1320											1357
	11560											1160, 1144, 1143, 1145
	9980											975, 975, 980, 975

163

THURS - Fri

Emulsion Batches:

Date July 27./28./59. Observers Fds. - Tm

Spectr. Temp

Focus

Spectr. Temp

Plate No.	Object	R.A.		Declination	Starting Time		Ending Time		Hour Angle End	Declination	Comparison		Exp. Mtr
		1900	2000		1900	E.S.T.	E.S.T.	Type/Filter			Exp.		
	Flat (prompted for)												
	HD 120315	13 47.5		+49 18	20 ^h 20	20 27	2 47 W	+49 18					6000
	COMP											15 ^{sec}	
	COMP											15	1060
	HD 147394	16 19.7		+46 18	20 38	20 ^h 54	00 40 W	+46 16					3500
	COMP											15 ^{sec}	1363
	COMP											15	1373
	160762 HD 14739	17 39.5		+46 00	20 59	21 37	00 04 W	+45 57					3000
	COMP											15	
	COMP											15	1398
	HD 120315	13 47.5		+49 18	21 42	21 47	04 06 W	+49 17					6000
100x data file	Comp											15 ^{sec}	1417
	COMP											15	1395 1417
	HD 180554 (100x)	19 16.2		+21 23	21 54	22 29	00 47 E						3000
	COMP											15	1417

Spectr. Temp.

Dome Temp./Hum. $23.4^{\circ}\text{C} / 75.4\%$

Transparency Conditions ... clearing & cooling off. noon

Focus

(Warm Room meter Reading) - Outside catwalk H=800

168

Spectr. Temp.

Dome Temp./Hum.

Exp. Mtr.	Seeing	Mag.	Sp.	Inst. Echelle/T.H	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				18.18	6004922	W 1002 H 4004	4922A				
6000		1.86	B3V						Fds-lpu	Comp time wrong	2500
		1.86	B3V								1345
1360										Time Reset	1332
3500		3.9	B5IV								1371
1363											1314
1373											1343
3000		3.8	B3IV						"	X hair normalized @ Zenith Some cloud NW wind	1295
											1317
1398										(Right on in Dec) (image ~ 1' high tot x hair)	1327
6000		1.86	B3V						"		2413
1417											1342
1395											1402
3000		4.7	B4IV								1178
1414										note: when @ 0115E image low-left of center ie 45° \pm $\frac{1}{2}$ ' at 1st Knot	1395

165

#2

Emulsion Batches:

Date Observers

.....

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

Plate No.	Object	R.A. 1900 2010	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	comp								15
	HR 184930 (iAQR)	1936.6	-1.17	22:58	23:13	00 17E	-1 16		15
	comp								15
	comp								15
	HD 155763 (3DRA)	17 08.7	+65 18	23:23	23:33	02 30W			15
	comp								15
	comp								15
	HD 180554 182568	19 16.2	+21 23	23 42	00 23	01 07 W			15
	comp								15
	comp								15
	HD 206672	21 42.1	+51 11	00 38	01 16		+51 04		15
	comp								15
	comp								15
	HD 213420 (6LH)	22 30.5	+43 07	01 21	01 54		+43 01		15
	comp								15

NEW DATA
 FILE

→ FLAT

Exp. Mtr
 1488
 3002
 1516
 1470
 3006
 1455
 1450
 1415
 3000
 1400
 3000
 1469

167

#3

Emulsion Batches:

Date July 27/28 Observers

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	comp								15
	HD 215045 (α Peg)	23 04.7	+15 12	02 00	02 06	00 50E			
	comp								15
	comp								15
	HD 206472 (80Cγ)	21 42.1	+51 11	02 15	02 52	01 17W	+51 04		
	Comp								15 sec
	comp								15
	HD 22928 δ Per	3 47.6	+47 47	03 01	03 15	04 22E	+47 39		
	comp								15
	comp								
	HD 21720 (ε Per)	clouded out							
	4 Plats @ 3.6								
	4 Plats @ 4.5								
	4 Plats @ 7.1								

+39 54
 +39 54

Spectr. Temp
 Focus
 Spectr. Temp
 Exp. Nr.

1468
 3001
 1536
 15
 3001
 1470
 15
 3007
 1438
 1440

Spectr. Temp. Dome Temp./Hum. $+20.3^{\circ}\text{C} \pm 89.5\%$ Transparency Conditions *Cloud @ 03.30 from N...*

Focus *@ 02 30 EST* *Low and Rapid*

Spectr. Temp. Dome Temp./Hum. $20.0^{\circ}\text{C} \dots 90.9\%$ *@ 04 EST* *Odd cloud 168*

Comparison Type Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
15	1468											1541
	3001		2.5	B39II							<i>@ 0050E</i> <i>1/4 Left = 1/4 below Xhair</i>	1226
15	1536											1543
15												1518
	3001		4.7	B3IV							<i>@ 01 W</i> <i>Image upper Right 1/4 L 1/4</i>	1189
Bsec	1470											1496
15												1479
	3007		3.0	B3III							<i>Image 1.5' Left @ 1/4 below</i> <i>@ 4 22E</i>	1602
15	1438											1466
	1440										<i>Image 1.5' Left \rightarrow 1/4 below</i> <i>@ 04 30E</i>	1481
											<i>1279, 1276, 1267, 1270</i>	
											<i>1594, 1586, 1580, 1577</i>	
											<i>2484, 2479, 2458, 2443</i>	

169 #1
 Fri - Sat
 Date July 28/29/189...

Observers Fds. - Tn.....

Emulsion Batches:

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Plate No.	Object	R.A. 290000	Declination 290000	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mir.
02	Prompted Flat			19 54		01 30 W	+12 09		5secs	
15	Solar Sky Spectrum			19 55	20 15	01 36 W	+12 09			921
2C	comp								15s	1555
3C	comp								15s	
45	HD 120315 (gamma UMa)	13 47.5	+49 18	20 24	20 30	02 51 W	+49 19			6000
5C	comp								15s	1531
6C	comp								15s	1490
7	HD 147394 (gamma HER)	16 19.7	+46 18	20 34	20 53	00 43 W	+			3000
8	comp								15	1442
9	comp.								15	1418
10	HD 160762	17 39.5	+46 00	20 58	21 16	00 14 E	+45 57			3000
11	comp								15	1460
12	comp								15	1508
13	HD 120315	13 47.5	+49 18	21 21	21 27	W	+49 19			6000
14	comp								15	1515

171 Fri, Sat.

Page 2

Emulsion Batches:

Date 28/29 Jul 1989... Observers Fds - Tu

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Spectr. Temp
 Focus
 Spectr. Temp

Plate No.	Object	R.A. 1900 2000	Declination -1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mir
15	Comp.								15	463
16	HD 55763	17 08.7	+65 18	21 31	21 42	00 44 W	+			300
17	Comp								16 sec	1455
18	COMP								15	1445
19	HD 180554 (1 Vnl)	19 16.2	+21 23	21 49	22 29	00 36 E	+21 18			2350
20	Comp								15 sec	
21	COMP								15	
22	HD 120315	13 47.5	+49 18	22 36	22 45	50 17 W				6000
23	comp								15	1577
24	COMP HD 195556 Tu 92									15
25	HD 146556 (450 Vnl)	20 30.2	+48 57	22 50	23 35	00 45 E				2500
New date File 26	comp								15	483
27	FLAT (Prompt)								5s	17300
28	COMP								15	1516
29	HD 180554	19 16.2	+21 23	23 47	00 31	01 25 W	+21 18			3001
30	Comp								15 sec	572

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page # 3

Emulsion Batches:

Date .28.129. July. 89. Observers Fds. Tn.....

.....

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

Plate No.	Object	R.A.	Declination	Starting Time	Ending Time	Hour Angle	Declination	Comparison	
		1900	1900	E.S.T.	E.S.T.	End		Type/Filter	Exp.
31	comp								15s
32	HD 206672 (SO CYG)	2142.1	+51 11	00 37	01 11	00 20 ^E _W			
33	comp								15s
34	comp								15s
35	HD 213420 (GLAC)	22 30.5	+43 07	01 16	01 45	00 35 E			
36	comp								15
37	comp								15
38	HD 224572 (C CAS)	23 59 -	+55 45	01 52	02 32	E			
39	comp								15
40	comp								15
41	HD 206672 (SO CYG)	2142.1	+51 11	02 38	03 06	01 33 ^W			
	comp								15
	comp								15
	HD 22928 s Per	03 42.6	+47 47	03 13		E			
	comp								15
	comp								15

Exp. Mtr
 1525
 3000
 1546
 1538
 3001
 1541
 1544
 2500
 1536
 1533
 3001
 1577
 1526
 3049
 1514
 1531

175

pg 4

Emulsion Batches:

Date Observers

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison		Exp. Mtr
								Type/Filter	Exp.	
	MD24760 ϵ Per	357.9	+40 01	03 28	03 36	04 10 E				3012
	comp								15	1541
	comp								15	1501
	MD1145 ϵ Cas	154.4	+63 40	03 43	03 52	01 51 E				3021
	comp								15	1523
	comp								15	1573
	MD218045 α Peg	2304.7	+15 12	03 57	04 01					3019
	comp								15	1582
	comp								15	1532
	MD24760 ϵ Per	357.9	+40 01	04 08	04 15	03 30 E +				3006
	comp								15	1590
	comp								15	1585
	MD22928 δ Per	0342.6	+47 47	04 18	04 26	E				3014
	comp								15	1596
	4 flats @ 3.1									
	4 flats @ 3.5									
	4 flats @ 4.0									
	4 flats @ 4.7									
		4 flats @ 6.7		2484, 2482, 2477, 2475						

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions *Photometric*

Focus

Spectr. Temp.

Dome Temp./Hum. *15.6 °C H=6756**176*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
3012		2.9	B0.5V						Fds-lpv		1799
1541											1639
1501											1601
3021		3-3	B3III						"		1582
1523											1632
1573											1718
3019		2.5	B9V						"		1392
1582											1715
1532.											1709
3006		2.9	B0.5V						"		1613
1590											1700
1585.		3									1740
3014		3.0	B5III						"		1656
1594											1791
										note - note - last 3 sets of Flats have been backed upon 1st half disk.	
										1075, 1039, 1044, 1041 1252, 1259, 1257, 1257 1459, 1450, 1454, 1449 1829, 1724, 1721, 1755	

177

Sun-Mon

Page #1

Emulsion Batches:

Date July 30/51..... 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		Exp. Mtr
								Type/Filter	Exp.	
	Prompted Flat			18 40	18 40			THA	5s	
	comp								15	1512
	Solar	*		18 44	18 49	1° 50 W	+27 15			10000
	comp								15	1506
	comp			20 09					15 sec	1504
	HD 120315 (gamma)	13 47.5	+49 18	20 11	20 14	2° 40 W				6250
	comp								15	1542
	comp								15	1519
	HD 147394 (eta)	16 19.7	+46 18	20 19	20 28	0 25 W				3005
	comp								15	1481
	comp								15	1440
	MD 160762 (eta)	17 39.5	46 00	20 32	20 40					2996
	comp								15	1461
	comp								15	1465
	MD 155763 (gamma)	17 08.7	65 18 46 40	20 45	20 50	0 02 E				3000
	comp								15	1504

Spectr. Temp

Focus.....

Spectr. Temp

179

pg #2

Emulsion Batches:

Date July 30/31 Observers Fds - Th

Plate No.	Object	R.A. 1900 2000	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	comp								15
	HD 184930 (iAQL)	19 36.6	-1 17	20 59	21 23	01 56 E	-1 23		15
	comp								15
	comp								15
	HD 120315 (gamma)	13 47.5	+49 18	21 28	21 33	04 02 W			15
	comp								15
	comp								15
	HD 147394 (theta)	16 19.7	+46 18	21 38	21 49	01 45 W			15
	comp								15
	comp								15
	HD 155763 (rho)	17 08.7	+65 ⁴³ 40	21 55	22 01	01 09 W	+65 40		15
	comp								15
	comp								15
	HD 180554 (nu)	19 16.2	+21 23	22 06	22 34				15
	comp								15
	comp								15

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr

1453

2097

1463

1576

6002

1559

1562

3005

1555

1541

3109

1424

1475

3001

1501

1561

18

Pg #3

Emulsion Batches:

Date ... 1/6 30/31 Observers ... Fds - Tn

Plate No.	Object	R.A.	Declination	Starting Time	Ending Time	Hour Angle	Declination	Comparison		Exp. Mtr
		29000	20000	E.S.T.	E.S.T.	End		Type/Filter	Exp.	
	MD184930 (L AQL)	19 36.6	-1 18	22 41	23 04	00 16 E				3060
	comp								15	1590
	Prompt flat								3s	
	comp HD 195556									1515
	45 Cyg	20 30.1	+48 57	23 15	23 43	00 30 E				2972
	comp								15	1470
	comp								15	1484
	MD 206672 (80 Cyg)	21 12.1	+51 11	23 48	00 12	01 12 E				3003
	comp								15	1494
	Comp.			00 17					15	1529
	HD 186554 (1 Vul)	19 16.2	+21 23	00 19	00 48	01 50 W	21 20			3008
	comp								15	1596
	comp			00 31					15	1522
	MD184930 (AQL)	19 36.6	-1 18	00 52	01 16	01 58 W	-1 23			3000
	comp								15	1708
	comp			01 20					15	1664

183 Sun. / Mon.

Emulsion Batches:

Date 30/31 Jul 1989 Observers Fds - In/Yee

.....

Plate No.	Object	R.A. 21000	Declination 21000	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr
145	HD 195556 (45 CVG)	20 30.1	+48 57	01 20	01 47	01 35 W				3004
15C	comp								15s	1683
16C	comp			01 50					15s	1662
175	HD 213420 (6 LAC)	22 30.2	+43 07	01 51	02 08	00 03 E	43 00			3001
18C	comp								15	1643
19C	Comp			02 12					15	1653
205 205	HD 206672 (80 CV)	21 42.1	+51 11	02 13	02 31	01 08 W				3010
21C	comp									1543
22C	comp									1555
	HD 224572 (OCAS)	23 59.0	+55 45	02 36	03 06	00 35 E +				3000
	Comp			03 06					15	1534
	Comp			03 09					15	1524
	HD 11415 (E Cas)	01 54.4	+63 40	03 11	03 18	02 17 E +				3007
	comp			03 19					15	1530
	comp			03 22					15	1509
	HD 22928 (δ Per)	3 42.6	+47 47	03 23	03 31					3001

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

Focus

184

Spectr. Temp. Dome Temp./Hum.

Comparison
Time Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
3004		4.9	B2.5IV						Fds-lpv		1439
1683											1730
1662											1764
3001		A.5	B2V						Fds-lpv		1456
1643											1629
1653											1654
3010		4.7	B3IV						Fds-lpv		1367
1543											1585
1555											1651
3000		4.8	B1V						Fds-lpv		1529
1534											1584
1524											1594
3007		3.3	B3III						Fds-lpv		1508
1530											1541
1509											1599
3001		3.0	B5III						Fds-lpv		1473

185 Sun./Mon.

Emulsion Batches:

Date 30/31 Jul 1989 Observers Fds - Tm/Yee

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

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	comp								15
	comp			03 35					15
	HD24760 (E Per)	03 57.9	+40 01	03 36	03 43	03 55 E	+		15
	Comp.			03 44					15
	Comp			03 48					15
	HD224572 (σ Cas)	23 59.0	+55 45	03 50	04 22	00 42 W			15
new DATA 16	COMP								15
	FLAT								5s
	comp								15
	HD218045 (σ Peg)	23 04.7	+15 12	04 26	04 32	1 46 W			15
	comp								15
	4 FLATS @ 4.4								
	4 FLATS @ 4.8								
	4 FLATS @ 5.4								
	4 FLATS @ 11.2								

Exp. Mtr
 1967
 148
 3000
 1500
 1489
 3001
 1522
 1231
 3030
 1621

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions *Clear*

Focus

186

Spectr. Temp.

Dome Temp./Hum. ...18°/59.6.

Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
15	1467											1546
15	1468											1595
	3000	2.9	B0.5V							Fds-lpu		1528
15	1500											1669
15	1489											1647
	3001	4.8	B1V							Fds-lpu	T=+0.08F	1335
15	1522											1655
15	1631											1571
	3030	2.5	B9V							Fds-lpu		1725
15	1621											1315
												1758
											1306, 1300, 1296, 1291	
											1405, 1399, 1395, 1394	
											1561, 1564, 1559, 1558	
											8247, 3237, 3232, 3222	

189

#2

Mon./Tues.

Emulsion Batches:

Date 3 (Jul./1 Aug. 1949) Observers Fds - Tu

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
	HD155763 30RA	1708.17	+65 43	20 48	20 53	00 05 W			
	Comp								15 sec
	Comp			20 58					15
	HD180554 (10u)	1916.2	+21 23	20 59	21 25	01 29 E			
	comp			21 26					15 sec
	comp			21 28					15
	HD184930 (1A9L)	1936.6	-1 17	21 29	21 52	01 22 E			
	comp.								15
	Comp.			21 57					15
	HD195556 45 Cyg	20 30.1	+48 57	21 59	22 30	01 37 E			
	comp			22 31					15
	comp			22 34					15
	HD206672 (50 Cyg)	21 42.1	+51 11	22 37	23 [~] 08	02 12 E			
	Comp								15
	comp								15
	HD180554 (10u)	1916.2	+21 23	23 16	23 46	00 52 W			

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

3015

7351

3000

1391

1468

3006

1515

1409

3000

1415

1403

3002

1352

401

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions *Clear**120*

Focus

Spectr. Temp.

Dome Temp./Hum.

Comparison
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
3015		3.2	B6 III						Fds - lpu		1414
<i>1530</i>											1451
<i>15</i>											1513
7351											
3000		4.7	B4 IV						Fds - lpu	<i>1.2L = 3/4 below @ 145E</i>	1524
<i>1530</i>											1454
1391											
<i>15</i>											1510
1468											
3006		4.4	B5 III						Fds - lpu	<i>1.03' L 1.3 below @ 0130E</i>	1543
<i>15</i>											1540
1515											
<i>5</i>											1485
1409											
3000		4.9	B2.5 IV						Fds - lpu	<i>1.3' L = 1/4 below @ 0230E</i>	1719
<i>15</i>											1505
1415											
<i>5</i>											1535
1403											
3002		4.7	B3 IV						Fds - lpu	<i>1.2' L off 1/2 below @ 240E</i>	1746
<i>5</i>											1527
1362											
<i>5</i>											1537
1401											
427 3000		4.7	B4 IV						Fds - lpu		1379

191 Mon. / Tues.

Page 3

Emulsion Batches:

Date 31. Jul / 1. Aug. 1989... Observers F.S. - 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.
	comp								15s
	comp								15s
	HD 184930 (AOL)	19 36.6	-1 17	23 50	00 24	01 09 W			
	comp								15s
new dub	Flat								5
	comp								15
	HD 195556 (ASCYG)	20 30.1	+48 57	00 35	01 10	01 02 W			
	comp								15
	comp								
	HD 206672 (BUCYG)	21 42.1	+51 11	01 14	01 39	00 18 W			
	comp								
	comp								
	HD 224872 (OCAS)	23 59.0	+55 45	01 47	02 30	01 08 E			
l	comp								15
	comp								15
	HD 213420 (Lac)	22 30.5	+43 07	02 36	03 01	W			

Spectr. Temp
 Focus.....
 Spectr. Temp
 Exp. Mtr
 1418
 1505
 3008
 1597
 13028
 1501
 3000
 1502
 1490
 3009
 1471
 1445
 2078
 1476
 1446
 3007

Spectr. Temp. Dome Temp./Hum ^{19.6°C} 62.7% Transparency Conditions *S. / hazy now*
 Focus
 Spectr. Temp. Dome Temp./Hum.

192

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
15s 1418											1534
15s 1505											1626
3008		4.4	B5 III						Fds - lpu		1345
15s 1597											1705
5 13028											1630
15 1501											1657
3000		4.9	B2.5 IV						Fds - lpu		1426
15 1502											1673
1490											1740
3009		4.7	B3 IV						Fds - lpu		1457
1471											1030
1445											1656
2972		4.8	B1 V						Fds - lpu.		1521
15 1476											1672
1496		4									1744
3007		4.5	B2 V						Fds - lpu.		1346

193

#4

Emulsion Batches:

Date July 31 / Aug 1... Observers F.S. - T.G......

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	comp								15
	comp								15
	HD 11415 (6046)	054.4	+63 40	03 08	03 19				
	comp								15
	comp								15
	HD 206672 (8046)	21 42.1	151 11	03 25	04 02	02 42W			
	comp								15
	comp								15
	HD 22928 SPR	03 42.6	+47 47	04 08	04 18	03 03 E			
	comp								15
	comp								15
	HD 218045 APR	23 04.7	+15 11	04 25	04 30				
	comp								15
	4 flats @ 4.2	1341, 1340, 1327, 1358							
	4 flats @ 4.8	1510, 1497, 1493, 1492							
	4 flats @ 5.5	1710, 1713, 1709, 1704							
	4 flats @ 9.6	3013, 3032, 3025, 3015							

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

Exp. Mtr
 1485
 1478
 3032
 1463
 1499
 3003
 1535
 1454
 3009
 1473
 1585
 3017
 1594

195

#1 Tues-Wed

Emulsion Batches:

Date Aug. 1/2/89..... 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.
0L	Prompted Flat								4s
1C	comp			20 24					15
2S	MD 120315 nuna	13 47.5	+49 18	20 29	20 34	03 12 W			
3C	comp								15
4C	comp								15
5S	HD 147394 (Z Man)	16 17 ^{16.7}	+46 18 ³³	20 40	20 57	01 02 W	+46 16		
6C	Comp								15
7C	comp								15
	MD 160762 (iMa)	17 39.5	+46 00	21 01	21 16	00 02 W			
	comp								
	comp								
	HD 155763 3Dra	17 08.7	+65 43	21 20	21 31	00 48 W	65 41		
	Comp								
	comp								
	HD 180554 Iowl	19 16.2	+21 23	21 39	22 22	00 29 E			

Spectr. Temp. Dome Temp./Hum. $+22^{\circ}\text{C}$ 65.7% Transparency Conditions *part. cloudy*

Focus

Spectr. Temp. Dome Temp./Hum.

196

Companion Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
4s												1099
15	1470											1423
	6000		1.86	B3V						Fds - lpu		
15	1530											1412
15	1500											1462
	3003		3.9	B5IV						Fds - lpu	image renormalized at zenith	1497
15	1416											1323
15	1400											1356
	3006		3.8	B3IV						Fds - lpu		1476
	1452											1356
	1421											1373
	2099		3.2	B6III						Fds - lpu	image $\frac{1}{2}R_c$ $\frac{5}{8}$ above	1399
	1335											1370
	1343											1407
	2462		4.7	B4IV						Fds - lpu	cloudy	1303

201

#2

Emulsion Batches:

Date *Aug 21/3/89*..... Observers *Fds. - Tm*.....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	comp								15
	HD 11415 ECAS	01 544	+63 40	04 17	04 27				
	Comp Friday 4 Aug (daytime)			KK	-SC				15s
1647	diffuse flat		Yellow LED						
1648	" "								

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

Exp. Mtr

1471

3000

1406

15s

203 page #1
Thurs - Fri

Emulsion Batches:

Date . Aug. 3/4 . 189... Observers . Fds . : Tr . : Sas . :

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	Flat.							Jung Halide	5sec
	comp							Th A	15sec
35	HD 120315	13 47.5	+49 18	20 10	20 19	W	+49 17		
	comp								15
	comp								15
55	HD 124897 α Boo	14 15.7	+19 11	20 25	20 27	02 45 W			
	comp								15
	comp								15sec
85	HD 147394 Tau Her	16 ^{16.7} 19.7	+46 ³³ 18	20 33	20 ² 06	01 19 W			
9	comp								15sec
10	comp								15sec
115	HD 155763 γ Dra	17 08.7	+65 43	\approx 21 10	21 33	00 57 W			
12	comp								15
13	comp								15
145	HD 160762 U Her	17 39.6	+46 00	21 39	22 05	W	+45 55		
150	comp								15

Spectr. Temp
Focus
Spectr. Temp
Exp. Mtr
8692
1357
6003
1349
367
6037
1337
1488
1282
3047
1263
1256
3812
1362
1350
3002
1274

205 page #2

Emulsion Batches:

Date Aug 3/4/89..... Observers F.S. - T.M. - J.S.....

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
16C	comp								15
175	HD 195556 KSCYG	20 30.1	148 57	22 11	23 00	01 00E			
18C	comp								15
19C	comp								15
	HD 147394 Tau Her	16 ^{16.7} 19.7	+46. ³³ 78	23 12	23 48	04 00 W			
	comp								
	6 flats @ 2.2	583, 579, 576, 575, 573, 574							
	4 flats @ 4.9	1357, 1350, 1352, 1349							
	4 flats @ 5.6	1548, 1542, 1540, 1535							
now file ->	4 flats @ 5.6	1818, 1814, 1810, 1807							
	4 flats @ 10.6	2902, 2886, 2874, 2847							

Spectr. Temp.
 Focus.....
 Spectr. Temp.
 Exp. Mtr.
 1272
 1100
 1264
 1306
 1457
 1446

Spectr. Temp. Dome Temp./Hum. 25.4°C 80.5% Transparency Conditions *Hazy to cloudy*
 Focus
 Spectr. Temp. Dome Temp./Hum. 12.5°C 81.9% 206

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1272											1169
1100		4.9	B2.5V						Fds - lpr		558
1264											1115
1306										T = -0.619 dewar @ 0345W	1183
1457		3.9	B5LK						Fds - lpr	1.3' R $\frac{1}{2}$ x 50 x 0 x hair	674
1446										Dewar T = -0.376 @ 0125	1290

Spectr. Temp. -30.5°C Dome Temp./Hum. $+24.7^{\circ}\text{C} / 82.9\%$ Transparency Conditions \dots clouds \dots

Focus \dots

208

Spectr. Temp. \dots Dome Temp./Hum. $+24.5^{\circ}\text{C} / 84\%$

Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
600 4100, 80				200 μ fiber, RC	1800/51.3	RS	4900 \AA PCS	A			
200 150								A			
200 10000 in cloud gaps	3-4	5.25	A3 III					B		thru passing heavy cloud	
200 40, 8										dark count 8-9	
500 peak 1400	3?	7.73	G8					A?		focus relay failure - halted	
200 40, 8		7.73	G8								
3600 120, 20								B			
3600 1100, 25								A		Backed up on 5 1/2" floppy	

209 #1
Wed-Thurs

PCS testing / Powered up at approx 20 EST

Emulsion Batches:

Date Aug. 9/10/89..... Observers KK-TL.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
^{spoo} 1657.KKT	1st Strong Comp		19895		20 18		+25	FeA A=1/2	200 _{sc}
58	HD171232	17 322	+25 28	20 19	20 40	00 05W			1200
59	Comp							FeA A=1/4	200
60	Comp - Use this with 1st Strong Comp				20 48			FeA A=1/2	200
61	HD201156 B	21 05.7 ^{02.7/1900}	+33 44	20 55	21 15	02 57E	+34 02		1200
62	HD201156 A	21 02.7	"	20 16	21 35 42	02 30E			1200
63	HD201156 B	"	"	21 38 46	21 55	02 16E			Halted
64	Comp			22 00 56				FeA A=1/2	200
65	Flat			22 11 28	22 41			Tung A=1/4	1800
^{Fm000} 219.TNK	HD187120	19 46.0	+45 43	22 50		00 00	+45 40	"n" mode	
^{Fm000} 220.TNK	61 Cyg	21 05.8						"n" mode	
66	Comp before Cyg X1			23 24				FeA A=1/4	200
67	HDE 226868 Cyg X1	19 58	+35 10	23 26	23 46	01 46 W	+35 08		1200
68	Comp			23 48				FeA A=1/4	200
DT	Eta Aql	19 51.9	100 59						

Spectr. Temp. Dome Temp./Hum. 19.4°C 54%

Transparency Conditions . Fine... at 1st, then cloud...

Focus

Fans on, Dome opened \approx 19:30

Spectr. Temp. Dome Temp./Hum.

Same test setup as for Aug 5/6

210
~~420~~

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
A B		✓									
400/10		7.73	G8	200u Fiber/PC	1800/513	RS	4900A PCS	IA			420
2300/40		7.73	G8					IB	std vel	as high as 3000 in A	
120/9								IA			
490/10								IA			
650/10		8.1	A2	(combined spectrum)		The faint one of a close pair		IA	Asm - tk	some "A comp contamination some cloud"	
2300/25		7.3						IB	"	Lower Right on guiding screen	
650/20		8.1						IA	"	cloud @ 2154: Halted	
450/6								IA		Fans turned off @ 22 EST	
4450/6								IB			
31x31	IntxA			(no wind at all)					Dome WNW	mostly clear again seeing test	
87x87	IntxA			200u Fiber Head View					Dome SE	scale for 200u Head view	
250 5				Counts to 350.				IA	some cloud	The Brighter and southern of pair, page 195 Obs Handbook	
130 8								IB			
									complete cloud		

213

Thurs/Fri

Hartman Mirror Figure tests,

Emulsion Batches:

Date Aug. 10/11/89.....

Observers K.K. - T.n.....

Metal Mask 8' Dia placed at end of Tube during day.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
A	α Oph	17 34.5	+12 34	20 28		00 07E			
	"	"	"	20 48				exps 1 min, 15 secs, 5 secs	
				21 13				exps 20, 10, 20, 10 secs.	
	α Oph on TV system defocused			21 20		Then TV system failed.			
	β Peg	23 03.3	+28 02	22 10		03 50E		2x60, 2x30, 2x15 secs	
	Vega	18 36.6	+38 46	22 19		00 44W		2x5, 2x10 secs	
B	B Her	16 29.8	+21 31	22 27		03 00W		90 sec, + 2x60 secs	
	B Her Repeat	"	"	22 33		03 07W		90 sec, + 2x60 secs	
C	Deneb	20 41.1	+45 15	23 19		00 20E		20x2, 10 secs.	

Spectr. Temp. Dome Temp./Hum. ^{19:35 EST} 21.2°C 72.2% Transparency Conditions Hazy.. to partly cloudy... 2:14
 Focus Dome Shutter opened and fans turned on
 Spectr. Temp. Dome Temp./Hum. 20°C 75% Mirrors uncovered at 19:40 @ 19:20 EST

Companion Type Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
										Focus posn	Light SW breeze	
	Exp with 35mm camera behind normal focus point									2277	Light baffle in place	
5 sec, 5 sec	" " " " " "									2277	with light baffle removed	
10 sec	Hr-L 0 40 at end									2276		
	(one frame, this one, saved)									2483	clanking in Fans turned off @ 21:30	
15 sec	Exp with 35mm camera behind normal focus point									2278		
10 sec										2300		
			2.77	G7							Prob off center: Repeated	
	→ 90, 60, dud, dud, 60 secs									2301	Fans buck on @ 23 EST	
			1.25	A2I4						2302	clear sky	

25

Wed-Thurs

Eclipse of the moon night (Looks good)

Emulsion Batches:

Date Aug. 16-17/89.....

Observers K.K.-Tn.....

HP - slight NW wind

Note - A cold front came in the previous night... proba poor seeing

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
Foucault	K Her	+37° knife	EW 12 ^{mm}	WS 8 1/2 ^{mm}		20W			
	α Boo	14 15 ¹⁹⁸⁶	+19 17	EW 12	NS 3	3 ^h 35 W	+19° 15'		
	n Ser	18 20 ^{1986.5}	-2 54	EW 8	NS 4	approx 00 15 E			
	n Peg	22 42.4	+30 09	EW 9	NS 9	4 ^h 20 E			
	Vega	18 36.5	+38 46			0 0			
	E ¹ :E ⁰ Lyr	18 43.7 ¹⁹⁸⁰	+39 38						
1672	DARK HV off					30,000 sec			
1673	DARK HV off			13 53	21 35	27,700			
1674	Comp						FeA A=1/4	200	
1675	BD+28 3402 Comp	19 346 ^{1989.5}	+29 04	22 24	22 54	06 43 W	+29 05	FeA A=1/4	200
1677	HD 17232 Comp	17 32 ^{1989.5}	+25 28	23 02	23 32	02 28 W	+25 25	FeA A=1/4	1800
1679	Cep X-L HD 226868 Comp	19 580 ^{1989.5}	+35 10	23 45	00 17 35	01 45 W		FeA A=1/4	1800

217 Pg #2

Emulsion Batches:

Date Aug. 16-17, 1989 Observers J.N.

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1681	Cyg X-1 HD 226888 Comp	19 58.0	^{1989.5} +35 10	00 24	00 54	02 24 W	+35 07	Fe A A=1/4	1800 200
1683	HD 223094 Comp	23 45.9	^{1989.5} +28 39	01 07	01 27	00 55 E	+28 35	Fe A A=1/4	1200 200
SP00 1685.TN	BM Cass Comp	00 53.9	^{1986.3} +64 01	01 50	02 19	01 09 E	+63 58	Fe A A=1/4	1800 200
1687	BM Cass	00 53.9	+64 01	02 33	03 02	00 26 E			1800
1688	Comp							Fe A A 1/4	200 sec
1690	DM +61 195 *	01 01.9	^{1988.6} +62 17	03 19	04 20	00 44 W	+62 14		3600
1689	Comp (Fe A at end) HD 23169	03 43.3	+25 42					Fe A A=1/4	200 sec 1800
1691	Flat at end (3 hrs) on timer						ND 2.3 in	YUNG A=1/4	10,800

Spectr. Temp
 Focus
 Spectr. Temp

Exp. Mir

40 15
 30 15
 20 30
 50 20
 70 15
 80 18
 90 16
 50 12
 60 11
 100 35

Spectr. Temp.

Dome Temp./Hum 16.4% / 69.8% H

Transparency Conditions getting cloudy → clear 218

Focus

@ 00 25 EST

It was a nice, dark Red Lunar eclipse

Spectr. Temp.

Dome Temp./Hum. 15% / 85% H @ 05 EST

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
480 15				500u Fiber with RC	1500/51.3	RS	A900A	TA		separate int from previous thin cloud of C ₆₅ X-1	148
030 15								IB			
2600 30		V 7.45	K5111					IA	std/vel	RCGT = -0.9°C Meter Temp 37.8uAmps	598
500 20								IB			
700 15		V 8.82-9.33						IA		I know it's a variable, but I know it's field.	245
								IB			
800 18								IA	safe	Counts to 1050 in A (better seeing?)	
200 10								IB			
300 12		V 9.57	K5V	* This OBS stored out of order & labelled (FEA at end)				IB	KK pgm	Field drawn Counts to 350 on card	251
200 11								IA			
		V 8.75	G2V							Field needed for this one	
900/35								IA			5000

Note Prime mirror light baffle not in place for these observations

219

Thurs - Fri p7#1

Emulsion Batches:

Date 17/18 Aug. 1989... Observers Hdg - 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.	Exp. Mtr
1692	Hartmann Out							Fe A	180	750
1693	Hartmann IN							Fe A	180	900
1694	Flat 3 hours			15 39	18 39	0 0	platform	Tung A 1/4	10800	2:70, 35
1695	Solar Sky			19:06:15	19:36:20				200	300/30
1696	Comp			19 51				Fe A H=1/4	200	230 11
	HR 6355	1989.5 17 04.9	+12 45	20 28	.		W +		1200	1000 40
	Comp							Fe A A 1/4	200	210 10
	HR 6355	1989.5 17 04.9	+12 45	21 02	21 22	01 47 W	+12 42		1200	2000 30
	Comp							Fe A	200	260 15
	HR 7534	1989.5 19 46.0	+33 42	21 34	21 54				1200	1000 20
1702	Comp							Fe A	200	
1703	HR 7534 #2			22 02	22 22				1200	750
1704	Comp							Fe A A 1/4	200	260 12
1705	Cyg X-1 HDE 226868	1989.5 19 58.0	+35 10	22 34	23 34		+35 07			700 15
1706	Comp								200 sec	290 12

221

pg #2

Emulsion Batches:

Date Aug. 17/18/89.... Observers Hdy. - J.L.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.
1707	HD 201156 B	¹⁹⁰⁰ 21 02.7	+33 44	² 23 48	² 00 08	00 29 W			1200	1500 15
1708	Comp								200	225 8
1709	HD 201156 A	21 02.7	+33 44	00 15	00 36	00 57 W	+34 01		1200	230 35
1710	Comp								200	256 7
1711	HD 201156 B	21 02.7	+33 44	00 41	01 01	01 22 W			1200	150 15
1712	Comp							FeA A 1/4	200	250 15
1713	HD 187691	^{1989.5} 19 50.5	+10 23	01 12	01 32	03 ^h 10 ^m W	+10 18		1200	900 10
1714	HD 187691	"	"	01 35	01 56	03 ^h 34 ^m W			1200	750 10
1715	Comp							FeA A 1/4	200	205
1716	HR 7871	^{1989.5} 20 34.8	+14 38	02 04	02 24	03 ^h 20 ^m W	+14 40		1200	1600 25
1717	HR 7871	"	"	02 25	02 45	3 ^h 41 ^m W	+14:40		1200	1700 25
1718	Comp								200?	210 10
1719	HD 222368	^{1989.5} 23 39.4	+5 34	02 58	03 18	1 ^h 08 ^m W	+5° 28		1200	2500 39
1720	Comp								200,	
21	HD 222368	23 39.4	+05 34	03 25	03 45	1 35 W			1200	1500 15

Spectr. Temp. Dome Temp./Hum. *46°C 82% H* Transparency Conditions *clear* *222* ..
 Focus *@ midnight*
 Spectr. Temp. Dome Temp./Hum. *Room He 0000 is 54.7*

Comp. Filter Exp	Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
100	1200 15	seeing OK	8.1	A2	RC	1800/51.3	RS	PES 4900H	IA	Asm Sp KK	channel "B" flickering again counts as high as 1350	
900	235 8	re good							IB			
1000	2300 25	separated	7.3						IB	Asm Sp - KK	counts as high as 3000	
900	258 7	of A = B							IA			
1000	1200 15		8.1	A2					IA	Asm Sp - KK		
1000	220 15								IB			
1000	900 10		3.11	F8V					IB	std vel	some haze	
1000	750 10		3.11	F8V					IA	note, speed contr failed for a while, back now		
1000	205								IB	written		
1000	1600 25		4.68	43V					IA	UBV std		
1000	1700 25		4.68						IB	.. u	another speed contr failure	
1000	210 10								IA		failed again during comp	
1000	2500 39		4.13	F7V					IA	std vel		
1000									IB			
1000	1800 25		4.13	F7V					IA	std vel		

Spectr. Temp. Dome Temp./Hum. Transparency Conditions 224...

Focus

Spectr. Temp. Dome Temp./Hum.

Buffer

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
210 10				RedCd	1800/51.3	RS	4900A	IA			
2300 40		4.29	B8V					IB	UBU ystel	Counts to 2700 in A	
190 6								IA			
2000 25								IB	Hand up at some point	(rads yellow) FITOS lit up (both A & B)	
165 8								IA		OK now	
1700 *	ND 2.3 in							IA	* Signal lower than for 1st Flat	written	
								IB			

Spectr. Temp.

Dome Temp./Hum. $\pm 18^{\circ}\text{C}$... 63%

Transparency Conditions .. Mostly clear..... 22.6

Focus

@ 19 50

Spectr. Temp.

Dome Temp./Hum.

note 1st seeing test since recent primary collimation work

Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				PCS							
31 x 31 p/ids				Box sl unstable		2000 Head			Dome NW	Light ENE breeze	
220 10				Rel Calibrated	1800/51.3	RS	4900 A	IB			
2200 30		V 491	A410					IA	UBV std	written note ND 3 mag in cass hole for bright stars unless noted differently	
220 10								IB		written	
1800 25								IB	UBV std	written	
220 10								IA		written	
250 25		V 5.55	F0 III					IA	UBV std	written	
230 10								IB		written	
1300 30								IA		written	
250 8								IB		written	
8000 120								IA		Cass hole filter removed and image taken out of focus to give \approx 8000 counts in it.	
260 12								IB			
1000 20				Halted at 1800 secs, Counts to 1300				IA		note fainter comp to the North gives \approx 500 counts we almost did it.	
								IA	?? after Halt, IB intended, but IA was it.		
200 20								IA			
250 10								IB			

227 #2

Emulsion Batches:

Date Aug. 18/19/89..... Observers Hdg.-Ta.....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43	HD 201156 B	21 027	+33 44	00 13	00 33	W	+33 59	1200	1800 25
44	Comp							FeA H 1/4 200secs	200 9
	HD 201156 A	21 027	+33 44	00 38	00 58	W		1200	300 50
	Comp							200	200 10
	HD 201156 B			01 04	01 24	01 51 W		1200	1200
	Comp							200	
	HR 7984	26 49.7	+44 01	01 32	01 52	2 35 W		1200	1800 25
50 HD 2	Comp							200secs	
1751	HR 7984	20 49.7	+44 01	01 56	02 16	2 59 W	+43 55	1200	1200
2	Comp							200	220 8
3	HD 22484	03 363	+00 22	02 35	2 55	03 08 E	+00 19	1200	1000 15
1754	Comp							200secs	
	AS CAM	05 28.6	+69 29	03 35	04 05	E	+69 34*	1800	1400 30
	Comp							200	190 9
	AS Cam			04 10	04 40	E		1800	500 25

Spectr. Temp.
 Focus.....
 Spectr. Temp.
 Exp. Nr.
 25
 9
 50
 10
 1200
 25
 8
 15
 30
 9
 25

Spectr. Temp. Dome Temp./Hum. 15°C ... 76.3% Transparency Conditions ... Fine 228 ..

Focus

@ 00:30

Spectr. Temp. Dome Temp./Hum. 14.6°C ... 87.8% at Dawn
Fans turned off at 00:30 EST

Companion Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1200	25		V 8.1	A2	PCS Red Col	1800/51.3	RS	4900A	IA	asm spl tk	nice double very good separation of A:B	
220	9								IB		channel B failed, signal flashing for a while. greens	
3000	50		7.3						IA	written Asm Sp	Then on again	
266	10								IB			
1200									IB	asm spl tk	written	
									IA	written		
1200	25		V 5.04	A4m					IA	written u bug std	ND 1.2 reinserted in Cass hole	
									IB	written		
1200									IB	written		
220	8								IA	written	moon too close to	
1000	15		4.28	F8V					IA	std vel	ND 1.2 still in	
									IB			
1400	30								IB		ND 1.2 removed	
									IB	Hdy may have changed Dec index, or rot It should read = +69 25		
190	9								IA			
500	25								IA			
									IA	why is this exp stronger than 1st one?		

231 Sat

Emulsion Batches:

Date 1989 Aug 19/... Observers K.K. Lagina / Tr.....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1761.HD3	Flat		Set	Afternoon			ND 2.3	Tung A 1/4	10800
1762.HD3	DARK during Tour		Bright lights on etc	20 40	22 40	0	moved		7200
	Dark after Tour		- printed only						
	Dark Sunday night		printed only		Aug 20/21				
1763.HD3	Comp FeA			00 13				FeA A 1/2	2600

Spectr. Temp
 Focus... 22
 Spectr. Temp
 Exp. Mir
 A B
 2330/40
 240/410
 300 10

Spectr. Temp. $38 \approx -28^{\circ}\text{C}$

Dome Temp./Hum. $+20.4^{\circ}\text{C}$ 83%

Transparency Conditions *Cloudy for Tour & Ref. of night. 232*

Focus ... 222

Spectr. Temp.

Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
A B											
2350/40				RC/200 u 1800/53.0		RS	PCS		written Ten	on timer	
210/110				"	"	"	"				
300 10				RC/200u	1800/530	RS	PCS		5200 Angs	written	

#1233 Mon-Tues.: Mirror Figure Tests / PCS observing

Emulsion Batches:

Date ... Aug 21/22/89. Observers KK-Tn.....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1764	Flat (Label="DARK")			19 10	19 41		ND 2.3	Tung H-1/4	1800
1765	Dark, previous night, written Out of focus mask pattern								
	B DRA	17 30.2	+52 19	20 19	20 24	exps Hr Lat end = 00:35W 30 secs, 30, 60, 60			
v	B HER	15 34.2	+26 45	20 31	20 35	02 43W	30, 30, 60, 60		
u	n SER	18 20.8	-2 54	20 43	20 46	00 08 W	-02 50, exps 30, 30, 60, 60		
	B Peg	23 03.3	+28 02	20 51	20 55	04 26 E		30, 30, 60, 60 secs	
1766 (TN)	1st Comp for PCS work							FeA A=1/2	200
1767	HD 171232	18 32.2	+25 29	21 35	21 55	W	+25.34*		1200
1768	Comp							FeA A=1/2	200
1769	HD 171232	"	"	21 59	22 01				120
1770	Comp							FeA 1/2	200
1771	HD 171232	"	"	22 09	22 11				120
1772	HD 171232	"	"			01 26W			30
1773	HD 171232	"	"					FeA 1/2	200
1774	HD 8890 B	01 22.6	+88 46	22 27	22 47	05 58 E	+89 16		1200
1775	Comp								

Spectr. Temp
 Focus.....
 Spectr. Temp
 Exp. Nr
 55
 55
 10
 30
 5
 40
 15
 120
 30
 15
 30
 15

Spectr. Temp. Dome Temp./Hum. $20^{\circ}\text{C} / 67.4\%$ Transparency Conditions *Fine* 2.34
 Focus Dome opened & fans turned on
 Spectr. Temp. Dome Temp./Hum. *Light NW wind* $\approx 19\text{EST}$

Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2600 55			1664	written @ 0739				IB		This file is a BLANK, no counts	
			1765	written @ 0741				IA		This file is NOT a dark primary Light Baffle removed HARTMAN MIRROR figure tests counter part of Aug 10/11 Tests	
Dome NW	2.79	G2Ib		35mm camera			2277				
Dome West	2.23	A0V		" "	"		2275				
Dome SSW	3.26	K0		" "	"		2273				
Dome East	2.92	M25		" "	"						
250 10			Red coil	PCS 1800/530		RS	5200	IA			
3200 50	7.73	G8IV						IB	std vel	* Dec index error changed erroneously previous nights	
260 5								IB			
2400 40	7.73	G8III						IA			
250 15								IA			
	7.73	G8III						IA			
	"	"						IA			
								IA			
850 20								IA	4m Sp-KK	Sky from A ≈ 50 counts in A when B taken off in Dec	
260 15								IB			

#2 235

Emulsion Batches:

Date Aug 21/22 Observers ... T.M. (Stefan checking me)

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1776	HD 213947	22 34.1	+26 33	23 07	23 27	E	+26 38	120052	
1777	Comp						"	200	
1778.TM	HD 213947	22 34.1	+26 33	23 39	23 59	00 50 E	"	1200	
1779.TM	Comp								
1780	HD 213947 (after Reuploading)	(RA reads 22 34.2)		00 45	01 05	00 16 W	+26 38	1200	
1781.TM	Comp	(RA reads 23 48.1)							
1782.TM	HD 223311	23 48.0	-06 26	01 19	01 39	00 22 E	-6 22	1200	
	Comp							Fe A A 1/2	200
	HD 223311	23 48.0	-06 26	01 49	02 09	00 08 W	-6 22	1200	
	Comp at end							Fe A A 1/2	
1786.TM	Flat at end (on timer)			ND 2.3 in place		0 0	platform	Tung H 1/4	10,800

Spectr. Temp
 Focus.....
 Spectr. Temp
 Exp. Mic
 A B
 330 40
 590 12
 730 15
 800 15
 1000 17
 230 12
 400 45
 580 12
 700 45
 Note, exp
 not
 No-A
 T

Spectr. Temp. Dome Temp./Hum. 17.6° 78.56 @ 23° EST Transparency Conditions .. Photometric 236
 Focus
 Spectr. Temp. Dome Temp./Hum. 15.7° 86.7 note attempt to set on BD+28 3402 RA set 19 34.7
 Dec +29 10
 (other settings OK) } same rel but late star there ?

Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1200 3300 40		\checkmark 7.53	K4 III			RS	5200A	IA	std vel	counts as high as <u>4200</u> in A	
1200 290 12								IB			
1200 750 15		\checkmark 7.53	K4 III					IB	std vel	Counts to 1000 in A	
								IA			
1200 800 15		\checkmark 7.53	K4 III					IA	std vel	1st time FIFO Lights Hung up - all on some cloud now	
								IB			
1200 1000 17		\checkmark 6.07	gk4					IA	std vel	thin clouds worsening seeing	
1200 250 12								IB			
1200 4400* 45		\checkmark 6.07	gk4					IA	std vel	* signal in A generally dropped to a 3600 in clouds	
1200 280 12								IB			
1200 2000 45								IA		written @ 01:50 PM Aug 22	

Note, exps 1780.TNI \rightarrow end were since Re upload and "G" plots indicate that upload was not quite right possibly. ie that difference between the "4" levels seems to show:

NO - After having to do another "Runsheet", a semi bomb, things plotted normally. I also provided much more space on mt. III. This caused the "semi" bomb. we had been down to 200K of space.

237

Emulsion Batches:

Date Observers 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.
SP001787.TN2	Long Flat	During	After noon			0 0	platform	3 Hrs	Tung A 1/4
"	"	During	evening	18 42		"	"	3 Hrs	"
<u>Aug 23/24</u> Tn observing (Fans on & dome opened @ 19:10 EST)									
1788	Flat for dead time test						ND=2.0	Tung A 1/4	1800 ^s
1789	" " "						ND=2.0	Tung A=1/8	7200 ^s
1790	Standard flat			15 24	18 24		ND=2.3	Tung A 1/4	10800 ^s
	Comp at start of night.						No ND	Felt H 1/2	200 sec
	HR6385 sat'n test	^{05:4} 17 09:8 +12 ^{1989.5} 45 ³⁵		19 58	20 16	00 57 W	+12 34		1200
	Comp	[note, Intest was HR 6355, but wrong star done] i.e. HR 6385 (corrected entries)							
	HR6385 sat'n test	^{05:4} 17 09:8 +12 ^{1989.5} 45 ³⁵		20 23	20 30	01 20 W			400
	Comp								200
1796.TN2	HD 171232	^{1989.5} 18 32.2 +25 29		20 39	21 09	00 27 W	+25 32		1800
97	Comp								200

Spectr. Tem

Focus.....

Spectr. Tem

Exp. Mtr

A

B

3400

50

1000

1600

200

1200

1800

450

200

150

180

450

200

150

200

1000

35

Spectr. Temp. Dome Temp./Hum. Transparency Conditions 2.38...

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
A ⁵² B											
2000 50					1800/530	RS	5200A	IA			
2000 45					"	"	"	IB		I noticed at 21 EST, that no FIFO lights at all were on.	
<p>It appears from signal level, to have failed at 19:30 screen showed exposure stopped at 9340^{sec} but last command was 'N' ?</p>											
3400,										written	
1000,										written	
1600,					Red Collimator (count rate seems low) 1800/530	RS	5200A	IA		Ch A FIFO lights went out, did H when RI NOT written yet 'written'	TOTAL LOW
200 12								IB		17.8°C / 78.6°F @ 20 EST	
1200 35								IB	unbugged	some cloud NDO6 in beam	
180 20								IA		Ch B FIFO lights @ 2005	
4500 120					counts to 5500 in A / some cloud			IA	CHB FIFO flashing again	NDO6 Removal	
250 20								IA			
1000 35					(counts 460 - 1800 in part of cloud)			IA	std vel	B FIFO lights off again some cloud	
								IB			

239 pg #2 Wed-Thurs

Emulsion Batches:

Date Aug. 23/24/89... Observers T.G. (Stefan Planck 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.
SP001798	HD182572 ^{red}	19 24.5	+11 55	21 30	21 35	00 01 W	+11 59	r	300sec
1799	Comp	Note - Previous exps image slightly defocused to lower count in 'A'						FeA A=V2	200
1800	HD182572	19 24.5	+11 55	21 43	22 07	00 33 W		1800 H/FeA	200sec
1801	Comp							FeA Comp	200sec
1802	HD182572	19 24.5	+11 55	22 21	22 32	00 59 W			600sec
1803	Comp								200
04	HD 187691	19 50.5	+10 23	22 43	22 51	00 52 W			400sec
05	Comp								
06	HD187691#2	19 50.5	+10 23	23 01	23 07		W		300
07	Comp								200
08	HD187691 #3			23 13	23 19		W +10 27		300
09	Comp								200
1810	HD187691 #4			23 24	23 44	01 45 W			1200
1811	Comp	* Note - I noticed that Comp count in 'A' was higher right after strong stellar flares.							200
12	HD187691 #5			23 52	00 53		W		3600

Spectr. Temp
Focus.....
Spectr. Temp
Exp. Mtr
A B
9500 430
930 10
9500 95
210 15
7500 300
5000 120
7500 240
200 15
1000 500
200 30
300 60
200 15
500 22

Spectr. Temp. Dome Temp./Hum. 17°C 81.9.7H Transparency Conditions . Semi cloudy 290
 Focus @ 21 EST
 Spectr. Temp. Dome Temp./Hum. 15.8°C 84.27 @ 00 EST

Comp. Type/Filt. Exp.	Exp. Mtr. A	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
300sec	9500 400		V 5.16	G8II	PCS Red Collimator	800/530	RS	5200A	IA	std vel, saturation Test	Clear; No ND filter	
200	230 10	Counts		7000					IB	CH B FIFO still dead.	some cloud sometimes Red's yellow FIFO lights correct. conform with the green ones.	
200	2500 95	counts		1500					IA	ND inserted into camera from Cass hole		
200	280 15								IB	written		
200	7500 300	poor variable	V 5.16	G8II					IA	ND 0.6 Removal		
200									IB			
400sec	5000 120	poor 30/50	V 5.11	F8V					IA	std vel written cloud no ND		
									IB	written		
300	7500 240								IA	std vel written	Less cloud no ND	
200	260* 15								IB	written		
300	10000 500	most counts							IA	written	clear no ND	
200	240* 20								IB	written		
1200	2300 60	poor							IA	written	ND 0.6 in beam sky clear	
200	200 15								IB			
300	500 22								IA		Then thin cloud/ counts down to 300 by end	
											Channel "B" FIFO off mode @ 0030	

Spectr. Temp. Dome Temp./Hum. Transparency Conditions *Clear again* 242
 Focus
 Spectr. Temp. Dome Temp./Hum. *15.6°C 83% H*

Comparison
 Filter Exp.
 FeA
 1/2 200
 800
 900
 1500
 1/4

Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				PCS R C	1800/530	R5	5200A	1B			
2800	100	7.53	K4III	counts	to 3300	"A"		1A	stlvel	No ND in Beam	
180	15							1B			
1550	60							1A			
								1B			

Spectr. Temp. Dome Temp./Hum. 11.65°C 63-67 Transparency Conditions . Photometric 2.5K.

Focus

Spectr. Temp. Dome Temp./Hum. 14°C 62 @ 23 EST Fans turned off at 22 EST

Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1700 65				PCS Red Col	1800/530	RS	5200A	IA		"B" FIFO not on	
31x31 pinda		7.73	G8M	Red Col	1800/530	RS	[On 200m Fiber head]			Dome SW } steady med N breeze	
230 20				PCS Red Coll	1800/530	RS	5200A	IB	std vel		
1800 40	OK	7.73	G8M	counts	to 3000			IA	std vel	"B" FIFO on now	
								IB			
6000 300		5.16	G8IV	counts	4500 \rightarrow 7500			IA	std vel	VERY clear (slightly defocussed to lower in focus counts would be \approx 10000/sec signal)	
230 15								IB			
3000 70		5.16	G8IV					IA	std vel	ND 0.6 in Beam	
								IB			
450 30		5.16	G8IV	counts	300 - 700			IA	std vel	ND 1.2 in Beam	
								IB			
500 15		9.05	F7V					IA	std vel	(according to recent field no ND of course drawn up)	
								IB			
1100 35		8.13	G8III	counts	to 1600			IA	std vel	fld drawn in pgm book	
210 10								IB			

245 pg #2

Emulsion Batches:

Date Aug. 24/25/89... Observers Jn.....

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	HR 7858	20 33.5	+13 00	23 26	23 32	W	+13 02		400
	Comp							FeA A=1/2	200
	HR 7858			23 41	00 23	W			2400
	Comp								200
	HR 7858			00 30	00 42	0204W			700
	Comp								200
	HD 223094	23 45.9	+28 39	00 50	00 55	00 48 E	+28 44		300
1839.TN3	Comp at end							FeA A=1/2	200
FM 00 223.TN	HD 223094 seen by test			00 58		00 45 E	+28 44	Int x 4	'N' made
1840.TN3	Flat at end	3 hrs	on timer	01 41		0 0	platform	TUNG A=1/4	10,800

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

600 700

200 70

600 30

200 70

600 100

200 15

600 50

200 20

300 30

1500 70

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions *Fine* 246

Focus

Spectr. Temp. Dome Temp./Hum. *13.0°C 61.2%*

Comparison Type Filter Exp.	Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400	6000 200		✓ 5.38	A2K	PCS RC	1800/53.0	RS	5200A	IA	u buy std	no ND \approx 700/pixel Counts 4-8K defocused	
500	230 20								IB			
700	500 20								IA	u buy std	refocused \approx 300/pixel ND 1.2 placed in beam	
50	225 20								IB			
70	2800 100								IA	u buy std	500 cuts/pixel ND 0.6 in beam	
900	220 15								IB			
300	1800 50		✓ 7.45	H5TR					IA	std vel	no ND	
500	230 20								IB			
1000	31x31 pixels				On 200m Fiber Head,							
1000	1800 70				Only 264K left on mkin				IA		Dome South, NO wind at all, note Fans off since 22 EST	

Spectr. Temp.

Dome Temp./Humt 16.5°C / 59%

Transparency Conditions ... Fine 24.8

Focus

Fans on @ 19hr Dome opened too

Spectr. Temp.

Dome Temp./Hum.

WARM Rm Humidity = 46%

Comparison
of Filter Ext

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
A B				PCS Red Col	1800/530	RS	5200A	IB			
31x31 pixels	V 7.73	G8III		Dome SSW, no wind						In DDLDOS, FRAME seems to Grab for 4.5 secs and stop, repeated like a fast waltz, 1234, 1234	
2500 60	V 7.73	G8III		counts to 3100				IA	std vel	no filters	
250								IA			
550 17				counts to 800				IA	std vel	Ch B FIFO light off NP 0.6 in Beam	
190 20								IA			
1600 45	V 9.05	F7D		counts to 1850				IA	std vel	CH B FIFO on now no filters of course	
760 20								IA			
1200 40				counts to 1600				IA	halted by CRASH @ 250 SECS	WRITER	
2400								IA			
3000				counts to 3700				IA	std vel		
200 20								IA			
3000				counts to 3700				IA	std vel		
250 20								IA	st		

249

Fri Sat #2

Emulsion Batches:

Date AUG. 25/26/89... Observers Mki.-Tn.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1855T14	HD 194071	20 222	^{1989.5} +28 13	22 45	23 06	00 44 W	+28 19		1200
1856T14	Comp							Fear A=1/2	200
	BD+28 3402	19 346	^{1989.5} +29 04	23 18	23 58	W	+29 11		2400
	Comp								200
	BD+28 3402	19 346	+29 04	00 05	00 22	02 45 W	+29 11		900
	Comp								200
	BD+17 4708	22 0906	¹⁹⁵⁰ +17 510	00 27	00 57	00 47 W	+18 07		1800
	Comp								200
	B M Cass	00 5355	^{1989.5} +64 00 36	01 10	01 30	01 24 E	+64 08		1200
	Comp								200
	HD 213947	22 341	^{1989.5} +26 33	01 39	01 42	W			300
	Comp								
	HD 213947	22 341	+26 33	01 51	02 11	01 37 W	+26 37		1200
	Comp								200
	HD 2230949	^{03 46.9} 22 309	^{1989.5} 1989.5 +28 39 +28 39	02 19	02 24	00 39 W	+28 46		300

Spectr. Temp. Dome Temp./Hum. 15°C H. 657 Transparency Conditions *Fine - sl. hazy* 250
 Focus
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1100 200 250 A B	650 27	V 8.13	G8III	PCS Red Col	1800/53.0	RS	5200A	IA	std vel	ND 0.6 in beam	
250 15								IA			
2400 300	400	V 9.05	F7V			Counts to 500/sec		IA	std vel	ND 0.6 in beam ^a Note	
900								IA			
900	1200 40	V 9.05	F7V			Counts to 1400		IA	std vel	ND 0.6 Removed same haze	
200								IA			
1500 200	700 25	V 9.42	SdF					IA	Mki-pgm		
200								IA			
200	1000 30							IA		thin cirrus cloud	
200	200 15							IA			
300	3900 200	V 7.53	K4III					IA	std vel		
300	3900 200							IA			
1700 300	750 35	V 7.53	K4III					IA	std vel	ND 0.6 put in,	
300								IA			
300	1000 40	V 7.45	K5III					IA	std vel	ND 0.6 still in	

251

#3

Emulsion Batches:

Date Aug. 25/26/89..... Observers M.Ki. - 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.
1870	Comp							FeAr H=1/2	200
1871	HD19445		^{1987.5} 03 07.8 +26 18	02 41	03 01	02 06 E	+26 24		1200
1872	Comp							FeAr A 1/2	200
1873	HD19445			03 09	03 19	01 48 E			600
1874	Comp								200
1875	G 191B2B		^{1985.5} 05 04.7 +52 49	03 45	04 10	02 55 E	+52 54		1800
1876.TN4	Comp at End							FeAr A 1/2	200
1877.TN4	Flat at end		3 hrs on timer	04		0 0	platform	Tung A=1/4	10,800
Aug 26/27/89 Sat-Sunday - Cloudy									
1878.TN4	Flat During Tour		3 hrs.	19 10		0 0	platform	Tung H=1/4	10,800
* Note signal difference between this and previous Flat. Nothing changed; I just reset timer manually to "on" & opened shutter and Ref. Red. (No change of telescope pos'n at beginning at least.)									

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions *Hazy - cloudy* 252

Focus

Spectr. Temp.

Dome Temp./Hum. *12°C* *73%*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>A B</i>											
<i>225 15</i>				<i>Red Cal</i>	<i>1800/530</i>	<i>RS</i>	<i>5200P</i>	<i>IA</i>			
<i>300 10</i>		<i>8.0</i>	<i>(sdF) PCS</i>		<i>counts to 450</i>			<i>IA</i>	<i>written MKI pgm</i>	<i>NDD 6 in clear sky now</i>	
<i>200 12</i>								<i>IA</i>			
<i>1100 30</i>		<i>8.0</i>	<i>sdF</i>		<i>counts to 1400</i>			<i>TA</i>	<i>MKI pgm</i>	<i>NO removal</i>	
								<i>IA</i>			
<i>50 10</i>		<i>11.80</i>	<i>DANK</i>					<i>IA</i>	<i>MKI pgm</i>	<i>From IRS std manual</i>	
<i>180 15</i>								<i>IA</i>		<i>I see noise outside Ring of Fire</i>	
<i>1400 60</i>								<i>IA</i>	<i>written @ 19 13 EST</i>	<i>Flat signal over lower</i>	
<i>2100 60</i>								<i>IA</i>	<i>Haltel</i>	<i>written @ 21 30</i>	
										<i>Signal up 50% from previous.</i>	

253 2 SAT NIGHT TOUR Saturn + Blinking Nebula

Emulsion Batches:

Sat-Sunday
 Date Aug 26/27.189. Observers ... J.M. / after Tour, mki planning 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.
189	Comp		19895	22 18				FeAr A=1/2	200
80	NGC 6826 <small>Blinking Planetary Nebula</small>	19 44.8	+50 32	22 23	22 43	01 02 W	+50 36	FeAr	1200
81	Comp		19895						
82	HD 194071	20 22.2	+28 13	23 06	23 16	00 57 W	+28 19		600
83	Comp							FeAr A=1/2	200
84	HD 194071 #2	20 22.2	+28 13	23 27	23 58	01 38 W	+28 19		1800
85	Comp		19895						200 1730
86	BD+17 4708	22 11.0	+18 03	00 14	00 43	00 35 W	+18 08		1800
87	Comp							FeAr A=1/2	200 secs
88	Flat at end (on timer)			02 18		00	platform	Tung A=1/4	10,800

Note Flat previous page that applies to this night

Spectr. Temp.
 Focus
 Spectr. Temp.

Dome Temp./Hum. 17.2° 58.8%
 @ 22:40
 Dome Temp./Hum. 16.0°C 60%

Transparency Conditions ... Semi... Cloudy... for...
 TOUR & Observing 254
 Fans off for Sat TOUR
 WARM RM H=45%

Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
220 240	15			PCS	1800/530	RS	5200A	IA	written		
1200 100 → 100 A B		V 9.4						IA	written	thin cloud nice from 2500A	
230	15							IA	written		
600 240	60	V 8.13	G8III	counts to 3000				IA	std vel	some cloud (delete 1st rather x2 done)	
200 250	14							IA			
600 600	20	V 8.13	G8II					IA	std vel	clear here ND 0.6 in place	
240	15							IA			
600 600	20	V 9.42	SDF	H ₂ H ₂ @ 1700 secs (cloudy)				IA	mkii pgm	ND removed. Signal with thin cloud [ND 0.6 x 100]	
240	15							IA		Thick cloud dead of exp	
2200 2200	60	(ND 2.3 in)		counts all (well) > 2000. to 2250/sec				IA	written	≈ 19 EST Sunday	

Also note increased signal for Tungsten and probably FeA.

255

Sun - Mon

Emulsion Batches:

Date AUG 27/28/1989. Observers T.M. (Stefan phoning 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.
1889	FLAT AT START	(cloudy now anyway) STARTED 3hr Flat		19 09	20 07	0 0	* platform	TUNG H=1/4	Half 3470
1890	Fe Ar Comp			20 10				Fe AR A=1/2	
1891	HD171232	18 32.1	+25 29	20 19	20 32	00 07W	+25 34		800
Fm00225.TN	HD171232 <small>seeing test</small>	18 32.1	+25 29	20 35		00 10W	"	Int x4	"N" mode
1892	Fe Ar								
1893	HD171232	18 32.1	+25 29	20 51	20 57	00 32W	+25 34	no ND in beam	400
1894.TN	Fe Ar							Fe Ar H=1/2	200
1895	FLAT (cloudy now) 1 hour intended			21 23	22 24	00 00	platform	TUNG A=1/4	3600
1896	Fe Ar Comp								200 secs
1897	BD+28 3402	14 34.6	+29 04	22 39	22 59	01 31 W	+29 09		1200
1898	Comp			23 00				Fe A H=1/4	200 secs
1899	Flat (cloud again) 1 hr intended			23 17	00 18	0 0	-18°	TUNG A=1/16	3600
1900	Flat (1 hr intended)			00 19	01 19	0 0	-18	TUNG A=1/8	3600
1901	Flat			01 26	01 56	0 0	-18 to platform	TUNG H=1/16	1800
1902	DARK			02 20	05 20				10800

Spectr. Temp. Dome Temp./Hum. *19°C 55.7%* Transparency Conditions *Clearing. Beg. 20 EST*
 Focus Dome *still closed*
 Spectr. Temp. Dome Temp./Hum. *17.2°C 74.6%* *0000 EST* *Dome open & Fans on @ 20 EST 256*
Light SE wind

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
7100 50	Counts	72000	72250	PCS 200 μ Fiber	1800/530	RS	5200A	IA	ND 2.3 still in	*no signal change from this morning exp.	
250 12								IA			
1000 30	7.73	7.73	G8III					IA	std vel	+thin cloud ND 0.6 in beam	
31x31 prot		7.73	G8III	note (DBL DOS)		206 μ Fiber head			4 frames	ND 0.6 removed SE wind, Dome SW some cloud nearby	
270 15								IA			
2700 75		7.73	G8III	Counts to	3700			IA	std vel	variable cloud	
260 15								IA			
2100 60								IA		clearing again	
700 18		9.05	F7V	counts to 800 then down to 500 in cloud				IA	std vel	hazy - cloudy at end	
220 15								IA			
1000 35				Counts all 950 to 1050 (much smaller scatter)				IA	ND 1.2 mounted at top of usual filter holder. This one doesn't go all the way in.		
1000 35							IA				
3500 100				Counts 3400 to 3650 (larger scatter)				IA	ND 1.2 untouched		
7300 220				Counts 7150 to 7900 (even larger scatter)				IA	ND 0.6 inserted	Chen B.F. to light off	
										of course expected to show as a percentage	written

259

Tues - wed

Telescope Hartman mirror figure tests.

Emulsion Batches:

Date 1989 Sept 5/6... Observers ... K.K. - T.G.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
Hartman test	Vega	18 36.5	+38 46	20 35		00 42 W	+38 49	5, 10, 20, 5 secs	
"	B Peg	23 03.1	+28 01	20 47		03 30 E	+28 03	20, 20, 60, 60, 60 secs.	
"	F Altair	19 50.1	+08 50	20 58	21 12	00 06 E	+8 54	5, 10, 10, 20	secs, exps.
						after recentering →		10, 20 secs	
						" "	again	5, 10, 20, 30	
KK-Tn	Repeat of above	Fri - Sat 1989 Sept 8/9 some previous tests had been flawed. This time: "Home posn" mirror removed.							
Hartman test	Vega	18 36.5	+38 46	19 36		00 05 E		5, 10, 20, 20	
	Altair	19 50.1	+08 50	19 48		01 08 E		10, 20, 30, 30	
	B Peg	23 03.1	+28 01		20 05	04 06 E	+28 08	30, 60, 60	
G	"	"	"		20 09	04 00 E		10, 20, 20, 40	
H	α CrB	15 34.2	+26 45		20 24	03 45 W		10, 20, 20, 40, 90	
I	Vega	18 36.5	+38 46	* 21 12	21	01 40 W		5, 10, 20, 40, 80	* Note 15
J	Altair	19 50.1	+08 50	21 33				5, 10, end of plate	

Mon-Tues #1 - More MIRROR Figure Hartman tests
 26/989
 Date Sept. 18/19..... Observers ... H.K. ... T.n. / 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.
K	Vega	18 36.5	+38 46	19 12		0 05 W	+38 49	5 ^s , 10, 10, 20	
L	Altair	19 50.1	+8 50	19 22		00 50 E	+8 53	5, 10, 10, 20	
1908 deleted - prob blank? 1909 was ^{correct} repaired				All are ext <u>TN8</u>					
SP001909. TKB Fe A						00	+	Fe A A=1/2	200
1910	BD +28 3402	19 31.0	+28 51	20 49	21 09	01 09 W	+29 09		1200
1911	Fe A							Fe A A=1/2	200
1912	HD 199305	20 52.3	+61 58	21 33			+62 11		600
1913	Fe A Comp								
1914	HD 215182 BC	22 38.3	+29° 42'	21 47	22 07	00 57 E			1200
1915	Fe A Comp								
1916	HD 216899	22 51.7	+16 02	22 17	22 37				1200
1917	Fe A Comp								200
1918	HD 213947	22 29.9	+26 05	22 53	23 02	00 03 W			600
1919	Fe A Comp								200
1920	HD 213947	22 29.9	+26 05	23 14	23 34	00 35 W			1200

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

Exp Mir

36 15

1200 25

37:17

700/202

50 15

250 10

900 15

200

500 100

300

1200

1200

Spectr. Temp. Dome Temp./Hum. $+18^{\circ}\text{C}/.652$
 Focus
 Spectr. Temp. Dome Temp./Hum.

Transparency Conditions *Fine*
Dome opened & Fans on @ 18:30
no wind at all
 262

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
5 10, 10, 20					Hartmann mask			2415				
5 10, 10, 20								H85				
1/2 900	360 15				PCS Red Cell	200 μ F. beam 1800/530	RS	5200Å	IA		Redone - prob wrote a blank	
1200	1200 25		V 9.05	F7V					IA	std vel		
300	370 17								IB			
600	700/20	2"-3"	8.5	M2V					IB	Asm Sp - KK	check coord! Field?	
									IA			
500	500 15		10	?					IA	Asm Sp KK		
280	280 10								IB			
1200	906 15	3.5	V 9.68	dm25					IA	Asm Sp KK	note - did not see south star in finder	
300									IB			
500	500 100		V 7.53	K4III					IA	std vel	counts to 6000	
300	300								IB			
1200	200 20		V 7.53	K4III					IA	std vel	NDO 0.6 in beam	

Spectr. Temp. Dome Temp./Hum. ^{8.5%} Transparency Conditions *Fine* ^{2.6%}
 Focus
 Spectr. Temp. Dome Temp./Hum. ^{15°C} ^{85% H} *Great Aurora tonight*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
31 x 31 pixels 1200 20		✓ 753	K4III			200μ Fiber	KK took frames. (S made of TV guider faulty)			↓ see Trouble sheet Dome SW, no wind	
300 10	200μ fiber			PCS Red Cell	1800/53°	RS	5200A	1B			
2200 40				"	"	"	"	1A		counts to 2450 noted. written	
15 415				"	"	"	"	1A		Light on floor off	
Backed up to SP001922. 1A											

265

Tues-wed

Pg #1

Emulsion Batches:

Date 1989 Sep 19/20..... Observers Fds-Ta.....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1	Flat (Prompted)							Tung	
2	Comp								10s
3	Vega HD 172167	18 333	+38 41	19 1718	19 25 21	00 27 E			
4	Comp (how slit width)							ThA	10 sec 10 sec
5	Tau Her (HD 147394)	16 167	+46 33	19 40	20 17	02 42 W	+46 23	ThA	
6	Comp								10 sec
7	Comp								10
8	HD 191610 (25CX)	20 05.7	+36 33	20 25	21 26	00 54 W	+36 51		
9	comp								10
10	HD 191610	20 05.7	+36 33	21 31	22 30	01 57 W			
11	comp								10
12	HD 191610	20 05.7	+36 33	22 32	23 27	02 55 W			
13	comp								10
	4 flats @ 7s	8237, 8263, 8262, 8213.							
	4 flats @ 1.35s	1360, 1325, 1367, 1357							
	6 flats @ 1s	958, 935, 908, 964, 961, 950							

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr

See

20000

410

675

2000

2801

2600

267

Wed - Thurs #1

Date 1.9.89. Sep 20/21..... 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.
	Flut (Prompted)								
	4 Flats x 20s	8426, 8901	8476, 8491	at Vega Pos'n					
	Comp.			at Vega Pos'n				Th A	10secs
	Vega HD172167	18 33.3	+38 41	19 03	19 08	00 13 W			
	Comp							Th A	15sec
	Comp at wider slit							n	10sec
	HD172167	18 33.3	+38 41	19 14	19 17	00 23 W			
	Comp								10
	comp								10
	HD 191610 28 CYG	20 05.7	+36 33	19 33	20 23	00 06 W	+36 53		
	COMP								10
	HD191610	20 05.7	+36 33	20 44	21 45	01 30 W			
	comp								10
	HD191610	20 05.7	+36 33	21 48	22 47	02 30 W			
	comp								10

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

20000

30000

37000

1780

2400

424

Spectr. Temp. Dome Temp./Hum. *18.8°C...69%*
 Focus
 Spectr. Temp. Dome Temp./Hum.

Transparency Conditions *sl. hazy*
Dome opens Fans on @ 18 EST *268*

Comparison
 Filter Exp
 10sec
 15sec
 10sec
 10
 10
 10
 10

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst. <i>Fachelle tilt</i>	Grating/ Tilt	Slit	Emulsion λ	P.H.	Program	Remarks	Quality
				<i>17.37</i>	<i>600, 6678</i>	<i>H 400 45μ</i>	<i>6678A</i>		<i>Cross Grating 0.3078</i>	<i>width set .283</i>	
						"					
						"					
<i>20,000</i>		<i>0.04</i>	<i>AOK</i>			"					<i>5456</i>
						"					<i>8978</i>
						<i>H=400 170μ</i>				<i>width set .253</i>	<i>6800</i>
<i>20 000</i>		<i>0.04</i>	<i>AOK</i>			"					<i>8371</i>
											<i>6809</i>
											<i>6824</i>
<i>2700</i>		<i>4.98</i>	<i>B3Ve</i>						<i>28CYG</i>	<i>cloud at end</i>	<i>1152</i>
											<i>6991</i>
<i>1780</i>		<i>4.98</i>	<i>B3Ve</i>							<i>Thick cloud \therefore Restarted</i>	<i>832</i>
											<i>6945</i>
<i>2400</i>		<i>4.98</i>	<i>B3Ve</i>							<i>Focus \therefore slant bias when image sl Right at slit</i>	<i>934</i>
<i>624</i>										<i>previous bias tended to be when image sl Left</i>	<i>6972</i>

269 #12
Wed-Thurs

49

Emulsion Batches:

Date 1989 Sep 20/21... Observers Fds Tz.....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	Comp after top up of dewar			22 56					
	HD 191610	20 05.7	+36 33	22 57	23 56	03 40 W			
	comp								10s
	4 flats @ 2s	1197, 1167, 1170, 1161							
	4 flats @ 1.7s	968, 976, 969, 946							
	4 flats @ 13.2s	8465, 8442, 8458, 8505.							
	COMP								10s
	HD 24760 (E Per)	3 51 08	+39 43	00 22	00 34	03 41 E			
	Comp								10s
	COMP								10s
	HD 22928 (6 Per)	3 35 48	+47 28	00 42	00 59	03 01 E +47 48			
	COMP								10s
	comp								10
	HD 35497 (BTAW)	5 19 58	+28 31	01 08	01 15				
	COMP								10
	COMP								10

} telescope in position of last
Stellar exp.

pp 2
Spectr. Temp
Focus
Spectr. Temp
Exp. Mtr
1830
599
660
4000
650
5000
650
642
5000

273

#4

Emulsion Batches:

Date .1989. Sep 20/21... Observers ... Fds-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.
	Comp							Th A	10s
	HD 35497 β Tau	5 19 58	+28 31	04 02	04 06	01 38 E			
	comp								10s
	comp								10
	HD 52973 (3 Gem)	6 58 11	+20 43	04 12	04 40	02 40 E			
	comp								10
	comp								
	HD 44990 (T Mon)	6 19 49	+7 08	04 46	05 30	01 11 E	+07 09		
	comp								10
	4 flats @ 1s	614, 622, 616, 594							
	4 flats @ 2.9	2042, 2012, 1999, 2021							
	Comp								
	HD 52973	06 58 11	+20 43	04 12		E			

275

THURS - Fri #1

Emulsion Batches:

Date .1989. Sep. 21/22... 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
	Flat (prompted)			18 30		2 W	30°	Tung	5
	COMP							THA	10
	HD 187929 (MAGW)	19 47 23	+0 45	18 57	19 31	00 38 E	+01 03		10
	COMP								10
	4 Flats @ 1s	737, 722, 744, 716			Same posn as HD 187929		n		
	COMP	- slit narrowed to 45 μm → .283 on dial							15s
	HD 172167 (vega)	18 33.3	+38 41	19 39	19 46	00 54 W			15s
	COMP								15s
	4 Flats @ for Vega	5134, 5204, 5222, 5275						Tung	
	Comp for 28 egg							THA	10sa
	HD 191610 28 egg	20 05.7	+36 33	20 06	20 46	00 24 W	+36 51		10
	COMP								10
	HD 191610	20 05.7	+36 33	20 48	21 41	01 19 W			10s
	Comp								10s
	4 Flats		330, 347, 322, 449					Tung	0.5 sec
				21/58					

 for #1
 Spectr. Temp.
 Focus.....
 Spectr. Temp.....

Exp. Mtr. Secs.

pg H1 Sept 8/22

Mirror Cell

Spectr. Temp.

Dome Temp./Hum.

719.5 55.76

Transparency Conditions *Cirrus Cloud coming* 2.76

Focus

Dome opened 18:15 Fans on

Spectr. Temp.

Dome Temp./Hum.

complete overcast by 21 30

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst. <i>Echelle tilt</i>	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
5				18.34	600, 6083	H=400 120u	6083A		X grating set @ 0.3571		3892
10	630	✓				n					678
	800	3.5v	F6Db			n				Some cloud	717
10	646					n					682
						n					
15s						H=400 45u	6083A				791
		✓				v	n			semi cloudy	5186
10000		0.04	A0V			v	n				
15s						v	n				786
						n	n				
30s				17.37	600, 6678	H=400 120u	6678A		X grating set @ 0.30815	Semi cloudy	6893
		✓								Clouded, no photons since 20:39.	422
		4.98	B3Ve								6693
10	564	✓								part cloudy (complete)	313
		4.98	B3Ve							@ 21:25	6659

279

py #1

Sun - Mon

Emulsion Batches:

Date . Sept. 24/25/89 Observers . F.d.s. - T.a.....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1	Flat Prompted							Tung	
	Comp							Th A	
	HD 172167 Vega	18 33.3	+38 41	18 50	18 54	00 14 W			Amin
	Comp								
	2 Flats	at Vega posn.							
	ADCU 6029, 6107								2x2605
	ADCU COMP	slit widened to 10 pixels				.242 = 180 μm			10s
	HD 147394 Her	16 16 44	+46 33	19 18	19 38	03 15 W			
	COMP								10s
	Comp								10s
	HD 28978 EAU	20 42 16	-9 52	19 45	19 59	00 50 E	-9 28		
	comp								10s
	Comp								10s
	HD 22928 SPER	03 35.8	+47 28	20 16	20 46	07 10 E	+47 46		
	Comp								10
	comp								10

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr

Scan

25032

5000

941

950

3000

5348

281

pg 42

Sun-Mon

Date 1989 Sept 24/25 Observers Fds-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.	
	HD 24760 e Per	3 51 08	+39 43	21 00	21 35	06 30 E	+40 01			
	Comp *	not moved telescope 1/2 hr east to reach prism								10
	comp									10
	Comp	at new Region								10 sec
	Vega HD 172167	18 333	+38 41	22 16	22 19	03 39 W	+38 57		10 sec	
	Comp									10
	comp									10
	HD 25978	20 423	+9 52	22 25	22 55	02 06 W	-9 29		50 sec	
	Comp									10
	comp									10
	HD 16970	02 381	+2 49	23 04	23 35	03 09 E	+		5002	
	comp									10
	comp									10
	HD 22928 s Per	03 358	+47 28	23 41	23 58	03 47 E			5016	
	comp									10 sec
	comp									10 sec

283

#3
Sun - Mon

Emulsion Batches:

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Date 1989 Sept. 24/25.. Observers ... Fds. - Tr.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
	HD 24760 E Per	03 51.1	+39 43	00 03	00 18	03 42 E	+40 01		
	Comp								10
	comp								10
	HD 35497	05 20.0	+28 31	00 25	00 32	04 56 E	+28 38		
	comp								10
	4 flats @ 19.5 s	1476, 1451,	1443, 1450						
	4 flats @ 24 s	1801, 1809,	1814, 1809						
	4 flats @ 15 s	1127, 1129,	1146, 1141						
	2 flats @ 68 s.	5146, 5092							
	COMP							THA	105
	HR 16970	02 38.1	+02 49	01 18	01 37	01 07 E	+3 14		
	Comp								10
	comp								10
	HD 22928 S Per	03 35.8	+ 47 28	01 44	01 54	01 50 E	+47 46		
	comp								10
	comp								10

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr

5000

850

5000

5050

5003

287

#5

Emulsion Batches:

Date ..1989 Sept 24/25... Observers F.d.s. - T.m.....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	HD 35497 β TAU	05 19 58	+28 31	03 33	03 36				
	comp								10
	<u>4 flats @ 15.5 s</u>	<u>1530, 1538, 1520, 1522</u>							10
	comp								10
	HD 16970	02 38.1	+02 49	03 55	04 08	01 24W			
	comp								10
	comp								10
	HD 22928 δ Per	03 35.8	+47 28	04 12	04 18	00 34W			
	comp								10
	comp								
	HD 24760 ϵ Per	03 51.1	+39 43	04 22	04 27	00 27W			
	comp								10
	comp								10
	HD 35497 β TAU	05 19 58	+28 31	04 31	04 33				
	comp								10

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr

Sec

5014

5005

5006

5009

2887

281

#6

Emulsion Batches:

Date 1989 Sept 24/25... Observers Fds. - 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.
	4 flats @ 13	1380, 1395,	1387, 1385						
4510	comp							ThA	10 sec
	HD 16970	02 38.1	102 49	04 49	05 06		W		
	comp								10
	comp								10
	²²⁹²⁸ HD 3470 5 Pen	03 35.8	+ 47 28	05 10	05 18				
	comp								10
	comp								10
	HD 24760 GPa	03 51.1	+ 39 43	05 21	05 30				
	comp								10
	comp								10
	HD 35497 BTau	05 19 58	128 31	05 35	05 39				
	comp								10
	4 flats @ 14s	1489, 1490,	1485, 1475						

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr

Sec

5004

4991

5020

5000

291 Mon-Tues

Date .1989 Sept 25/26.. Observers .Fels-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.
	Prompted Flat			18:32				Tung	30s
	comp							Th A	10s
	HD 172167 Vega	18 33.3	+38 41	18:38	18:43	00 08W			
	comp								10s
	comp								10s
	HD 147394 \hat{c} Her	16 16 44	+46 33	18:49	19:14	02 54 W	+46 23		
	comp								10
	comp								10
wrong →	HD 198001 Tn 92 HD 28978 HR 7980	20 42 16	-9 52	19:20	19:55	00 50E	-9 28		
	comp								10
	2 flats @ 16s	1883, 1849							
	2 flats @ 13.7s	1624, 1602							
	2 flats @ 76s	8668, 8739							
	comp								10s
	HD 147594 \hat{c} Her	16 16 44	+46 55	20 27	21 14				
	comp								

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

Exp. Mtr. sec

20000

991

5005

5062

4800

297

#4

Emulsion Batches:

Date 1989. Sept 25/26.... Observers Fds.-Ja.....

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	HD 35497 β Tau	05 20.0	+28 31	01 46	01 53	03 30 E			
	comp								10
	comp								
	HD 14386 Mira	02 14.3	-3 26	01 59	02 20	00 01 W	-2 58		
	comp								10
	4 flats @ 3s	413, 408, 406, 406							
	comp								10
	HD 14386 Mira	02 14.3	-3 26	02 25					
	4 flats @ 13s	1868, 1833, 1818, 1797							

Spectr. Temp. Dome Temp./Hum. $+10.1$ 78.76 Transparency Conditions 11
 Focus 298
 Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst. <i>Echelle tilt</i>	Grating/ Tilt	Slit	Emulsion	P.H. <i>ORDER</i>	Program <i>X Grating</i>	Remarks	Quality
5064		\checkmark 1.65	B7IV	18.03	600, 164.2	$H=400$ 150um	464.2	122	.4789	$T = +0.176$	1872 4207 4183
6000		\checkmark ≈ 35	M III							$T = +0.175$	362 4009 4139
		\checkmark ≈ 3	M III							<i>Cloud out,</i>	

299

#1

Tues/Wed

Date .1989. Sept. 26./27... Observers ..Fels/.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.
	Prompted flat							Tung	
	comp								10
HD 172167	Vega	18 33.3	+38 41	18 49	18 53	00 21 W			
	comp								105
	comp							Th A	105
HD 147394	γ Her	16 16.7	+46 33	19 02	19 40	03 28 19 40 W	+46 24		
	Comp							Th A	105
	2 flats @ 13	16 24, 16 18							
	2 flats @ 55	16 57, 16 46							
	comp								10
HD 147394	γ Her	16 16.7	+46 33	19 59	20 40	04 28 W			
	comp								10
	comp								10
HD 172167	Vega	18 33.3	+38 41	20 48	20 52	02 20 W			
	Comp								10
	comp								

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr

300

500

500

500

301

#2

Emulsion Batches:

Date 1989. Sept 26/27... Observers F.d.s. - Tg.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
	HD 22928 δ Per	03 35.8	+47 28	21 08	21 57	05 38 E	+47 46		
	comp								10
	2 flats @ 12	2098, 2068							
	2 flats @ 10	1705, 1710							
	2 flats @ 35	5927, 5938							
	comp								10
	HD 24760 ϵ Per	03 51.1	+39 43	22 15	23 11	04 40 E	+40 01		
	comp								10
	comp								10.5
	HD 35497 β Tau	05 20.0	+28 31	23 18	23 33	05 47 E			
	comp								
	2 flats @ 13	2255, 2209							
	comp								10
	HD 172167 Vega	18 33.3	+38 41	00 00	00 06	05 35 W			
	comp								10
	comp								10

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

+220

5000

5005

20000

303

#3

Emulsion Batches:

Date 1949 Sept 26/27... Observers F.d.s. - T.L.....

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.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	HD 22928 δ Per	03 35.8	+47 28	00 15	00 40	02 55 E			
	Comp							ThA	10 sec
	comp								10s
	HD 24760 ϵ Per	03 51.1	+39 43	00 47	01 11	02 40 E			
	comp							ThA	10 sec
	comp								10s
	HD 35497 β Ara	05 20.0	+28 31	01 16	01 25	03 55 E			
	comp								10s
	comp								10s
	HD 14386 Mira	02 14.3	-3 26	01 31	02 37	02 4W -2 58			
	Comp								10
	4 flats @ 11s	2671, 2649, 2610, 2602							
	2 flats @ 9s	2317, 2328							
	2 flats @ 2.7	6367, 6305							
	comp								10

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr

5000

5000

5000

5000

Spectr. Temp. Dome Temp./Hum. ~~4.6~~ °C... 6.6%

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions... Clear... again... 304

MIRA mag est at $\approx V = 3.5$ [about the same as γ cet] ~~st brighter than γ cet & fainter than δ cet~~ γ cet

Definitely brighter than δ cet. Not as Red as δ cet.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst. Echelle tilt	Grating/Tilt	Slit	Emulsion λ	P.H. ORR	Program Dewar tilt	Remarks	Quality
5000		2.99	B5 II	18.05		400um 150um	4840A	117	+2.9		2391
											1804
											1815
5000		2.87	B05 V							T=+0.201	2298
											1855
											1885
3000		1.65	B5 III								2236
											1877
											1899
20000		$\approx V$ 3.5	M5 B5 III							naked eye visible; same mag as γ cet And st fainter than δ cet	2691
										Note @ 02 EST, mira looked the same mag as δ PSC $V=4$	1888
				18.05	600/ 4799	400um 150um	4799 4840	118	XG.4602 Dew 2.4		4052.

305

#4

Emulsion Batches:

Date 1989. Sept 26/27... Observers Fds. T_n.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
	HD 22928 δ Per	03 35.8	+47 28	03 06	03 24	00 11 E	E		
	comp								10
	comp								10
	HD 24760 ϵ Per	03 51.1	+39 43	03 30	03 44	00 07 E			
	Comp								10s
	Comp								10s
	HD 35497 β Tau	05 20.0	+28 31	03 48	03 53	01 27 E			
	comp								10
	4 flats @ 8	1747, 1754, 1739, 1733						f Comp	10s
	HD 52973 γ Gem	06 58.2	+20 43	04 15	04 41	02 19 E			
	comp							THA	10
	comp							THA	10
	HD 44990 τ Mon	06 19.8	+07 08	04 54	05 32	00 46 E	+7 10		
	comp								10
	4 flats @ 16s	1354, 1384, 1358,		1338					
	4 flats @ 0.5	241, 226, 275, 197							

Pg#1
251

Wed-Thurs

Date 1989 Sept 27/28... Observers F.d.s.-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.
	FLAT PROMPTED			1				Tung	
	Comp							ThA	10s
	HD187929 Eta Aql	19 47.4	+00 45	18 48	19 ²² 09	00 35 E	+01 03		9
	Comp							ThA	10s
	+Flats @ 3.35s	2846, 2838, 2841, 2838,							
	Comp								10
	HD147394 ZWier	16 16.7	+46 33	19 33	19 54	03 44 W	+46 23		
	Comp								10
	Comp								10
	HD172167 Vega	18 33.5	+38 41	19 58	20 02	01 33 W	+38 49		
	Comp								10
	2 Flats @ 15	2709, 2710							
	2 Flats @ 40	2707, 2712							
	Comp								10
	HD172167 Vega	18 33.3	+38 41	20 20	20 22	01 53 W			
	Comp								10

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

Exp. Mtr. Sec.

5000

5044

20000

5000

309

Date ..1959. Sept. 27/28.. Observers .F.d.s.-T.o.....

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.
	comp							THA	10s
	HD147394	16 16.7	+46 33	20 25	20 51	04 41 W	+46 24		
	Comp								10
	comp								
	MD 22928 δ Per	03 35.8	+47 28	20 58	21 17	06 17 E			
	comp	at E Per posh							10
	MD 24740 ϵ Per	03 51.1	+39 43	21 26	21 46	06 00 E			
	Comp								10
	2 flats 10	20 70, 20 55							
	2 flats 11.5	23 49, 23 40							
	2 flats 40	8134, 7905							
	Comp								10s
	HD 35497	05 20.0	+28 31	22 45	23 31	05 45 E	+28 39		
	Comp								10s
	orange super tilt								
	Comp								

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

Exp. Mtr. Secs

5002

5030

5010

Spectr. Temp. Dome Temp./Hum. $+8.5^{\circ}C$ 61.8% Transparency Conditions ... getting s/c cloudy

Focus

Spectr. Temp. Dome Temp./Hum.

310

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst. <i>Echelle Tilt</i>	Grating/ Tilt	Slit	Emulsion	P.H. <i>ORDER</i>	Program	Remarks	Quality	
				18.03	600, 4754	$H=400\mu m$ 150 μm	4754A	119	X grating = 4098 Dewar Rotn = 2.9°		9963	
		\checkmark 3.89	B5IV								1968	
											9744	
											10362	
5002		\checkmark 2.99	B5III								2245	
											10066	
5030		\checkmark 2.88	B0.5V								2333	
											10065	
										Cloudy now		
				18.03	600, 4754	150 μm	4754A	119			10656	
5010		\checkmark 1.65	B7II	(Bulk of exp after 23 20 EST)						T = 0.183	thin cloud = thick	2164
											10543	
				18.05	600, 4719	150 μm	4719	120	X grating = 47295 Dewar Tilt = 2.9°		3303	

311

Date .1989. Sep 27/28.. Observers .Fds. - T.4.....

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	HD172167 Vega	18 33.3	+38 41	23 50	23 54	05 25W			
	Comp							THA	10s
	Comp								10
	HD 22428 δ Per	03 35.8	+47 28	00 01	00 18	03 17E			
	comp								
	comp								
	HD 24760 ϵ Per	03 51.1	+39 43	00 23	00 42	03 04E			
	Comp								
	comp								
	HD 85447 β Tau	05 20.0	+28 31	00 47	00 54	04 20E			
	comp								
	2 flats @ 11.5	1553, 1554							
	2 flats @ 52	7098, 6943							
	Comp								
	HD 22428 δ Per	03 35.8	+47 28	01 23	01 47	01 49E			
	comp								

Spectr. Temp
 Focus.....
 Spectr. Temp
 Exp. Mtr
 sec
 2000
 5000
 5060
 5064
 10000

315 Pg #5

Emulsion Batches:

Date 1989 Sep 27/28... 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.
	HD 22928 5 Per	03 35.8	+47 28	03 31 03 31	03 48		W		
	Comp								10s
	comp								10
	HD 24760 e Per	03 51.3	+39 43	03 50	04 04				
	comp								10
	comp								10
	HD 35497 BIAU	05 20.0	+28 31	04 08	04 14				
	Comp								10
	comp								10
	HD 22928 d Per	03 35.8	+47 28	04 25	04 45				
	comp								
	comp								
	HD 24760 e Per	03 51.1	+39 43	04 50	05 07				
	comp								
	comp								

Spectr. Temp.
 Focus.....
 Spectr. Temp.
 Exp. Mtr.
 10010
 10005
 10025
 10000
 10000

317

#6

Emulsion Batches:

Date . 1959. Sept. 27/28 Observers .. Fds-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.
	M10 35497 β Tau	05 20.0	r 28 31	05 10	05 17				
	comp								10
	2 flats @ 35	3560, 3557							
	2 flats @ 32	3252, 3278							
	2 flats @ 29	2970, 2976							
<p>I looked for that established Comet at dawn. It should have been @ approx α 10 50, δ +15° Found a bright stellar like object at α 10 48.4, +14 45 Tel posns. It seemed like \approx $v=2-3$ against brt sky. It didn't look like a comet to me. no planets available either, T_n</p>									

319

Emulsion Batches:

Date 1989 Sept 28/29... Observers KK-Tn-SAS.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
0	Flat prompted (at Vega pos'n.)			19 15				Tung	20s
1	Comp Vega							ThA	10s
2	HD 172167	18 33.3	+38 41	19 23	19 31	01 08 W			
3	Comparison							ThA	10 ^s
4	Comp							ThA	10 ^s
5	HD 183912	19 26.7	+27 45	19 44	20 26	W			
6	Comp							ThA	10 ^s
7	Comp							ThA	10 ^s
8	HD 186791	19 41.5	+10 22	20 37	20 59	01 27 W			
9	Comp							ThA	10 ^s
10-13	Flat x 4								6 ^s
14-17	Flat x 4								25 ^s
18-19	Flat x 2								100 ^s

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr

Sec

1200

500

460

5450

30

54

54

60

Spectr. Temp. Dome Temp./Hum. $+15^{\circ}C$ 46%

Transparency Conditions ... *Fine* 320

Focus

Dome opened & Fans On by 18 EST

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst. Echelle	Grating/Tilt	Slit	Emulsion δ	P.H. ORDER	Program	Remarks	Quality
205				18.34	600, 4481	H=400 W=75 μ	4481	126	Dewar Rot ^o	2.5	1161
105							.4932				
12000		\checkmark 0.04	AOV								6011
500											1800
460											1999
5450	3"	B 4.2	K5 +B?						KK subtr		1451
530 5450 514											2042
		4.2	K3II						KK subtr		318
											325
											1350
											2365
<p>KK backed up on 5 1/2"</p> <p>© 03 EST, MIRA looked vsl brighter than S Cet & sl faster than α Cet</p>											

321

Fri Sat

Emulsion Batches:

Date 1989 Sep 29/20. Observers KK/TN/SAS

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
0	Prompted flat							Tung	30 ^s
1	Comparison							ThA	15 ^s
2	HD 183912	19 26.7	+27 45	18:55	19 [~] 28	00 20 W			
3	Comp								15sec
4	Comp								15sec
5	HD 186791	19 41.5	+10 22	19 40	20 02	00 33 W	+10 37		
6	Comp								15sec
7	Comp								15sec
8	HD 202109	21 8.7	+29 49	20 11	20 44	00 11 E	+30 14		
9	Comp								15sec
10	Comp								
11	HD 215182	22 38.3	+29 42	20 52	21 24	01 01 E	+30 13		
12	Comp								15sec
13-16L	4 Flats @ 25sec		1486, 1462		1152, 1173				
17	Comp								10sec
	Comp								10sec

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr

Sec

24

5300

5600

5500

5000

4487

Spectr. Temp. Dome Temp./Hum. *14.2°C / 65%* Transparency Conditions *photometric at start*

Focus Dome = Fans on by 18:15 322

Spectr. Temp. Dome Temp./Hum. Dewar top up @ 18:25

Compensation Type Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H. ORDER	Program	Remarks	Quality
					Echelle	18.34	H400 W75	4481A = 4932	126			1716
	764											3069
	5000	3.5	4.2	K3II? +B?							T = +0.144	1129
15sec												3148
15sec												3106
	5600		4.2	K3II							T = 0.149	963
15sec												3074
15sec												3077
	5500		4.2	68II							T = +0.152	1481
15sec												2969
												3054
	5000		3.8	68II+F?							T = +0.158	1330
15sec												2897
	49487	FOR 25secs									T = +0.162	
15sec							150um					1974
					Echelle	18.34	H400 W150	4481A = 4932	126		0.241 slit width	1974

323 #2

Emulsion Batches:

Date 1989 Sep 29/30... Observers Kk-Th-SAS.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
18	HD 22928	03 35.8	+47 28	21 50	22 42	4 44 E	+47 46		
19	Comp								10s
20-23L	4 Flats: 40sec - 4188;			37sec - 3836; 38sec - 3942;			37sec -	3842	
24C	Comp								10sec
25	HD 22928	03 35.8	+47 28	22 56	23 48	3 38 E			
26	Comp.								10sec
27	Comp								15sec
28	HD 18925	2 57.6	+53 07	00 13	01 02	01 42 E	+53 31		
29	Comp								15sec
30	Comp								15sec
31	MIRA HD14386	2 14.3	-3 26	01 34	02 53 0025	00 53 W	-2 58		
32	Comp								15sec
33	4 Flats: 20secs at Mira pos'n. 3044, 3019, 3010, 3035								

Spectr. Temp. Dome Temp./Hum. ⁺¹⁰⁵ 66.5% Transparency Conditions *Photometric*
 Focus
 Spectr. Temp. Dome Temp./Hum. ^{7.0C} 77% *Topup @ approx OEST* **329**

Comparison
 Type Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
10,090		2.99	B5III	Echelle	18.34	H400 W150	H481A = .4932	126	Fds	T = + 0.164	3983
											1795
											1795
											1795
10000									Fds	T = + 0.168	3772
											2003
						H400 W75				Set .271 for slit width	3082
~ 5000		3.63B	G8III	+A3V		W75			KK Subtr.		1447
											3047
				with 18.05 Echelle	600, 4840	H400 W75	4840A	117	Dewar Tilt +2.9	T = + 0.179	2609
20 000	poor	estimate 3.5V	M5IIIe								3033
											2616
backed up as Sep 29 89 .DAT & Kermitted / Logged out.											

10x

39+2

10sec

10x40

15x

5.0

15.0

15.0

325

Sat - Sun

Date Sept 30/ Oct 1 189. Observers Tn - P. and Star hanging in

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.
1	Prompted Flt (note, this is with ^{Post 2})			22 00					
	(Note - This is with last night's last setup)								
2	Comp at spec posn.							Th A	10s
3	HD 22928	03 35.8	+47 28	22 29	23 08	04 12 E	+47 47		
4	Comp						"	Th A	10s
	Flts x 4 at same posn		RA = 40 17, 39 97, 40 71, 40 78				"	Jung	37s

Spectr. Temp.
 Focus
 Spectr. Temp.
 Exp. Mtr.
 Secs.
 Parameters
 Note. Dens.
 10 510 f...
 1000
 (96977) f...

Spectr. Temp. Dome Temp./Hum. $+9.6^{\circ}\text{C}$ 84%

Transparency Conditions ... Fine 326

Focus

2 Large Tours before obs

Spectr. Temp. Dome Temp./Hum.

Looked at Blinking Nebula

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst. Fedell/6 tilt	Grating/Tilt	Slit	Emulsion	P.H. 0.0012	Program	Remarks	Quality
Parameters @ 4840Å				18.34	600, 4481	H=400 150μ	4481Å	126	Fds pgn	x grating +4924 Actual 150μm = 241 on microdot	
Note. Power topup @				21 EST, T read - 11.6 (Limit) it had warmed since last topup of 03:35 EST this morning							
10,010	Fine	2.99	B5III						Fds pgn	T = +0.176 @ 22.36 T seems stable	4/50
1000										T = +0.174	2016
(96977 typical / cont)				18.34	600, 4481	150μ	4481Å	126			
Backed up & transmitted											

227 Wed-THURS Pg#1

Date 1989 Oct 4/5 Observers Jn..... (Hdg. on 24ⁿ)

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1926.TN8	Hartmann - IN							FeA A=1/2	200
1927.TN8	Hartmann - OUT							FeA A=1/2	200
SP061928.TN8	FLAT						ND 2.3	Tung A=1/2	200
DT000 169.TN	DRIVE TEST eta Aql	19 47A	+00 45	18 45	18 49	0025 E	+0107	Int X0	"N" made
FM000 227.TN	Seeing Test HD187120	19 46.3	+45 44	19 06	4 Frames	00 04 E	+45 49	Int X4	"N" made
1929	Comp			19 15				Fe-A A=1/2	200
30	BD+28 3402	19 31.0	+28 51	19 24	19 44	00 47W	+29 09		1200
31	Comp							FeA A=1/2	200
32	HDE 226868	19 54.6	+34 56	19 51	20 21	01 00W	+35 18		1200*
33	Comp							FeA A=1/2	200
34	HDE 226868	19 54.6	+34 56	20 31	21 01	01 40 W			700
35								FeA A=1/2	200
36	HD 194071	20 18.5	+27 55	21 10	21 31	01 47 W	4		1200
1937	Comp							FeA A=1/2	200
	HD 216 899	22 51.7	+16 02	21 39	22 39	00 22W	+16 36		3600

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

Exp. Mtr

30
 300
 300

1500

300

1500*

300

700

1500

700

Spectr. Temp. Dome Temp./Hum. 9.5°C 52.5% Transparency Conditions ... Fine 328

Focus

Dome opened: Fans on by 18:10

Spectr. Temp. Dome Temp./Hum.

Same setup for PCS as for Sept 18/19 (Last Run of PCS)

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	F.H. Refl	Program	Remarks	Quality
				200 μ RC	1800/53 $^{\circ}$	RS	5200A PCS	IA		after refocus	
								IB			
								IA	written		
1900, 30 200 frames 31 columns		4.3	F6Ib	On 200 μ	Fiber head (above circle)					On worm gear in A5 at end (LH view)	.88 pix
31x31		7.5	K0III	Medium	NW wind after a gusty afternoon					In Dbl Dos mode Dome facing West	
				(Red color motor) 200 μ m FIBER	1800/53	RS	PCS 5200A	IA			
1400	OK	9.05	F7V					IB	std vel		
230								IA			
1100*		10	B					IA		* Count level went down after start Blip - ppm South is brighter of pair	
230								IB			
700		10	B					IA		Fans turned off @ 21 hrs	
								IB			
1500		8.13	G8III					IA	std vel	counts as high as 2100	
								IA			
700		10	dm2.5					IA	Asm Sp KK	"B" channel not blinking	

38 p4 #2

Emulsion Batches:

Date 1989 Oct 4/5 Observers Jm

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	Comp							Fe-A A=1/2	200
	HD 224085 II Peg	23 49.9	+28 06	22 46	23 06	00 09 E	+28 42		
Fmo 0228.TN	" Seeing test	"	"	23 07	4 frames	00 08 E	"	IntX A	"N" made
	Comp						"	FeA A=1/2	200s
	Bm Cass			23 21	23 51		+64 07		1800
	Comp						"	FeA A=1/2	200s
1944.TN	DM +61 195	01 01.9	+62 17	00 01	01 01	00 38 W	+62 23		3600
	Comp							FeA A=1/2	200s
1946.TN	HD 35317	05 18.8	-00 58	01 14	01 28	03 18 E	-00 46		800
	" Drive Test	"	"	01 29	01 39	03 08 E	"		
1947.	Comp							FeA A=1/2	200s
1948.TN	Flat on Timer			02 21		0 0	platform	Tung A=1/4	7200
1949.TN	written 12 04 PM next day? - Prob a comparison								

Spectr. Temp.
 Focus.....
 Spectr. Temp.
 Exp. Mtr. Seen
 5200
 2-31 marks
 588
 840
 200
 556
 1500*
 588 marks
 928
 1000, 30
 11.18A

Spectr. Temp. Dome Temp./Hum. $+6.6^{\circ}\text{C}$ 64% Transparency Conditions Fine 330

Focus
Spectr. Temp. Dome Temp./Hum. $+5.9^{\circ}\text{C}$ 69%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
								IB		"B" channel back on	
2200		9.3	K2e(III?)	RC	1800/53°	RS	5200A PCS	IB	Rei pgn	Counts to 2800 Still in DBL DOS on MKII	
31x31 pixels		n	n		Light	West Breeze				Dome SW facing	
280								IA			
800		9.0						IA			
200								IA			
250		9.57	K5V					IA	Hsm Sp. tck	Drawn Aug 17/89 Fld checks OK with fld on card.	
1500*	poor	VAB 6.1	dFT		(cannd resolve pair)			IA	Hsm Sp. tck	Counts to 2600, (Refractn)	
200 frames 55 columns		n	n	On Fiber head		(staris dbl. in prob. para choice)				Drive Test in DBL DOS	77 pix
200								IA			
900, 30								IA			
<p>Note Light baffle still not in. I just noticed it on desk.</p>											
<p>MIRA appears to be the same mag and color as α Cet, ie V=3.5</p>											

271

Fri-Sat

Emulsion Batches:

Date 1989 Oct 6/7... Observers Tn - Lopez.....

.....
.....
..... N.D. 0.6 for Flat

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
SP00 1950 LOP	Flat				16:30	0 0	platform	TUNG A=1/8	2 hrs
1951 LOP	Comp [Long for MAPPING]			18 49		"	"	Fe-Ne A=1/4	600s
1952 LOP	Flat at new λ [not written]			20 23 * 19 45		"	"	TUNG A=1/8	3600
1952 LOP	Comp [Long for maps] Fe-Ne			23 01		"	" H0061A	Fe-Ne A=1/2	200 1800
53	Comp (Fe A) for Maps			23 05		"	"	Fe-A A=1/2	200
54	Comp (Fe A) for Maps			23 16		"	"	Fe-A A=1/4	600
55	Comp Fe-Ne n			23 30		"	"	Fe-Ne A=1/4	600
56	Comp FeNe for Maps			23 42		"	"	Fe-Ne A=1/4	400
57	Comp FeA for Maps			23 49		"	"	Fe-A A=1/4	500
58	Comp FeA for Map			00 03	00 12	"	")	500
59	Comp FeNe for Map			00 14		"	"	Fe-Ne A=1/2	500
60	Comp FeNe for Map			00 25		"	"	Fe-Ne A=1/4	600
61	Comp Fe-A for Map			00 37		"	"	Fe-A A=1/4	500
—	* Est SP001950 \rightarrow 61 Renamed MAP ^h								
62 ^{TOP}	Flat Started on Timer IA			01 29		"	N00.6 in n	TUNG A=1/8	7200

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions ... Cloudy at First ... 1332.

Focus

Spectr. Temp.

Dome Temp./Hum. 200um fiber to RS

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2 1000				PCS Red Columnator			3927A	IA	written		
A=1/4 Fe-Ne 600s 170, 8	wrv			PCS RC	1800/45.3	RS	"	IB	written	Both channels blinking green	
200, 60	wrv	GR A		"	1800/46.0	"	4063A	IA	* Restarted due to Both FIFOs failing ie All FIFO Lights noticed on @ 20 20 EST		
180, 13 180, 13	wr	2 4098A		"	"	"	"	IA			
300, 15	wrv	"		"	"	"	"	IB			
180, 8	wrv	4257A ⁰		"	1800/47.0	"		IA			
170, 10	wrv	4257A ⁰		"	"	"		IB			
220, 10	wrv	4483.884		"	1800/48.4	"		IA			
240, 15	wrv	4483.884		"	"	"		IB			
230, 10	wr	4692.23		"	1800/49.7	"		IA			
170, 10	wr	"		"	"	"		IB			
150, 7	wr	4898.161		"	1800/51.0	"		IA			
200, 10	wr	4898.161		"	"	"		IB			
		5101*			* 1800/52.3		After going back to 4692A, 1800/49.7, The exact center on				
2200		4076.825	frame	1800/45.9	was not achieved & out by 1800/45.9 I guess, backlash? Home 1st?						
					↳ But it matched to earlier 1800/46.0 exps.						

333 Sat-Sun Pg#1

Emulsion Batches:

Date 1989 Oct 7/8' Observers Th... Lopez / m.k.?.. here too

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
1963 LOP	Comp			18 41				FeNe A=1/2	200
64	HD187691	19 46.2	+10 10	19 11	19 31	00 30 W	+10 31		1200
65	Comp							200	200
66	HD187691 #2	19 46.2	+10 10	19 38	19 48	00 46 W	+10 31		600
67	Comp							FeNe H=1/2	200
68	HD11503 North	2000 01 53.5	+19 17	20 22			E		400
69	Comp							FeNe H=1/4	200
70	HD11503 South	1900 01 48.0	+18 48	20 36			E		400
71	Comp							FeNe H=1/4	200
72	HD11503 South	01 48.0	+18 48	20 49	20 55	04 08 E			400
1973 LOP	Comp								200s
74	HD11503 South			21 02					400
75	Comp								200
76	HD11503 South			21 22					400
77	Comp								200
78	HD11503 NORTH			21 35			E		400

Spectr. Temp.
 Focus.....
 Spectr. Temp.
 Exp Mir
 A B
 40 16
 1800 30
 3000 80
 350
 160
 3500 90
 160
 2000
 150 10 P
 2000 30
 140
 3000 40

Spectr. Temp. Dome Temp./Hum. $+6.2^{\circ}\text{C } 66.7\%$ Transparency Conditions .. Cloudy..... 3/26

Focus

Spectr. Temp. Dome Temp./Hum.

Note Flat from previous morning written

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
A B											
410 16				PCS RC	1800/45.9	RS	4040A 4076A	IA		wr	
1800 30		5.7	F8V	PCS RedCal			^{counts} seen Low	IA	std vel	Counts to 3000 in clear in and out of cloud sky	
								IB	written		
3000 80		5.7	F8V	<u>Note</u>	Repeats	watching	F100	IA	std vel	Counts to 35000 in clear	
						closely.		IB		written	
3500		4.59	B9V					IA	Lopez pgm	wr counts to 4500	
160								IB		wr	
3500 90								IA		wr counts kept under 4000 by guiding	
160								IB		wr	
2500								IA		wr in cloud partly	
150 10	poor							IB		wr	
								IA		* maybe not written wr/clear as a stellar exp	
								IB		wr	
2500 50	VERY VAR							IA		wr Counts up to 5500 accidently	
140								IB		wr	
3000 60								IA		wr	

Spectr. Temp. Dome Temp./Hum. $+4.6^{\circ}\text{C}$... 75% Transparency Conditions ... *part cloudy* 3.36

Focus

Spectr. Temp. Dome Temp./Hum.

\rightarrow Very cloudy

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400 3000 80	OK	4.68	AOP	RCS Red Col	1800/45.9	RS	4040A 4060A	IB	written	counts Low thick due to cloud?	
400 (3000 \rightarrow 200)								IA	written	then cloudy by end	
500 * Halted at 37A sec								IA	wr	ins out of thick cloud.	
500 2 \rightarrow 3000								IA	wr	good cloud for NO purposes	
700 150 8								IB	wr	thick cloud	
700 2000 50								IA	wr		
700 both L10	Shutter closed										
									All Omar's data backed up for his purposes.		
									will backup all for Reg backup tomorrow.		
									<u>Done</u>		

337. Sun-Mon

Emulsion Batches:

Date 1989 Oct 8/9 Observers T. Lopez (L.P. for tonight)

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
SP001946.LP2	Flat at start			18 30	20 30	0 0	platform	Tung H-1/8	7200
	Flat [Occasionally noting FIFOs]			20 46	22 46	"	"	"	7200
	Head Test 1			01 20 01					120
	{ Head Test A Head Test B	written after		01 20 01	01 22 01	✓			120
				01 24 18	01 29 23	✓			300
				01 31 28	IA written again, same header as previous.				
<p>Notes - 1st Integration in IA was WD. written after start of 2nd Int in IB, But Header showed that it had correct begin & end times, i.e. 01 20 01, 01 22 01. But, when same buffer was written at 01 31, it had header of previous buffer complete with previous start and end times.</p>									

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions ... Cloudy, mostly ... 338

Focus

Spectr. Temp.

Dome Temp./Hum.

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

2200	60			PCS Red Col	1800/45.9	RS	4060P	IA	FIFOS OK at start B off at 2057 written		
------	----	--	--	----------------	-----------	----	-------	----	---	--	--

2300	70			"	"	"	"	IA	FIFOS OK at start B off at 2056, still off by 21:12, still off @ 21:47.	WRITTEN	
------	----	--	--	---	---	---	---	----	--	---------	--

Note, When 2nd Flat finished, "CHA" remained on cont B still off at 22:20,
(ie solid green on F/F/O light) even after turning down Image Tubes or d/soup.

								IA	written after Head Test B [Head Test] written at 01 25. asked Test A		
--	--	--	--	--	--	--	--	----	---	--	--

								IB	written @ 01 30 as Head Test B		
--	--	--	--	--	--	--	--	----	--------------------------------	--	--

I thought such was the case, ie start and end times in the header are treated diff than other parameters that we specifically enter. correct start and end ~~are written~~ of the last ^{completed} int are written with whatever buffer is written, even the wrong buffer.

But whatever else is in Header, incl the IB or IA. (on the menu) gets written as you see it. Tn

34 Pg #1

Sun - Mon

Date 89 Oct 22/23

Observers Mki / SAS / Tu

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
SP001988 MKI	Tungsten								
	Comp.			19 07				FeA clear	200
	HD 194071	20 18.5	+27° 55.6	19:14:42		D 49' W	+28° 19'		300 sec
SP001991	Comp			19:22	19:26			FeA clear	
92									
93	Comp				22 08		+69 34		
94	AS Cam	05 18.8	+69 25		22 23		+69 34		
95	"				22 34				
96	"			22 35	22 45				
97	Comp			22 37 ⁴⁷	22 48 ⁵⁰			FeA H=1/2	200s
98	AS Cam			22 58	23 08				600s
99	"			23 12	23 22				600
2000	"			23 23	23 33				600s
01	Comp			23 34	23 38				200
02	AS Cam			23 39	23 49				600s

Spectr. Temp.
 Focus.....
 Spectr. Temp.
 Exp. Mtr
 Secs
 50 cons
 400/25
 10/20
 10/6
 10/8
 10/10
 10/10
 10/10

Spectr. Temp. Dome Temp./Hum. $8^{\circ}\text{C} / 55\%$

Transparency Conditions ... Clear! 3.42

Focus

Note MIRA $\approx 3.5 \text{ mag V}$ - same as α Cet

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	Walt P.H.	Program	Remarks	Quality
D/B				200 μ RL	1800 / 623 $^{\circ}$	RS	$\lambda = 6570 \text{ \AA}$ PCS	IA	written		
150 covts								"	written		
1400 / 25		V 8.13						"	written	· · · · · · N	
140 / 20				500 μm AC	831 / 39.8 $^{\circ}$	RS	$\lambda = 6600$ PCS	IA	written		
								IA			
								IA			
								IA			
								IA			
500 / 6								IA			
190 / 8								IA			
500 / 10								IA			
600 / 10								IA			
750 / 15								IA			
80 / 10								IA			
900 / 10								IA			

pg #2
343

Sun/Mon

Date 8th Oct 22/23

Observers Mki/SAS/Jn

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.
SP00 2003	As Cam	05 18.8	+69 25	23 50	00 ^h 00				600s
04	As Cam			10 03	00 ^h 13				600
05	Comp			00 13.5				FeA 1/2	200
06	As Cam			00 20	00 30 27				600
07	As Cam	Halted due to cloud		00 37 44	00 45				7 min 600
08	Comp							FeA A=1/2	200
09	As Cam			00 58 37	01 08 37	E	+69 37		600
10	As Cam			01 10	01 20				600s
11	As Cam			01 21	01 31				600s
12	Comp			01 32.5	01 36				200
13	As Cam			01 38	01 48				600
14	As Cam			01 49	01 59				600s
15	As Cam			01 59 40	02 09 40				600s
16	Comp			02 11					200s
17	As Cam			02 17	02 27				600s

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

Exp. Mtr. Sec.
12
10
12
12
15
15
10
12
15
10
12

Spectr. Temp. Dome Temp./Hum. ... $5^{\circ}\text{C} / 68\%$ Transparency Conditions Clear
 Focus
 Spectr. Temp. Dome Temp./Hum.

344

buffer

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	A/B				200 μm RC	831 /39.8	RS	$\lambda = 6600$ PCS	IA	written		
									IA			
	180/10								IA			
	600/12								IA			
									IA		Some cloud	
	180								IA			
	700/15								IA			
	700/15								IA		clear	
	750/15								IA			
	180/10								IA			
	700/12								IA			
	700/12								IA			
	500/15								IA		seeing degraded	
	170/10								IA			
	1000/12								IA			

Pg 3
345

962 3301 Wells Fargo

Emulsion Batches:

Date 8th Oct. 22/23. Observers Mki/SAS/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.
SP00 2018	As Cam	05 18.8	+69 25	02 28	02 38				600s
19	As Cam			02 42	02 52				600s
20	Comp			03 03				FeA A=1/2	200
21	As Cam			03 09	03 19				600s
22	As Cam			03 20	03 30				600s
23	As Cam			03 31	03 41				600
24	Comp			03 44	03 47			FeA A=1/2	200
25	As Cam			03 55	04 05				600
26	As Cam			04 06	04 16	0 ^h 37 W			600
27	As Comp			04 17				FeA A=1/2	200
28	As Cam			04 23	04 33				600
29	As Cam			04 38	04 48				600
30	As Cam			04 49	04 59				600
31	Comp			05 00	5 03				200
32	As Cam			05 05	05 15				600

Spectr. Temp. Dome Temp./Hum. ... $5^{\circ}/70\%$ Transparency Conditions ... Clear ...

Focus

Spectr. Temp. Dome Temp./Hum.

346

buffer

Exp. Mtr. A/B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	PH.	Program	Remarks	Quality
350/15				200 μ m RE	831/ 39.8	RS	$\lambda=6600\text{\AA}$ PCS	IA	written	Seeing degraded at end	
350/15				Note - Look at Frame (size=9067)				IA	written	power failure, but integration continued	Poor
70/15								IA	written		
300/12								IA	written		Poor
350/12								IA	written	seeing improved	
750/17								IA	written		
70/10								IA	written		
1100/20								IA	written	IA had quit. Restarted exp	
100/18								IA	written		
170/10								IA	written		
500/13								IA	written		
560/13								IA	written		
500/13								IA	written		
170/10								IA	written		
500/15								IA	written		

Spectr. Temp. Dome Temp./Hum. $5^{\circ}\text{C}/79\%$ Transparency Conditions ... Clear

Focus Dome Temp./Hum. $14.8^{\circ}\text{C}/86\%$ 348

buffer

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
600s 650/13				200 μm RC	831/ 39.8	RS	$\lambda = 6600\text{\AA}$ PCS	IA	written		
600s 300/13								II	written	light cloud.	Poor
200s 170/10								IA	written		
3 hrs 1200/25	ND 2.3							III	written by Ri	Note, Oct 24	
									Flat	Signs only = 250 per cut ^{cuts}	
180 15								IB			

#1

Emulsion Batches:

349
 Date 89... Oct... 23/24... Observers FDS/Tw/SAB

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
0	Prompted Flat							Tung	20s
1	Comp			18 10				ThA	10s
2	Vega ^{HD172167}	18 33.3	+38 41	18 16	18 22	01 37W	+38 54		
3	Comp						+	ThA	10s
4	Comp							ThA	10s
5	HD 11415 (Eps Cas)	01 47 11.7	+63 10 40	20 07	20 47	03 15E	+63 44		
6	comp								10s
7	comp								10s
8	HD 22928 δ Per	03 35 48	+47 28'4"	20 55	21 23	04 30E	+47 49		
9	comp								10s
10	comp								10s
11	HD 32630 η Aur	04 59 30	+41 05	21 37	22 23	4 49E	+41 17		
12	Comp								10s
	4 flats @ 15	1488, 1444, 1425, 1398							
	4 flats @ 25	2259, 2247, 2252, 2254							
	4 flats @ 31	2761, 2733, 2725, 2736							

Spectr. Temp.
 Focus
 Spectr. Temp.

Exp. Mtr

3000

8032

871

5000

845

840

260

Spectr. Temp. Dome Temp./Hum. *11°C / 56%* Transparency Conditions *Semi-clear*

Focus

Spectr. Temp. Dome Temp./Hum.

350

X Grating

Comparison
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt <i>Echelle</i>	Slit	Emulsion	P.H. order	Program	Remarks	Quality
		<i>0.04</i>	<i>A0V</i>	<i>Echelle</i>	<i>19.10</i>	<i>H 400</i> <i>W 150</i>	<i>4820 Å</i> <i>.4640</i>	<i>118</i>		<i>Dewar tilt 2.9°</i>	<i>6670</i>
		<i>0.04</i>	<i>H0V</i>								<i>1626</i>
<i>20000</i>		<i>0.04</i>	<i>H0V</i>							<i>Some cloud</i>	<i>8047</i>
											<i>1613</i>
					<i>18.91</i>	<i>H 400</i> <i>W 105</i>	<i>4481 Å</i> <i>.4927</i>	<i>127</i>		<i>W105 = 0.259</i> <i>Dewar tilt = 2.5°</i>	<i>2221</i>
<i>8632</i>		<i>3.38</i>	<i>B3III</i>							<i>some cloud</i>	<i>2726</i>
											<i>2252</i>
<i>821</i>											<i>2304</i>
<i>8000</i>		<i>3.00</i>	<i>B5III</i>								<i>2262</i>
<i>845</i>											<i>2214</i>
<i>840</i>											<i>2217</i>
<i>4764</i>		<i>3.07</i>	<i>B3V</i>							<i>Poor seeing and cloud!</i>	<i>1442</i>
											<i>2284</i>

Top up @ 22:40

#2

351 Mon/Tues
Date Oct. 23/24

Observers Fds./Tu./SAS

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.
	Comp			23 02				ThA	10s
	HD 11415 ECAS	01 47 11.7	+63 10 40	23 06	23 55	00 07E	+63 42		
	COMP								10s
	Comp								10s
	HD 35468 RORE	05 19 46.0	+6 15 33	00 04	00 45	02 47E	+6 26	ThA	10s
	COMP							ThA	10s
	Abnap							ThA	10s
	HD 35468 RORE	"	"	00 48	01 28	02 03E			
	COMP								10s
	Abnap								10s

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

Exp. Mtr Sec

3500

4250

7250

353

Tue/Wed

Emulsion Batches:

Date Oct. 24/25 S.M. Observers T.V./SAS/Mki

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T. ✕	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
SP002037.mki	Flat at start			17 40		0 0	platform	Tung A=1/8	2 hours
	I noticed that "B" channel TiFo wasn't blinking at 19:25 (green)								
	SP002037.mki written and backed up with previous PCS night's work.								
38	Comp & 39	Comp (200) sec						ND removed FeA A 1/2	600
40 39	BM Cas	00 51.7	+63 49	22:55	23:15		64° 07'		1200
41	BH Cas	00 48.6	+63 33	23:16	23:36	+00 45 W			1200s
42	Comp				23:41			FeA A=1/2	200
42	HD 12029	1 ^h 53.0	+28° 54'	23:54	23:59	00 ^h	29° 26'		300
44	Comp			00:01					200
45 44	HD 23169	3 ^h 37.9	+25 25	00:12	00:22	01 25 E	+25 48'		600
45	Comp			00:23	00:28				300
47	3 hour Flat started.			01 54				Tung A=1/8	
48	1 hour flat						"	"	

Spectr. Temp. Dome Temp./Hum. ^{mirror cell} $\pm 15^{\circ}\text{C}$ 80% Transparency Conditions .. Hazy .. to foggy ..

Focus

Prim MIRROR 80% dew covered

Spectr. Temp. Dome Temp./Hum. $\pm 11^{\circ}\text{C}$

354

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
950/15									IA	Resumed at 18:37 (ND=2.3)	
* Notical "A" channel off @ 18:37 (H/Hel/s.RI)											
Exp 2 + 2 hours. Signal level after 1st 2 hours \approx 2500 peak at counts											
2nd exp halted @ 20:51 and restarted "RI" Signal peak @ 20:52 = 4000 ^{counts}											
180/10				Red Cel	1800/39.8	RS	6600A ^{PCS}		IB		
600/15		v9							IA	written	
500/12		v9							IB	written	FIFO POSSIBLY CUT OUT
180/10									IA	written	
2300/30		v7.8	K2III						IA	written	Standard
180/10									IA ^{IA}	written	
200/16		v8.75	G2V						IA	written	Standard Field drawn
									IA	written	
1000									IA	written	
1000									IB	written	

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