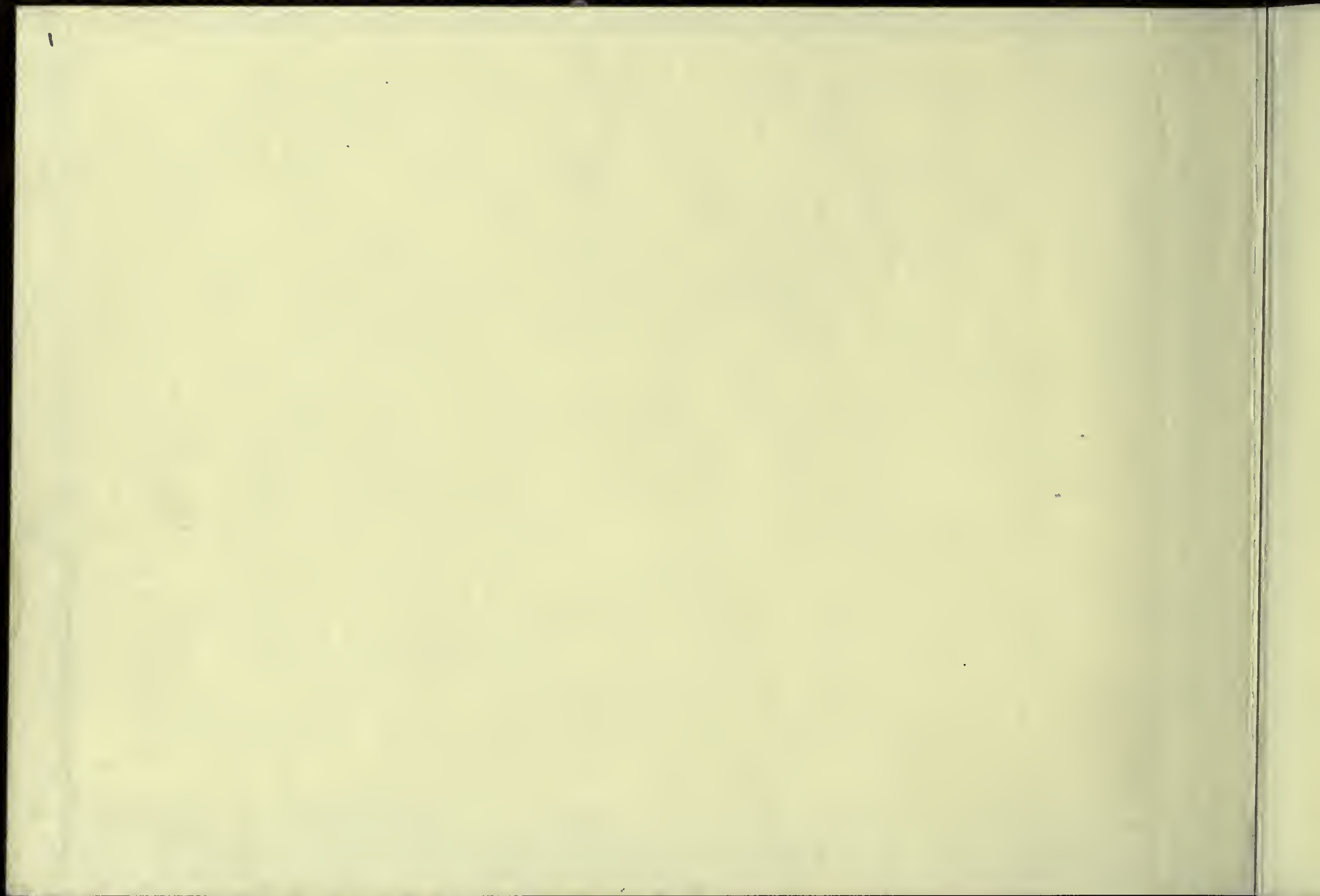


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Apr 89 -

2

4.

Quality

5

Tues-Wed

Date . APR. 11/12. 1989... Observers ... T. ... - Yee (part-time) ... Dev Apr 12 @ 68.5°F → III. A. J. - e. 1. A. 7. Mar. 26... 2. 72, 0.17
Dev Apr 14 @ 69°F 8 min → II. e. - e. 1. 8. Mar. 19...
+ previous backnight T_n

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.
50541	HD 23862 (Pleiades)	(1900.0) 03 43.2	+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 @ 374	17.5V 15V 15V 3900 4300 4810			
50542	HD 47105 (γ Gem)	(1900.0) 06 31.9	+16 29	20 12	20 15	02 42 W	+16 22	FeNe Clear	140-140
FM000169.TN	HD 87822 ^{Leaning} _{test}	(1900.0) 10 02.5	+32 06	20 33		00 32 E	+31 38		Int. X4
50543	HD 56986 (δ Gem)	(1900.0) 07 14.1	+22 01	20 49	21 32	03 17 W	+21 59	FeNe Clear	90-90-90
50544	HD 8890 (Polaris)	(1900.0) 01 22.6	+88 46	21 47	21 49	08 49 W	+89 15	Clear	60-60
50545	HD 8890 (Polaris)	(1900.0) 01 22.6	+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	"	"	240/120
50546 F2	" "	To compare PH #1 & PH #5				"	"	"	240/120
50546 F3	" "			23 50		"	"	"	160/80
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. Mtr.

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 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	rg	FAME TOUCHED platform 140 cuts = 2900 cuts <u>cut End</u>	Comp OK WR
								IIIaJ-efg				
	40910	OK.	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				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 homing Rack	Exp OK
		OK	V= 6.45	G8VI	no wind at all Dome pointed SW		150u	4 frames	"N" mode		BOX very good Some 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	IIIaJ	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 Relat Red end)

7

Thurs - Fri

Dev APR 14 74

Emulsion Batches:

Ilco. 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	FeNe Clear	45-45
50548	HD 71974	08 25.2	+35 18	20 01	23 18	04 00 W	+34 55	"	30-30
FM00071.JN	HD 113811	13 05.2	¹⁹⁹⁰ +39 32	2 3 30		00 23 E	+39 35		Int x4
50548F	Focus test			00 05		00 10 W	+39 55	FeNe Clear	120/50
	Spot plate 50540T for plates 50547, 48								

Spectr. Temp

Focus... 39

Spectr. Temp

Exp. Mtr.
B. Filter

7000

3000

8540

31x31/plate

(A)

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.

45-95

30-30

1st x4

120/50

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	FoNe 45res = 1016 cuts	OK	
3006 8540	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 off set when 140113811 is on BS) → α 5.2 S 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 slanted		

9

Sun-Mon

Emulsion Batches:

Date APR 16/17/89 Observers Tu - KK knife edge tests

IIa Q-e. IIS. APR 158, 0.22
Dev APR 17/89 @ 68°F. Tu

Plate No.	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 30-30-30	
50549T	Spot Calc 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	
50550	HD 8890	01 22.6 ¹⁹⁰⁰	+88 46	00 04	00 12	11 30 W	+89 17	Reversed FeNe clear	90-90
50551	"	"	"	00 18	00 30	11 48 W	"	"	90-90
50552	HD 137909	15 23.7	+29 27	00 44	00 57	01 08 E	+29 04	"	90-90
50553	HD 145001	16 03.6	+17 19	01 12	02 06	00 35 E	+16 59	"	90-90
50554	HD			02 14			A	"	90
50554	HD 165908	18 03.2	+30 33	02 18	03 08	01 35 E	+30 29	FeNe clear	90-90
50555	HD 185144	19 32.5	+69 35	03 17	04 00	02 07 E	+69 34	"	90-90
50555F	Focus test					00 10 E	+46 30	"	180/90
Fm000174 TN	HD 163076	17 51.3 ¹⁹⁹⁰	+46 39	04 20		0 0	"	Int x4	

Spectr. Temp
Focus...
Spectr. Temp
Exp. Mtr.
1.2, 5.5
B-Filter
2170
1500
3731 med
Humbly = 700
12000
12000
8300
1000
9000
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 $5/14/29$
 Shuttlers opened @ 9 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, 500s 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	$V=7.15$ 8	G5	BS	G=4238 830/40.2	BS	II=0-e	1	Asm Sp-KK	Fans on @ 20 30 $\alpha 51551$ finder offset at 0230 west	comp. O.K. wb
31x31 pixels											
Humidity=76%	so so	$V=6.95$	K2 III				II=0-e II=0-e		4 Frames "N" photo	Dome pointed SW Set 389 T=49.5F 5/14/29	
12000	poor	2	F8	BS	G=5430 1200/50.8	BS	II=0-e	1	Asm Sp KK	" "	O.K.
12200	poor	"	"	"	"	"	"	1	"	Fans turned off @ 0000	O.K.
12000	poor	3.93	Fop	"	"	"	"	1	"	offset $\alpha 4.9 \text{ S } 5.3$ @ 0120E	O.K.
8300	so so	5.5	G8 III	"	"	"	"	1	Std Vel	$\alpha 4.9 \text{ S } 5.2$ Brighter and South of pair	O.K.
										Offset $\alpha 4.9 \text{ S } 5.2$ at 0120E	
10000	poor	5.5	F7 V	BS	1200/50.8	BS	II=0-e	1	Asm Sp KK	some cloud $\alpha 5.0 \text{ S } 5.2$ @ 2 hrs East	comp. O.K. slightly
9000	poor	5.5	K0 V	"	"	"	"	1	"		O.K.
											O.K.
39x39	poor	$V=6.5$	K0 III	Box OK, some noise		150u	4 Frames "N" photo		Dome West	set 390 seeing test East Breeze	Blue and 1 Red

11
 Tues-wed
 Date APR 18/19/189... Observers T.H. Yee.....

Dev APR 25 068° TN
 5.5 min
 Emulsion Batches: 1.94, 0.08
 Maj: reg 1A7... Apr. 18... 22 hrs forming gas
 DaO-e 118... Apr. 11... 1.66, 0.26

Plate No.	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)	06 31.9 ^(1900.0)	+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 67, 68				15 min @ D4	17.5V 15V 15V 3900 4300 4810		
50557	HD 56986 (δ Gem)	07 14.1 ^(2000.0)	+22 10	19 59	20 27	02 40 W	+21 56	FeNe Clear	140-140
FM000175.TN	HD 85373 ^{Seeing test}	09 52.3 ^(2000.0)	+37 55	20 42		00 21 W	+37 52		
50558	HD 76095	08 49.0 ^(1900.0)	+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)	08 52.4 ^(1900.0)	+48 26	23 03	23 12	03 45 W	+48 00	FeNe Clear	70-70
FM000176.YEE	HD 103095 ^{Seeing test}	11 47.2 ^(1900.0)	+38 26	23 28		01 07 W	+37 42		
50560	HD 103095	11 47.2 ^(1900.0)	+38 26	23 33	02 00	03 40 W	+37 42	FeNe Clear	80-60-60
50561	HD 137909 (β CrB)	15 23.7 ^(1900.0)	+29 27	02 09	02 36	00 41 W	+29 03	FeNe Clear	90-90-90
50562	HD 159561 (α Oph)	17 30.3 ^(1900.0)	+12 38	02 44	02 49	01 11 E	+12 29	FeNe Clear	140-140
50563	HD 8890 (Polaris)	01 22.6 ^(1900.0)	+88 46	03 02	03 06	09 52 E	+89 05	FeNe Clear	80-80
50564	HD 8890 (Polaris)	01 22.6 ^(1900.0)	+88 46	03 14	03 17	09 41 E	+89 05	FeNe Clear	80-80
50565	HD 161096 (β Oph)	17 38.5 ^(1900.0)	+04 37	03 33	03 53	00 17 E	+04 28	FeNe Clear	140-140
50566	HD 182640 (δ Aql)	19 20.5 ^(1900.0)	+2 55	04 02	04 22	01 26 E	+03 00	FeNe Clear	140-140

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

Exp. Nr.
 5-7 filter

35000

35056

31x31 filter

2500/2504

2340

31x31 filter

3500/3500

1703/1714

31344

10176

10153

86000

35021

2/15
0.26

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.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		B filter	O.K.	V = 1.9	A0 IV	BC	G=5430 1200/50.8	BS	IIIaJ-eg IIIaJ-e	1	Asm Sp - KK		Weak
		35056	O.K. - poor	B = 3.9 V = 6.8	F0 IV F0 V	BC	G=5430 1200/50.8	BS	IIIaJ-e Int. x4 4 frames "N" side	1	Asm Sp - KK	140 S. comp. = 2968 α 5.3 5.50 offset at end Good box! Dome faced SW. Medium NNW wind - 11 km/hr	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	T=42F, Focus=392 α 5.3 5.5.2 Finder offset of 3' W	OK
		23460	poor	B = 3.3 V = 6.45	A5 G8Vp	BC	G=4238 830/40.2	BS	IIIaJ-eg Int. x4 4 frames "N" side	1	Asm Sp - KK	Fans off at 22 30 EST	Weak
		31x31 pixels 3500/3500	V.V. poor	V = 6.45	G8Vp	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp - KK	very light NW breeze {Vertical strokes (noise) Dome pointed West } T=40F, Focus=392 offset α 5.3 5.5.2 @ 02 hrs West	S1 wk
		17073/17140	V.V. poor	B = 3.93	F0p	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	Asm Sp - KK	T=36F Set 393	wk
		31344	V.V. poor	B = 2.2	A5 III	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	Asm Sp - KK	α 5.1 5.5.1 offset @ 02 E	wk
		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	K2 III	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	std. rel.		S1 wk
		35021	poor	B = 3.68	F0 IV	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	Asm Sp - KK		S1 wk

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Wed-Thurs pg #1

Emulsion Batches:

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

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.....
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.
	Comp.							Th A	50	351
This is not first recorrd (1)	HD 47105 (δ Gem)	06 31.9	(1900.0) +16 29	19 48	20 24	03 22 W	+16 19		50	1496
	Comp.								50	484
	Plat #1			20 29	20 36				420	~1500
	Plat #2			20 37	20 43				360	10,985
	Comp			20 45					50	458
	Procyon	07 38.8	1989.5 +05 15	20 49	21 02	02 57 W	+05 09			15831
	Comp								50	504
	Comp. Leo (Regulus)			21 05					50	491
	HD 87901 α Leo (Regulus)	10 07.8	(1989.5) +12 01	21 08	21 38		+			1495
	Comp.			21 30					50	477
	Comp.			21 35					50	359
	HD 120315 (η UMa)	13 47.2	(1989.1) +49 23	21 40	22 30		+49 16			11610
	Comp #1			22 32					50	3/m
	Comp #2			22 37					50	3/m

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr. S

Spectr. Temp. Dome Temp./Hum. $+40^{\circ}\text{F} / 55\%$ Transparency Conditions Clear 46

Focus Dome opened @ 18:00

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

Comparison Filter	Exp.	Exp.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality	
4	50	351				Echelle grating = 1.810 X-grating = 0.4620 0.4620	H=400 μ (=0.225)	W=50 μ (=0.281)			Camera focus = 0.319	T=+0.293	2720	
		14996	O.K.	V=1.9	A0IV		600, 5190		5190 Å	-27.88	Asm Sp-htk	T=+0.276	6829	
	50	484											2848	
	420	~14000										Manual mode.	7207	
	360	10,985										Manual mode.	5728	
	50	458										T=+0.275	2748	
		15831		V=0.38	F5IV							T=+0.275 *Star Lower Right of cross hair @ 03W	6904	
	50	504										(Star image \approx 1' arc East of cross hair center) (and \approx 1/4' North of center)	Fans off at 21 hrs.	2957
	50	491											3221	
		14993	poor	V=1.36	B7V							T=+0.302	7108	
	50	477										T=+0.384	3113	
	50	359										T=+0.402 *Star at upper Left @ 2 nd E	3132	
		11610	V. poor	V=1.86	B3V							T=+0.436	7202	
	50	3 (only!!)										Why is the ABCU halved of previous comp.? * Finder offset. Star at zenith is centered when on cross hair, then centered star comes out	1259	
	50	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)	(1900.0) 01 22.6	+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)	(1989.5) 13 47.2	+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)	(1900.0) 14 11.1	+19 42	02 09	02 14	01 37 W	+19		
2048C	Comp.			02 15					50
2114C	Comp.			02 20					50

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

Exp. Mtr. 310
 1136
 302
 24700
 8158
 2 (only!!)
 29
 666
 3 (only)
 14916
 191
 227
 10369
 233
 229

Spectr. Temp. Dome Temp./Hum. Transparency Conditions *Clear* 18..

Focus

Spectr. Temp. Dome Temp./Hum.

Moving to Petaris changed TAA signed directly.

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) (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=400u 50u	5190A	-10.32	T=+0.508 Asm-Sp-ttk	Finder image \approx 0.5' west of center and 0.8' South of X hair center.	4956
	50	302										T=+0.572	3328
	300	\approx 4700										Lamp mode: "picket fence" effect, very noisy	
		8158		V=1.9	F8				5190A	-10.31	Asm-Sp-ttk		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

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	50.50	V= 2.08	A5III					19.44	Azm Sp - KK	T=+0.820 Some cloud	3435
50	163											3293
2400	2230										T=+0.838	4592
300	2110										T=+0.833	4434
600	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:

PaO-e 118 Apr. 11
 HaJ-e 1A7 Apr. 18 22 hrs for gas
 1.95, 0.08 N²H₂

Dev Apr 25 @ 68% T_v
 5.5 min

Plate No.	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 (γ Gem)	(1900.0) 06 31.9	+16 29	21 02	21 08	04 14 W	+16 20	FeNe Clear	Diff. cut 120-120
50568	HD 56986 (δ Gem)	(1900.0) 07 14.1	+22 10	21 17	21 48	04 12 W	+21 56	"	120-120
FM000178.YEE	HD 103095 ^{Seeing} test	(1989.5) 11 52.4	+37 48	22 08		0'0 0' E	+37 44		
50569	HD 76644 (1 UMa)	(1900.0) 08 52.4	+48 26	22 18	22 30	03 15 W	+48 00	FeNe Clear	90-90
50570	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 1/2/3/4/5/6/7/8/9/10/11/12/13/14/15/16/17/18/19/20/21/22/23/24/25/26/27/28/29/30/31/32/33/34/35/36/37/38/39/40/41/42/43/44/45/46/47/48/49/50 were of int. X 59 / (120/240) / 500 Spot plate 50558 T for plates 50571-73, 75 Spot plate 50573 T for plates 74-78</p>									

Spectr. Temp.
 Focus .39!
 Spectr. Temp.

Exp. Nr.
 35133
 33014
 31x31 plate
 25597
 3002/1285
 11163
 11396
 4500/
 4575
 31x31 plate
 35096
 1000
 31x31 plate

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° dec

Comparison
 Vpe/Filter Exp
 FNe 74-10T
 Clear 120-120
 FNe 90-90
 RNe
 Clear
 RNe
 Clear
 RNe
 Clear
 RNe
 Clear
 RNe
 Clear
 RNe
 Clear
 RNe
 Clear
 RNe
 Clear

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B filter 35133	0.K.	B= 1.9	A0IV	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	Arm Sp - KK	120-s comp. = 2354 Finder image (Low e-Right)	wk
33014	0.K.	B= 3.9	F0IV	"	"	BS	"	1	"	Finder image same as last time image more down than to the right	wk
31x31 pixels	0.K.	V= 6.45	G8I _p	"	G=4238 830/40.2	150µ	Int. x4 4 frames "N" mode		"	Dome faced Wests medium N wind Finder image Right on as it should be.	
25597	good	B= 3.32	A5	"	G=4238 830/40.2	BS	IIIaJ-e	1	Arm Sp - KK	T=43 F, focus = 394 = 1/4 North Finder image Right 3/2 of East	slwk
13002/11285	0.K.	B= 5.28	B8	BC	"	"	IIIaJ-e	1	Blu	The SE and slightly brighter turns off at 22.25 of pair	vs1wk
11163	0.K.	1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK	T=42 F Set 392	OK
11396	0.K.	1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK		comp slwk Exp OK
4500/ 4575	0.K.- poor	B= 6.8	G8II	BC	G=5430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK	Finder image 2 1/2' N = 1/4' E of 1 st W " " = 1/2' N = 1/2' E of 2 nd W	comp slwk slwk
31x31 pixels		V= 7.6	G5III			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 2 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 T. V. Lee

Dev e68° APR 25 T_v
555mm

Emulsion Batches:

IIaD-e. IIF. 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 (δ 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		
	↳ 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... 39?
Spectr. Temp.

Exp. Nr.
5-7/2r

12191

12295

1443/1435

350/3508

40057

35081

3183/pincho

3183/pincho

3183/pincho

552/1820

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

Focus 392

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

Exp. Mjr.	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=37°F	OK
4464/14535	O.K. V. poor	B=3.28 B=	B8 B8	BC	G=4238 830/40.2	BS	IIIaJ-e	1	Blu	Lower Left of pair on BS (ie SE of pair) view	OK perfect
3506/3508	V. poor	B=7.09	G9V	BC	G=4238 830/40.2	BS	IIa0-e	1	Aim Sp - KK	-	OK
40057	O.K.	B=3.93	F0p	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	Aim Sp - KK	T=34 F, Focus=393	slut
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=6.56	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=33 F, Focus=393	OK

25. Sun./Mon.

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

Emulsion Batches:

.D40-e.II8. 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
	Speedometer α Boo	1980 14 15.2	+19 17	'					
50583	HD8890 (Polaris)	(1900.0) 01 22.6	+88 46	23 06	23 14	11 00 W	Reversed +89 18	Fene Clear	80-80
50584	HD8890 (Polaris)	(1900.0) 01 22.6	+88 46	23 21	23 25	11 11 W	Reversed +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	50-60
50586	HD137909 (β CrB)	(1900.0) 15 23.7	+29 27	01 49	01 57	00 21 W	+29 03	n	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	Focus test (set on β Oph)			02 22			+04 28	Fene Clear	80-80
50588 F	Focus test (set on β Oph)			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	Spot for all above (i.e. 50582-89)			15 min @ 15V	04	03 00 03 05	D3 D24810		

Spectr. Temp.
Focus... 3.9
Spectr. Temp.

Exp. Nr.
3183
3183
3950
3881
1191
11700
4000
4070
11072
9100
4912/447
2012/372
6131
3183
3183
10106

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

Comparison pe/Filter Exp	Exp. Mtr. B filter	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	31x31 pixels	o.k.	$V=$ 6.8	F0I	* Image Acquisition by <i>m. st. for</i>		150μ	Int. x 4 (4 frames) + Int. x (1s, 2s, 4s, 8s)		"N" mode	Dome faced WSW. kept Rock was in no. = 31750	
	31x31 pixels	OK	$V=$ 6.45	G8IV	Box OK		150 μ	Int. x 4 (4 frames) + Int. x (1s, 2s, 4s, 8s)		"N" mode	Dome faced SE	
FENp Clear	3950/ 3881	OK	$B=$ 7.20	G8IV	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp-kk	Stdvel? Fans off at 23 hour EST kk tests	OK
FENp Clear	71191	o.k.- poor	1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp-KK	T=407 } Plates tight longwise in slit my cuts last night T _a	OK
FENp Clear	11700		1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp-KK		OK
FENp Clear	4000/ 4070	o.k.- poor	$B=$ 6.8	G8IV	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp-KK	Finder image $\approx 1/2'$ below xchip ie image North $1/2'$ @ 00:14Z	OK
FENp Clear	11072	poor	$B=$ 3.93	F0p	"	11	BS	IIa0-e	1	"	Finder $< 1/2'$ N RH OK	OK
FENp Clear	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 at 37.5	OK
FENp Clear	4312/6487				BC	G=5430 1200/50.8	BS	IIa0-e	1		T=37.5, Focus = 391	center S1 Reel
FENp Clear	2012/3912				BC	G=4238 830/40.2	BS	IIa0-e	1		T=37.5, Focus = 394	Right on slotted
FENp Clear	6131	poor	$B=$ 3.93	K2III	BC	G=4238 830/40.2	BS	IIa0-e	1	std. vel.		S1 str
FENp Clear	31x31 pixels		$V=$ 7.6	G5IV			150 μ	Int. x 4 (4 frames) + Int. x (1s, 2s, 4s, 8s)		"N" mode	Dome faced W, fans off. Med. wind from N.W. 11 knts/hr	
FENp Clear	31x31 pixels	poor	$V=$ 7.6	F2IV		G=5430 1200/50.8	150 μ	Int. x 4 (4 frames) + Int. x (1s, 2s, 4s, 8s)		"N" mode	Dome faced E, fans off	
FENp Clear	10106	poor	$B=$ 5.5	F7IV	BC	G=4238 830/40.2	BS	IIa0-e	1	Asm Sp-kk Ban	Some cloud - set 392	OK

note Accidental start at 1200 grating at 40.2° alt kept but not labeled. (50589B kept)

D

1989

Page 1

Emulsion Batches:

Date Mon Tues, APR 24/25 Observers F. d. s. T. n. 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.
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}	23700
3L	4th FLAT (" " ")			19 56		"	"		180 ^{sec}	23800
4C	Comp					"	"	ThA	30 ^{sec}	
5C	Comp.								30	200
6S	η UMa (HD 120315)	13	^(1989.5) 47.2 +49 23	20 34	20 39	03 14 E	+49 17			1195
7C	Comp.								30	159
8S	α Leo (HD 87901)	10	^(1989.5) 07.8 +12 01	21 39	21 49	01 39 W	+11 56			13990
9C	Comp								30	260
10C	Comp.								30	164
11S	η UMa (HD 120315)	13	^(1989.5) 47.2 +49 23	21 39	22 10	01 40 E	+49 17			10009
12C	Comp								30	1073
13L	Flat #1 (Telescope on 50ph)								60	92
14L	Flat #2								180	28500

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions . *Complete Cloud* 30

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
180		27000				Echelle grating = 1.810 X-grating = 0.5192		H = 400 μ (0.225)	600,4481	W = 80 μ (= 0.269)			1628
180		27000											1625
180		27000											1620
30		887										$\approx 2/3$ Left or West	7084
		1016		V = 2.56	09.5V							Finder image $\approx 1'$ below xhair sic N Hazy, some clouds. T = 0.256	297
30		890											2716
16	16												Backed up as APR2789.DAT

3) Tues./Wed.

Date 25/26 Apr. 1989 Observers Fds - 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.	Exp. Mtr.	S
	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	
	γ 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

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Plate No.	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.
	Plat								60	
	Plat								60	
	4 X Plat @ 180s								180	300f
	4 X Plat @ 120s								120	8750
	4 X Plat @ 60s Comp.								100	40
	α Leo (HD 87901)	10 07.8 ^(1989.5)	+12 01	20 01	20 11	00 06W	+11 56		100	12000
	Comp.								100	31
	Comp.								100	34
	η UMa (HD 120315)	13 47.2 ^(1989.5)	+49 23	20 22	20 41	03 01E	+49 17		100	10010
	Comp.								100	
	<u>Comp for stellar</u>								10	
	Comp								10	
	α Leo (HD 87901)	10 07.8 ^(1989.5)	+12 01	20 55	21 00	00 56W	+11 56		100	5023
	α Leo (HD 87901)	10 07.8 ^(1989.5)	+12 01	21 02	21 11	01 07W	+11 56		100	7993
	α Leo (HD 87901)	"	"	21 12	21 24	01 20W	+11 56		100	1001

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

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
	60					Echelle grat. = 1.810 X-grat. = 0.4952		W = 80 μ (0.269)	600,4481	H = 400 μ (0.225)			347
	60					Echelle grat. = 1.850 X-grat. = 0.4950		W = 80 μ H = 400 μ	600,4481				661
	180	3000				ADCU = 2193/2175/2179/2187						T = +0.460	
	120	8750				ADCU = 1440/1446/1434/1432						T = +0.566	
	100	40											439
	1	12600		V = 1.36	B7V								4540
	100	31											426
	100	34											466
		10010		V = 1.86	B3V							T = +0.62f. Thin clouds.	4529
	100												14500
	10												6278
	10												5170
		5023		V = 1.36	B7V								1876
		7993		V = 1.36	B7V							T = +0.654	2892
		10001		"	"							T = +0.642	3493

35 Wed./Thurs.

Page 2

Emulsion Batches:

Date 26/27 Apr 1989 Observers Fds - 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.	Sc
	Comp. (for α Leo)								10	4	
	Comp. (for α Leo)								100	61	
	Comp. (for η UMa)								100	54	
	η UMa (HD 120315)	13 47.2	^(1989.5) +49 23	21 38	21 54	01 50 E	+49 17			9991	
	Comp									298	
	Comp								15	429	
	8 Crv Crv	12 29.9	^(2003.0) -16 31	22 09	22 37	00 18 W	-16 33				
	Comp								15	136	
	Comp								100	31	
	ζ Oph (HD 49757)	16 36.6	^(1989.33) -10 33	23 10	23 40	03 10 E	-10 37			1600	
	comp								30		
	ζ Oph			23 45	00 15	02 15 E				900	
	Comp								10	43	

57 Thur./Fri. Page 1 (Also JBL & Sarsalov)
 Date 27/28 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. Nr.
	Comp Plat								180s	
	Plat Comp 4 @ 400s	ADCU = 3288	3310, 3312, 3290						400	
	3 X Plat @ 180s	ADCU =	1474 / 1463 / 1465						180	
	4 X Plat @ 60s	ADCU =	478 / 477 / 477 / 475						60	
	Comp.								100	-27
	α Leo (HD 87901)	(1989.5) 10 07.8	+12 01	19 50	20 04	00 05W	+11 56			1002
	Comp.								100	39
	Comp.								100	37
	η Hya (HD 74280)	(2000.0) 08 43.3	+03 23	20 16	20 56	02 21W	+03 20			1603
	Comp								100	55
	Comp								100	39
	η UMa (HD 20315)	(1989.5) 13 47.2	+49 23	21 13	21 35	02 07E	+49 17			7008
	Comp								100	47
	Comp.								100	32
	α Leo (HD 87901)	(1989.5) 10 07.8	+12 01	21 48	22 02	02 04W	+11 56			9983
	Comp								100	

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

Exp. Nr.

Spectr. Temp. Dome Temp./Hum. *7C/36%* ..Transparency Conditions *Clear* *38*
Dome opened & fans turned on @ 18:30

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
180s							Echelle grat. = 1.850 1.850 X-grat. = 0.5037	W=80μ (0.269)	600, 4387	H=400μ (0.225)	Camera focus = 0.331		1472
400													3288
180													
60													
100		27										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.....

.....

Plate No.	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)	16 36.6	^(1989, 33) -10 33	01 58	02 28	00 00E	-10 37		
	comp								10
	30ph (HD 149757)	16 36.6	^(1989, 33) -10 33	02 29	02 59	00 31W	-10 37		
	comp.								10
	30ph	16 36.6	-10 33	03 02	03 32	01 03W	-10 37		
	comp								25
	30ph	16 36.6	-10 33	03 33	04 02	01 36W	-10 37		
	comp								100
	30ph	16 36.6	-10 33	04 07	04 37	02 10W	-10 37		
	comp								100
	4 Plates @ 120	737	874 874	877	886	887			

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

Exp. Mtr. S

4650

4600

4500

3900

5108

43 Fri./Sat.

Echelle flexure tests

Emulsion Batches:

Date 28/29 Apr. 1989 ... Observers 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			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	175
	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

5^m 6⁰⁰

Emulsion Batches:

IIaTg. 26^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.
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
	Comp								15
	α Leo (HD 87901)	10 07.8	+12 01	20 10	20 26	00 38W	+11 56		
	Comp								15
	Comp								15
	η UMa (HD 120315)	13 47.2	+49 23	20 35	21 04	02 24E	+49 17		
	Comp								15
	Comp								15
	α Leo (HD 87901)	10 07.8	+12 01	21 13	21 33	01 45W	+11 56		
	Comp								15
	Comp								15
	η UMa (HD 120315)	13 47.2	+49 23	21 42	22 14	01 14E	+49 17		
	comp								15
5058912	Spot comp calibration test			D4, 15 ^v , 15 ^m		for ① ② & ③		4300 Å	
	↳ 2.82, 0.24								

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

Exp. Mtr.

33350

512

11988

500

507

9004

490

492

12003

488

511

8002

500

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%* ..

Comparison e/Filiter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
360					Echelle gratings = 2,50 X-grat. = 0,5025		W=80µm (0.269)	600,4387	H=450µm (0.225)		Moisture on window.	
120	33350											
15	512										T=+0.502	1813
	11988	good	V= 1.36	B7V							T=+0.523 Hazy.	3730
15	500											1780 500
15	507											1731
	9004		V= 1.86	B3V							T=+0.599 thin clouds.	3479
15	490											1750
15	492											1813
	12003		V= 1.36	B7V							T=+0.646	3943
15	488											1837
15	511											1796
	8002		V= 1.86	B3V							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							
					<u>IIIOT</u>							

47- Wed-Thurs

Date MAY 3/4/1989... Observers T.H.....

Dev May 5
8 min @ 68° T_n

Emulsion Batches: 1.46, 6.20
 { ... IIa.o.-e... IIS... APR 22
 { ... IIa.o.-e... IIS... 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.
Fm00188.TN	HD 93271	10 46.9 ²⁰⁰⁰	+43 02	20 13		00 00	+43 00	Slit View	31x31/ps
Fm00189.TN	HD 128718	14 36.9 ²⁰⁰⁰	+42 50	20 28		03 35E	+42 47	Slit View	31x31
50590	HD 122742	13 58.6 ¹⁹⁰⁰	+11 16	20 52	22 37	00 55E	+10 45	FeNe Clear	6060-60 4825 4980
50590T	Spot Calc for 50590-93					15 min @ 15V 3900	D4 D3 D2 4300 4810		
50591	HR 4750 HD 108642	12 23.7	+26 47	22 46	23 45	01 48W	+26 13	FeNe Clear	35-35-35 3600 3640
50592	HR 4751 HD 108651	12 23.8	+26 27	23 49	00 55	02 58W	+25 52	n	35-35-35 4000 4000
50593	HR 4752 HD 108662	12 23.9	+26 28	00 59	01 16	03 19 W	+	"	55-55 9000
190.TN	HD 153399			02 04	02 06	00 20 E	+43 37	slit view of course	31x31/ps
191.TN	HD 195047			02 20	02 26	03 30 E	+47 48	" "	31x31
50594	HD 158633	17 25.3	+67 24	02 39	04 02	01 09 W	+67 43	FeNe Clear	35-35-35 3560 3650
50595	HD 8890	01 22.6	+88 46	04 14	04 19	07 42 E	+89 06	n	80-80 12000
50596	"	"	"	04 24	04 29	07 32 E	"	n	80-80 12850
50596F	Focus test			04 40		0 0	39 30	n	220 90
	Spot plate 505997 for plates 50594-96								

Spectr. Temp
Focus...
Spectr. Temp

Exp. Mtr.
8. 27/88

31x31/ps

31x31

4825
4980

3600
3640

4000
4000

9000

31x31/ps

31x31

3560
3650

12000

12850

8.

49

Thurs - Fri

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

Emulsion Batches:

1.40, 0.20

Dev MAY 5th
68°F @ 8 min

... 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 22.6	+88 46	20 25	20 31	09 05 W	Reversal +89 17	FelNe clear	90-90
50598	"	"	"	20 32	20 46	09 20 W	+89 17	"	90-90
50599	HD 84441	09 40.2	+24 14	21 01	21 46	02 35 W	+23 45	"	90-90
50599T	Spot cal for	50597 - 50599	+94 - 96	15 min @ 15V		04 3900	D3 4300	D2 4812	
50599F	Focus test			21 52		0 0	- 9 20	FelNe 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. Mtr.

R. Filter

12/100

12/150

3754

5630/9709

Spectr. Temp. 53.0°FDome Temp./Hum. $77.5^{\circ}/90\%$ Transparency Conditions \dots Hazy...cloudy.....52Focus 386Spectr. Temp. 51.9°FDome Temp./Hum. $78^{\circ}/100\%$

Observing completely manually Grating tilt disabled

Comparison Type/Filter	Exp.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Folp Clear	?		$\beta = 1.9$	FB	BC	$G = 5430$ 1200/50.8	BS	IIo0-e	1	Asu Sp-KK	First Comp at 12 or 50 Then Spect Control problem.	O.K.
Rehe Clear	20-28		$\beta = 1.9$	FB	BC	$G = 5430$ 1200/50.8	BS	IIa0-e	1	Asu Sp-KK		O.K.
Rehe Clear	20-28	O.K. - poor	$\beta = 3.93$	FOp	4	11	BS	IIIa0-e	1	" " "	Some clouds Comp 80500 = 1675 cuts	O.K.

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

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!

Compassion
 Type/Filter Exp.
 RNE Clear 90-90
 RNE Clear 90-90
 RNE Clear 90-90
 RNE Clear 90-90
 RNE Clear 90-90
 RNE Clear 90-90

Exp. Mtr.	Seeing	Ptg. 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 Broken 2x5	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 .kk.-Tr./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.
0	Flat field	30 ^s on meridian							
1	"	"	"						
2	Comp.							ThA	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. Nr
 2700
 692
 10,000
 682
 695
 1521
 678
 ~15000
 ~15300
 ~12000

Spectr. Temp. Dome Temp./Hum. $75.5^{\circ} / 70\%$

Transparency Conditions *Clear* 56

Focus

Soon to be cloudy

Spectr. Temp. Dome Temp./Hum.

S. C.

Comparison
Type/Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2700				1872 Ret 600, 5190	X A392 Eh 18.15	400H 50u	X 5190A		st		1098
											1094
7hA 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	
<p>ADCU = 1059 / 1064 / 1065 / 1051</p> <p>Backed up @ MAY 15 89. DAT ; Repacked and Kermit to Vax.</p>											

57 pg #1

Tues/Wed

Echelle Reticon @ Broken Cass focus

Emulsion Batches:

Date MAY 16-17, 1989

Observers ... T.n. (Henryon 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.
OL	1st Flat, External Bulb		240sec	20 00		0 0	platform	i	240sec
1,2,3S	3 x Ext Flat				20 05	"	"		240sec
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 eta Boo			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 eta Boo			23 19					30
17S	HD 124897	14 11.1	+19 42	23 23	23 34	00 42W	+19 12		
18C	Comp for eta Boo			23 35					30
19C	Comp for B CrB			23 41					30

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

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		
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		
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		
27C	Comp @ Vega posn							ThA	30
28, 29, 30, 31S	EXT FLATS X A					0 0	Platform	\approx	40 ^{secs}

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

1600

700

6000

705

689

6010

27000

Back

Spectr. Temp. Dome Temp./Hum. Transparency Conditions ... *sl. hazy* 60
 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
7A	30sec	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 Ret Obs & Guiding View.	875
		700										Dewar T = +0.241	2123
									Top up @ 00:55			T = +0.230	
7A	30sec												2022
		6000	POOR	Bc 2.2	A5 III						Hsm sp tk		2212
	30	705											2205
7A	30	689											2116
		6010		0.0	A0 V							T = +0.256	2195
7A	30	"											2034
7A	40sec	7000											2100, 2366, 1949, 2075
<p>Backed up as MAY1689.DAT, Repack done, but <u>Kernit of same not done.</u> PS/2 was changed in many ways from last night.</p>													

Spectr. Temp. Dome Temp./Hum. 19c / 58%

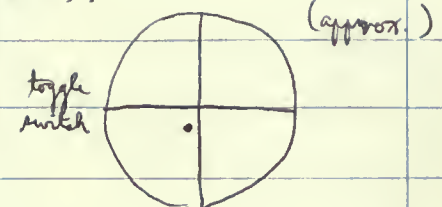
Focus Dome Temp./Hum. 16c / 66%

Spectr. Temp. Dome Temp./Hum. 16c / 66%

Transparency Conditions ~~Very~~ Fairly hazy - very thick haze.

Dome opened & fans turned on @ 19:45 6:2

Moon looked very dull after midnight (an indication of the hazy cond.)

Comparison pc/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30	~2400						W = 50μ (≈ 0.281), H = 400μ (≈ 0.225)				ADCU = 701 / 696 T = 66 F, Camera focus = 0.3542	
30	611											1226
	10018	floor	B = 1.29	K2 III p						std. vel.	Forgot the dome, that's why it took so long!! T = +0.234	2845
30	615										T = +0.234	1336
60	counts in 1 min.						Field for Polaris @ 00:20 (H.A. = 1033 E): Dec. = +89 06					
												

Spectr. Temp. 67 F

Dome Temp./Hum. 15.5C/56%

Transparency Conditions ... Clear

Focus 384

Dome opened & fans turned on @ 20:30.

66

Spectr. Temp. 60 F

Dome Temp./Hum. 17.5C/61%

Comparison Type/Filter	Exp.	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/wk
		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/wk OK
									IIIaJ-e				v
		15077/15021	poor- O.K.	B= 3.93	K2III	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	std. vel.		Comp/wk OK
		6131/9713										T=60 F, Focus = 385	center = 1/2 in

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 Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fine 24-out Clear 20-25	B-filter 10008	V. μm	B= 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp -KK	80-s comp. = 1652 Fairly clear lazy.	5/16K
Fine 20-25 Clear 20-25	10005	V.V. μm	B= 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp -KK	Very lazy; turning cloudy!	5/16K
Fine 24-out Clear 20-25	5415/9736							IIa0-e ^{OK}			T=64 F, Focus = 384	5/16K 3/Red

69

Wed-Thurs

Pg #1

Emulsion Batches:

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

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
0L	FLAT internal			20 10		02 20	+46°		30
1C	Comp for α Boo			20 28				ThA	10
2S	HD 124 897 α Boo			20 32	20 38	01 42 E	+19 09		
3C	Comp for α Boo			20 39					10
	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
8,9,10,11L	Flats x4 Internal	"	"	21 20			"		30 sec
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	"		
	Comp "Long"		after Polaris	22 26					45
	Comp "short"	"	"	22 27					10
	Comp at B Cr B posn.			22 35					45
	HD 137909 B Cr B	15 23.7	+29 27	22 40	23 31		+29 06		
	Comp after B Cr B		of same posn of course					ThA	45

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

5000

182

5388

185

1000

3000

6120

865

193

811

2760

860

Spectr. Temp. Dome Temp./Hum. 63°F / 70% H Transparency Conditions SI Hazy 7.0
 Focus Focus at 65°F = 0.328 1.10; it was at 0.325 at start
 Spectr. Temp. Dome Temp./Hum. changed focus @ 23:38 to 0.328 Dome T = 60°F

Companion Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30	5200				1872 Reticon	605 6728	50μ 400	6728A	Echelle tilt 18.50 CROSS tilt 0.3092		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 10 hr 50 min W @ 21:00 EST	
10 sec	21000									waiting for clouds to depart	1176 s for each	
30 sec	23000										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	
45	6120										I had about 200 counts before it bombed.	3183
10	865											74457
10	193											4046
45	811											14424
	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 \approx 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 42.1	00 44.37	01 12 W	+29.06		2410
	Comp for HD 137 909	at same pos'n				"	"	ThA	45
	Flats (Interm)	at same pos'n		00 48		"	"	Tung	20 sec 2300
	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 δ Boo			01 16				ThA	45 sec 1053
	Comp for ν			01 23.39			+12 28	"n	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 δ Aql						+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					"	"		45 970

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions *getting hazzy... cloudy.....*

Focus

22

Spectr. Temp. Dome Temp./Hum. *185/6*

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
ThA 45					1872 Ref	600, 6728	50 width 400u.H	6728 R	Ech tilt = 19.50 Cross = 0.3092		Dome temp = 60° of Focus 0.325	14493
	2410	OK	B 393	FOP						Asm Sp-KK	Telescope focussed before to max signal when on slit	1179
ThA 45											Dewar T = +0.198	14499
Lang 205e	33000										2717 T = +0.227	2717
" 45e											1121, 1916, 1923, 1914, 1910	
ThA 455e												15791
	5168		B 1.29	K2MP						Std Vel	Lower Finder image at 3/4" to Right of center	B557
ThA 455e	1053											13796
n 455e												14468
	5015	OK	B 2.2	A5III						Asm Sp-KK	Dome T T = +0.204 = 57° F	2209
ThA 455e	978											14460
n 455e	968											14622
	2751	Fire	B* 3.68	FOLV						Asm Sp-KK	* I guess this is pushing it.	1593
45	970										Image at 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. *57.9 / 85.7*

Comparison
Type/Filter Exp.

Tung 15sec
Tung
Bulb

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

6728A

ADU
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:
 Yec 5^m 68° III a.e. e.g. I.A.F. - MAY 6 3+, 0.42, 0.32
 8^m 68° II a.o. e. I.I.S. ... MAY 20
 1 25 hrs A²H²

Plate No.	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 mate"	31 x 31 pps R-511/W
50616	HD 76644	08 52.4 ¹⁹⁰⁰	+48 26	20 47	21 16	04 23 W	+48 02	FeNe clear	FER60 60-60 1530/1530
50617	HD 112028	12 48.3	+83 58	21 27	23 30	02 45 W	+83 34 Reversed	"	60-60 1420/1450
50617T	Spot Calc for	50616 - 16, 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	+19 22 Reversed	FeNe clear	85-85 26500
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 14600
50620	HD 137909	15 23.7	+29 27	00 26	01 18	01 53 W	+29 15 Reversed	"	90-90 1800/1400
50621	HD 8890	01 22.6	+88 46	01 30	01 35	08 52 E	+89 07	"	90-90 12300
50622	"	"	"	01 41	01 49	08 38 E	"	"	90-90 2015K
50623	HD 182640	19 20.5	+02 55	02 04	02 52	00 33 E	+03 01	"	90-90 1600/300
	A Drive Test		"			0			

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

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

Transparency Conditions *OK - slight haze that gave a pale yellow/white sunset. i.e. not Redish orange as is usual.*
76
Shutters opened at 19:30, no person

Focus ... 385.....

Spectr. Temp. $.58^{\circ}f$

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

Companson type/Filter/Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
7/20/80	31 x 31 p/eds B-filter IN	poor	7.14	F2	(Box and camera good)		150u	4-frames		Dome West	* Dec seems too far North Wind 20kph from NW gusty	
2/20/80	15380/15300	so so	3.32	A5	BC	G=4238 830/40.2	BS	IIIa-e	1	Asm Sp-KK	60 sec Fe Ne @ 1000 c/s	fine
11/20/80	14200/14000	poor	5.28	B8	BC	830/40.2	BS	IIIa-e	1	Shell-Blu	Lower left of pair in guiding view + brighter	fine
2/20/80	26500		1.29	K210p	BC	830/40.2	BS	IIIa-e	1	std vel	62°F	str
2/20/80					"	830/40.2	BS	IIIa-e	1		T=61.5°F set still @ 385	
2/20/80					"	G=5440 1200/50.8	"	"	1		" " " 385	
2/20/80	4600		1.29	K210p	"	"	"	IIIa-e	1	std vel		Fine
2/20/80	18000/17400	so so	3.93	F0p	"	"	"	IIIa-e	1	Asm Sp-kt	G set should be 5730 but ok	fine
2/20/80	12300		1.09	F8	"	* G=5440 1200/50.8	"	IIIa-e	1	"	* Grating Tilt really 50.9	fine
2/20/80	15K		"	"	"	"	"	"	1	"	prob strong	fine
2/20/80	16000/300	poor	3.68	F0TU	"	"	"	IIIa-e	1	"	some cloud - v cloudy	wk.

77 2 Large Sat night Tours - Looked at M3.

8^m680 Emulsion Batches:
 IIa-e 118... MAY 20 1.58, 0.24

Date MAY 27/28/89... Observers 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.
50624	HD 165908	18 03.2	+30 33	23 30	00 38	01 22 E	+30 31	FeNe clear	90-90
50625	HD 8890	01 22.6	+88 46	00 52	00 59	09 24 E	+89 07	n	90-90
50626	"	"	"	01 05	01 16	09 07 E	"	"	90-90
50627	HD 193322AB	20 14.8	+40 25	01 38	02 56	01 15 E	+40 38	"	25-25-25
50627T	Spot Calc for 50624	-28		+ Previous nights IIa-b	15 min	15 V	3900 4300 4810		
50628	HD 186791	19 41.5	+10 22	03 00	03 13	00 27 E	+10 31	FeNe clear	70-40

Spectr. Temp.
 Focus...
 Spectr. Temp.
 Exp. Mtr.
 8 F/4.4
 17,300
 12,658
 13,400
 5800/5300
 6000

Spectr. Temp. 54.0° F

Dome Temp./Hum. 48° F / 70% H

Transparency Conditions Fine

Focus 388.68 / 391.62

N West wind

78

Spectr. Temp. 50.0° F

Dome Temp./Hum. 42° F / 70% H

Comparison
Filter Exp.

90-90

90-90

90-90

90-90

90-90

90-90

90-90

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
5 Filter	poor										
12,300	poor	5.5	FTV	BC	G=5430 1500/50.8	BS	IIaD-e	1	HsmSp-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	IIaD-e	1	Bln Ostr	Set 391 T=52°	fine OK
							IIaD-e				✓
6000	poor	4.24	K3 II	BC	830/40.2	BS	IIaD-e	1	std Uol	RV = -2.1 ± 0.2 Frm NA/m	fine OK

79

Date *MAY 28/29.189.* Observers *KK-Tests./Tn.....*Emulsion Batches: *2.92, 0.25* ^{*±26 hrs*}
5^m 68° *See. Ital. exp. IAT - MAY 27* ^{*N 2/12*}
8^m 68° *Ital. C. 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.
	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	0325 W	Reversal +83.36	Felle Clear	60-60-60
50630	HD 8890	01 22.6	+88 46	00 14	00 19	1001 E	unreversed +89.06	"	90-90
50631	"	"	"	00 26	00 33	0947 E	"	"	90-90
50632 ^{315^a}	HD 137909	15 23.7	+29 27	00 46	01 15	0157 W	+29.06	"	180-180
50632 T	Spot Calc for 50629, 50632 50631					15 min @ D4	17.5V 15V 3900 4300	15V 4810	
DT 000167.TN	HD 188041	19 53.3	-03 07	01 33	01 38	0203 E	-03.03	"N" made, "O" Int	
DT 000168.TN	"	"	"	01 46	01 46	0153 E	"	"	"
50632 F	Focus test			01 56		0 0	- "	F2 Ne clear	180/120

Spectr. Temp. 61.0°F Dome Temp./Hum $63.9^{\circ}\text{F}/60.7\text{H}$ Transparency Conditions ... *Fine*

Focus ... $388.612, 386.68$

80

Spectr. Temp. 58.0°F Dome Temp./Hum $50.0^{\circ}\text{F}/70.6\text{H}$

Comparison
type: Filter Exp.

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	Ilalabg	1	Shell-Blk	BS monitor view lower left of Brit and pair	fine
12000		1.9	F8	BC	G=5430 1200/50.8	"	Ilalabg	1	Asm Sp-ktc	T=+61°K set to 386	Fine
12900		"	"	"	"	"	"	1	"	broken 2 pcs saved box,	stuck in not dead.
35,400	OK	3.93	F0p	"	"	"	Ilalabg	"	"	some dead of end.	
39 columns	OK	5.85	A5p	no wind at all		150u	Ilalabg	T=0.4		leaving worm on left of start	
"	"	"	"	"		150u	Ilalabg	T=0.8		leaving worm @ end	200 frames
"	"	"	"	"		150u	Ilalabg	T=0.5		leaving worm @ end	100 frames
					1200/50.8	BS	Ilalabg	1		set 386, T=58°f	center S/B/ue

Mon - Tues

Date MAY 29/30/89... Observers Tn.....

Emulsion Batches:
 .Hao. e. ISB - 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.
50632	H0122742	13 58.6	+11 16	20 29	21 25	00 20E	+10 46	FENE 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 the day</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. Nr.
 P. S. Hr.

1357/400

in. Tn

the day

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

Focus ... 3.86

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
		B Filter											
15-65-15	357/400		OK	6.8	G8V	BC	1200/508	BS	IIa0-e	1	Asm Sp-hts	cut short Cloud from SW quickly	wk.
<p>in. These notes based on my memory the next day. <u>SBL kept detailed Log of Tests.</u></p> <p>the declination set at, usually intervals of 3 hrs gradually moved to.</p>													

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.	Exp. Nr.
OL	Flat (Prompted Flat)							Tung	40	364
	Comp. [note]							th A	30	249
2S	HD 8890 (Polaris)	01 22.6	+88 46	22 35	23 03	10 59 E	+89 07			529 0
	Comp			23 12 3				76 A	30	247
	Comp for α Boo			23 12 34					30	239
5S	HD 124897 (α Boo)	14 11.1	+19 42	23 18	23 20	01 35 W	+19 10			421
	Comp								30	223
	Comp.								30	223
8S	HD 137909 (β CrB)	15 23.7	+29 27	23 31	00 38	01 42 W	+29 05			403
	Comp.								30	270
	Comp.								30	261
11S	HD 172167 (Vega)	18 33.6	+38 41	00 57	00 59	01 07 E	+38 42			459
	Comp.								30	
	Comp.								30	199
14S	HD 182640 (δ Aql)	19 20.5	+02 55	01 06	02 27	00 48 E	+03 01			4082
	Comp.								30	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 50M						1509
		4004	OK	1.91	F8						Asm Sp-kk	T=10.160	3742
	45	3840				3855 / 3857 / 3863						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 $2\frac{1}{2}''$ 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 Tue./Wed.

Date 6/7 Jun 1989 Observers Yee

Emulsion Batches:

IIa0-e IIF May 20
 IIa0-e* IIF 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. Mtr.
 B-filter
 10196
 10157
 10082
 409
 1535/1543
 5552
 1535/1543

Spectr. Temp. ... 59 F

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

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

Focus ... 384

Dome opened & fans turned on @ 20:10

Spectr. Temp. ... 66 F

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

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe Ne Clear 24/20	B filter 10196	O.K. - good	B = 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK	80-3 comp. = 1734	good
Fe Ne Clear 80-80	10157	O.K. - good	B = 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK		good
Fe Ne Clear 80-80	10082	O.K. - good	B = 1.29	K2 IIIp	BC	G=5430 1200/50.8	BS	IIa0-e*	1	std. vel.		good
Fe Ne Clear 80-80	409	poor	B = 6.8	F8	BC	G=5430 1200/50.8	BS	IIa0-e*	+	Arm Sp - KK	Too hazy - plate not saved.	
Fe Ne Clear 80-80	15035/15043	poor	B = 3.93	Fop	BC	G=5430 1200/50.8	BS	IIIa Jee fg	1	Arm Sp. - KK.		sl. fog good
Fe Ne Clear 24/20	5558 5558 / 8968				BC	G=5430 1200/50.8	BS	IIa0-e*	1		T=66 F, Frame = 384 Center vs 19ed	

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

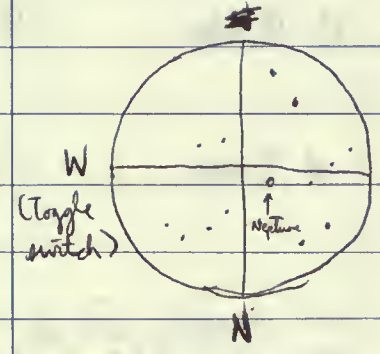
Dome Temp./Hum. ... 13C/90%

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

Transparency Conditions ... Clear 92
 Sat. pub. Trans before, viewed M3.

Comparison
 Type/Filter Exp.
 None Clear 7/8-10/10
 D2 10-15
 None Clear 10-15
 SY
 None Clear 8-10
 None Clear 24/30

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	1	Asmp-KK	50-s comp. = 1623	O.K.
35250 240	O.K.	B= 2.2	A5III	BC	G=5430 1200/50.8	BS	IIa0-e IIIaJ-efg	1	Asmp-KK	Forgot to unwrap, redo exp.	sl. fog good
10054 5284/7808	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 time out to view Saturn & Neptune visually.	good center v.sl. red overall



93. Sun./Mon.

Page 1

Emulsion Batches:

8^h 68^o IIa0-e. IFS... May 29..... 1.62, 0.26

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

Plate No.	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	Fene Clear	80-80
50641	HD 8890 (Polaris)	01 22.6	+88 46	22 13	22 15	11 10 E	+89 07	Fene Clear	80-80
50642	HD 8890 (Polaris)	01 22.6	+88 46	22 23	22 25	11 00 E	+89 07	Fene Clear	80-80
50643	HD 137909 (β CrB)	15 23.7	+29 27	22 39	22 43	00 20 W	+29 05	Fene Clear	80-80
50643T	Spot calibration for	50640-44, 46				15 min @ 15V		D4 D3 3900 4300	D2 48-10

Spectr. Tem
Focus.....
Spectr. Tem
Exp. Mir.
5^s, 2^s
5^s, 2^s
15, 5
15, 5
15, 5
15, 5
8x0.5
8x24
12497
11203
11381
10101

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

Dome Temp./Hum. 17.C/58.%.
112.24

Transparency Conditions Clear.....

Focus 384.....

Dome opened @ 20:15

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
		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					
3 x 0.5 ^s					0	EW					
B filter											
12497	good	B=1.29	K2IIIp	BC	G=5430 1200/50.8	BS	IIa0-e	1	std. vel.	80-3 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

97, Tues./Wed.

Page 1

Emulsion Batches:

Date 13/14 Jan 1989 Observers Tu-Yee

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison		Exp. Mr.
								Type/Filter	Exp.	
	Plat (set on α Boo)						+19 09		30	
	Comp.								30	190
	HD 124897 (α Boo)	14 11.1	+19 42	00 24	00 27	03 26W	+19 09			4500
	Comp.								30	205
	Comp.								30	364
	HD 8890 (Polaris)	01 22.6	+88 46	00 42	01 11	08 52E	+89 07			2600
	Comp.								30	412
	Plat (set on Polaris)						+89 07		30	~4600
	Plat XXXX						+89 07		20	~3100
	Comp.								30	395
	HD 172167 (Vega)	18 33.6	+38 41	01 28	01 32	00 10W	+38 42			4011
	Comp.								30	375
	HD 172167 (Vega)	18 33.6	+38 41	01 36	01 39	00 17W	+38 42			4500
	Comp.								30	390
	HD 172167 (Vega)	18 33.6	+38 41	01 43	01 47	00 25W	+38 42			4552

Spectr. Temp.

Focus.....

Spectr. Temp.

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

Transparency Conditions *Clearing* 98"
 Dome opened & fans 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	K2 III p						Azm Sp - KK std. vel.		1583
	30	205											1131
	30	364											1388
		2600		B=1.9	F8						Azm 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	A0 V						JBL	Normalized Lower Finder while at zenith	1291
	30	375											1427
		4500		B=0.04	A0 V						JBL		1640
	30	390											1355
		4552		B=0.04	A0 V						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
	30	432						W=50μ H=400μ	600,5190Å				1339'
		337										Note - Image in Lower Finder.	1186
		1210		B=3.68	FoIV						AmSp - KK	≈ 1/8 below x hairs & sl left of x hair center	349
	30	262										Exp. terminated due to clouds. T=+0.180	1088
	30	≈4000											2457
	20	≈2650										ADCU = 1546/1472/ 1468/1475	
<i>RET.DAT = 202,880 bytes / Repack Done</i>													

101

Sun-Mon

Tests

1.46, 0.22

3t, 0.99, 0.75 Emulsion Batches:

DEV 27 June 1919 IIIal-efg. IAT... MAY 27 25hrs N²⁴²

IIad Dev JUNE 19, 8 min Tn... II 20-E. IIS... MAY 27

3t, 0.40, 0.31 DEV June 27 IIIal-efg. IAT... JUNE 16 N²⁴² 25hrs

Date JUNE 18/19. 189. Observers KK-T.G./Tn.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
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 ⁵ EW	at -1 30 ⁵ 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... 38

Spectr. Temp.

Exp. Mtr.

knife edge

V.

B filter

41,000

4400/7700

2100/1800

213000

13,110

15380/15200

98070

9500/6500

4000

For plates 50

MAY 27 25/18
 17-42
 JUNE 16 19-17
 25/18
 Comparison Type/Filter Exp.
 3x10³
 3x10⁵
 at 0
 F&M
 Clear
 240-280
 280-320
 320-360
 360-400
 F&M
 Clear
 60-100
 F&M
 Clear
 140-180
 180-220
 220-260

Spectr. Temp. 69°F
 Focus 383.68, 386.612
 Spectr. Temp. 67°F

Dome Temp./Hum 67°F/64%
 Dome Temp./Hum 63°F/85%

Transparency Conditions Fine - sl haze
 Dome opened @ 19 45
 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											
4,000	1.29	K20P	BC	1200/508	BS	IIIaJ-eg	1	stdVel	120 secs comp = 2250 cuts	sl. High fog	Strong	
4400/7700			BC	"	BS	IIIaJ-eg	1		69°F SET 383		High fog	
21000/18000	5050	3.93	F0p	BC	"	BS	IIIaJ-eg	1	Asm Sp-KK	Lower finder normalized to center for star on BS.	Fine High fog	
213000	1.9	F8	"	"	"	IIIe0-e	1	" " "	Note when BS centered, image on lower finder was 3/4" to the left of center. Toggle switch at the left too.		Fine	
13,100	"	"	"	"	"	"	"	1	" "			Fine
15380	OK	5.28	B8	BC	G=4238 830/402	BS	IIIaJ-eg*	1	Spell-Bln	Lower Left of pair, BS view Focus Set to 386	Fine	
28070	OK	4.01	K3II	BC	830/402	BS	IIIaJ-eg	1	stdVel	Note - Focus display reads 2650 on mkw (267 for Ethale) Also, the slightly brighter of the pair ideal focus = 2663 Comp prob too strong	Comp. & stell. too strong. High fog.	
2500/6500			"	"	"	"	"	1		T=67.5°F Set 386	High fog	
40 100	2.2	A5III	"	1200/508	BS	IIIaJ-eg*	1	Asm Sp-KK		Set 383	Fine	
For plates 50647, 48, 52						IIIaJ-eg						

103 Fri./Sat.

Date 23/24 Jun. 1989 Observers Tu-Yee

Emulsion Batches: June 8
 8^m 68°, 28 Jun IIa0-e. IIP... 118 - ~~MA429~~
 Dev 27 JUNE IIaJ-e. IAT. May 27... 25 hrs N242

Plate No.	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	19 00.3	(2000.0) +40 41			00 00	+40 37		
FM00097.TN	HD 176844 Seeing test	19 00.3	(2000.0) +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	20 27.0	(2000.0) +47 55	02 24		00 11 E	+47 50		
	Spot plate 50662T for plates 50654, 56, 57								

Spectr. Temp
 Focus.....
 Spectr. Temp
 Exp. Mir
 6 filter
 369/200
 2714
 10121
 10084
 39x39 pixels
 31x31 pixels
 35138
 3920/
 31x31 pixels

June 8
8-111429
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
at 19 40 EST
Seeing test attempted * But

CCD doesn't work
bright. Observed
using eyepiece.

Comparison Type/Filter/Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fine Clear Diff. out 60-140	3490/2080	OK	B=6.8	G8I	BC	G=5430 1200/50.8	BS	IIa0-e	1	AmSp - KK	60-s comp. = 959	wk.
Fine Clear 140-140	27141	O.K.	B=1.29	K2IIIp	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	std. vel.	Getting cloudier.	Fine High fog
Fine Clear 10-10	10121	O.K.	B=1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	AmSp - KK	Golden conical, xhair image (± 3/4 to left = ± 1/5 above xhair)	fine
Fine Clear 10-10	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 prog. 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.	
Fine Clear 140-140	35138	O.K.	B=2.2	A5III	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	AmSp - KK	Pod fixed CCD, obs. resumed with camera. Some clouds.	Fine High fog
20-140	3920/				"	"	BS	IIIaJ-e	1		T=71F, Focus = 382	
	31x31 pixels		V=7.9	G5IV			150µ			Int. x 4 4 frames "N" mode	Dome faced WNW (sl cloudy light NW breeze) or HAZE	High fog

Field drawn

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. 1900	Declination 1900	Starting Time E.S.T.		Ending Time E.S.T.		Hour Angle End	Declination	Comparison	
										Type/Filter	Exp.
50658	HD 8890 (Polaris)	01 22.6	+88 46	23 12	23 22	09 13 E	+89 07	FeNe Clear	Diff. out 80-80		
50660	HD 8890 (Polaris)	01 22.6	+88 46	23 31	23 39	08 57 E	+89 07	FeNe Clear	80-80		
50661	HD 161096 (β Oph)	17 38.5	+04 37	23 52	00 30	00 44 W	+04 30	FeNe Clear	80-80		
FM000199.TN	HD 176844 ^{Seeing} test	19 00.3	+40 41								
FM000200.TN	HD 176844 ^{Seeing} test	19 00.3	+40 41								
50662	HD 186791 (γ Aql)	19 41.5	+10 22	01 00	01 18	00 32 E	+10 32	FeNe Clear	50-50		
50662T	Spot calibration for	50654, 56, 57 + 50659-63 + 65, 66				15 min @ 15V					
50663	HD 193322 AB	20 14.8	+40 25	01 24	02 59	00 38 W	+40 39	FeNe Clear	35-35-35		
50663F	Focus Test						+36 42	"	160/90		
FM000202.TN	HD 201750 ^{Seeing} test	21 105	+36 48								

Spectr. Temp. 38
 Focus...
 Spectr. Temp.

Exp. Mir. R. Filter

10187

10332

6602

39x39 pixels

31x31 pixels

4877

307/5089

2670/1000

31x31 pixels

Spectr. Temp. 76°F Dome Temp./Hum. $22^{\circ}\text{C}/9(?)$

Transparency Conditions *Hazy*

Focus 381 for $G8$, 384 for $G2$

Fans turned on @ 2325 EST 106
after 2 tours.

Spectr. Temp. 73.5°F Dome Temp./Hum. $19^{\circ}\text{C}/95\%$

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Like 1/4 out Clear 10-20	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
Like Clear 10-20	10332	o.k.- poor	B= 1.9	F8	BC	f=5430 1200/50.8	BS	IIa0-e	1	Amp Sp - KK	image in finder = 34' left	fine
Like Clear 10-20	6602	poor	B= 3.93	K2III	"	"	BS	IIa0-e	1	std - Vel	clouding in	o.k.
	39x39 pixels		V= 6.7	M2III			150 μ	Int. x 4	"N" mode		Dome WSW; wind Finder center normalized	
	31x31 pixels		V= 6.7	M2II			150 μ	Int. x 4	"N" mode		Dome WSW; wind	
Like Clear 50-50	4877	o.k.- poor	B= 4.24	K3II	BC	G=4235 830/40.2	BS	IIg0-e	1	std vel	50-s comp. = 846 T=74 $^{\circ}\text{F}$, Set 384	o.k. fine
								IIa0-e				
Like Clear 35-50	5007/5009	V. poor	B= 5.94	O9V	BC	G=4238 830/40.2	BS	IIa0-e	1	Blu pgm		o.k.
Like Clear 16/20	2670/4900				BC	830/40.2	BS	IIIel-ess	1		T=73 $^{\circ}\text{F}$ Set = 384	High fog.
	31x31 pixels		V= 7.6	F2V			150 μ	Int. x 4	"N" mode		Dome WSW.	

107 Sun./Mon.

Date 25/26 Jun 1989 Observers Tu-Yee

Emulsion Batches:

Dev 27 June 79 * III a J-e... 1A7... May 27... fg 25 hrs
 Dev 27 June 79 III d-e... 1A7... June 16... fg 25 hrs
 8^m 68° III d-e... 1A8... June 8...

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
50664 F	Focus test			20 36		00 00	-11 13	FeNe Clear	24. cut 180/90
FM000203.TN	HD 128718 ^{seeing} test	14 36.9	(2020.0) +42 50		20 54	00 17W	+42 48		
50664	HD 137909 (β Cr B)	15 23.7	+29 27	21 14	22 19	00 51W	+29 05	FeNe Clear	90-90-90
50665	HD 8890 (Polaris)	01 22.6	+88 46	22 28	22 47	09 45E	+89 07	FeNe Clear	80-80
50666	HD 8890 (Polaris)	01 22.6	+88 46	22 56	23 07	09 25E	+89 07	FeNe Clear	80-80
50667	HD 12489 (α Boo)	14 11.1	+19 42	23 18	23 27	03 11W	+19 12	FeNe Clear	140-140
50668	HD 159561 (α Aps)	17 30.3	+12 38	22 37	23 34	00 20W	+12 30	FeNe Clear	140-140
FM000204.TN	HD 163075 ^{seeing} test	17 52.0	²⁰⁰⁰ +46 39			00 13W	+46 35		
50669	HD 182640 (8 Aps)	19 20.5	+02 55	00 22	01 04	00 21E	+03 01	FeNe Clear	90-90-90
50669 F	Focus test			01 13		00 10E	+26 15	FeNe Clear	240/120
FM000205.TN	HD 187120 ^{seeing} test	19 46.3	²⁰⁰⁶ +45 44			00 11E	+45 40		
	Spot plate 50662 T for plates 50665, 66								

Spectr. Temp
Focus... 3P
Spectr. Temp

Exp. Nr.
B. Filter

2956/5245

1123/1132

10017

10059

30130

40153

20070/20071

4450/6625

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

Dome Temp./Hum. 76 F / 76%
 Dome Temp./Hum. 21 C / 98% (69 F) / 98% ..

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

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fine Clear 24-25/90	B filter				BC	G=4238 830/40.2	BS	IIIaJ-e*	1		T=80 F, Focus = 382	High fog
		OK	V= 6.7	F2			150µ	Int. x4	"N" mode	no wind at all Done West	X hairs (Finder) normalized center Tel/Temp 25.3, 25.6, 24.1 C	
Fine Clear 90-10-90	18023/18032	O.K.	B= 3.93	F0p	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	Asm Sp - KK	90-S comp. = 1529. Getting cloudier. Centered on Finder X hairs at end	fine
Fine Clear 10-80	10017	O.K. - poor	B= 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp - KK	toggle switch at left (image 3/4 to left & vs down in finder view when centered)	fine
Fine Clear 20-80	10059	poor	B= 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Asm Sp - KK	Fairly cloudy.	fine
Fine Clear 140-140	30130	O.K.	B= 1.29	K2IIIp	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	std. vel.	(vs) above center too Finder image = 1/2 to Right of center	Fine
Fine Clear 140-140	40153	O.K.	B= 2.2	A5III	"	"	BS	IIIaJ-e	1	Asm Sp - KK	Finder image vs! To Rotator Dec R. 34 on - X hairs	Fine
			V= 6.5	K0III			150µ	Int. x4	"N" mode		Dome W.	
		good	B= 3.68	F0IV	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	Asm Sp - KK		o.k.
Fine Clear 24-25/90	20070/20077				BC	G=5430 1200/50.8	BS	IIIaJ-e*	1		T=76 F, Focus = 382	High fog
	4150/6625				BC	G=5430 1200/50.8	BS	IIIaJ-e*	1		Dome W.	
							150µ	Int. x4	"N" mode			

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Mon-Tues

Eckelle Reticon night

Emulsion Batches:

Date . 26/27. JUNE. 1989. 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.	Exp. Mtr.
OL	Flat (Bulb) prompted 1st Flat			20 38		0 0	platform	Tung	25 sec	2/3000
1c2.5	Flat (Bulb) int x2 (Labelled Flat Int)			20 44		"	"			2/3000
F1100 206.TN	HD 135891 ^{seeing} test	15 16.3	+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	+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	800
12	Comp at Vega pos'n							ThA	30 sec	697
	Vega	18 36.6	+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 ^{77°F.} / 69% 110

Comparison Type/Filter/Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
TA 25sec	2/3000				(not altered) x Grating 40319 Actual Set (Echelle tilt 18.15)	400H 50u	400H 50u	600, 5190A		(Camera Focus (Fixed?) not altered anyway)	(3.25)	2124
	213000, 15000					"	"				324A, 4201	3244
	OK	7.1V	F8V		Dome SW, no wind	150u	"	" made Int x 4		[Cass slit view]	Normalized center on X hairs	
TA 30sec	750					400H 50u	400H 50u					2901
	6500		1:29B	K200p		x grating Echelle	50u			std vel		2445
TA 30sec							"					3008
	4562		1:29B	K200p			"			std vel	image on X hairs 51 to right	1820
TA 30sec	774						"					3062
TA 30sec	850 697						"					1881
	5100		0'0V	A5.							8500, 2724, 2743,	2889
	591										more cloud.	2718
TA 30sec												2944
TA 30sec	595										10sec 75a 7sec 4141, 2891, 2904	3015
TA 30sec	5780										note Frigo in Lower Finder 2 1/2 to	2916
TA 30sec	629										the left of center @ 2 hrs East	3026

111

#2

Date .. 26/27 June Observers . T.n

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter Exp.	
	DARK			2258		00	plate horn		1800
	Ret. Dat = 185,984 bytes - Backed up as JUN2689.DAT, Repack done,								

Spectr. Temp

Focus

Spectr. Temp

Exp. Mtr.

Ken

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions ... *Cloudy by 2310*

Focus

Spectr. Temp.

Dome Temp./Hum.

112

Comparison
Type/Filter Exp.

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

1820

(Lights out, all capped, gen off) (Same settings as previous page & course.)

27

KERMIT to VAX STARTED & Finished.

113

Wed./Thur.

Date P.89. JUNE 28/29 Observers Blin. - Yee

Emulsion Batches:
 $5^m 68^s$ IIIaJ-e 1A7 June 16 2.97, 0.30

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
50670	HD 164852 (96Her)	$17^h 58^m .1$	$+20^\circ 50'$	00^{14} $23:45$	03 06	03 16W	$+20^\circ 48'$	FeNe/d.	Diff. OUT 90-90-90
50670T	Spot calibration for 50670 (2000.0)					15 min @ D4	17.5V 15V 3900 4300	15V 4800	
FM000207.TN	HD 201750 <i>Seeing test</i>	21 10.5	+36 48			00 32W	+36 42		
FM000208.TN	HD 201750 <i>Seeing test</i>	21 10.5	+36 48			00 34W	+36 42		
FM000209.TN	HD 201750 <i>Seeing test</i>	21 10.5	+36 48			00 36W	+36 42		

Spectr. Temp
Focus... 3.5
Spectr. Temp

Exp. Mir.
B Filter
S
2008/20052
39x39 pards
39x39 pards
39x39 pards

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%

114

Comparison Type/Filter	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
7.75.001 Fen/4, 90-92-9	B-filter 20069/20052	O.K. - poor	B= 5.19	B3 IV	B C	G=5430 1200/50.8	B S	IIIa-Je	1	S13-B1u	90-s comp. = 1722	Wic. are Sl. Sh.
								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 Thurs. / Fri.

Emulsion Batches:

Date 29/30 Jun. 1989... Observers JBL - Tn/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.
OL	1st Flat (Internal)			19 55		00 00	platform	Tung	15 sec 10 sec
1925	Plats (external)			30 sec, 37		00 00	platform	Tung	
3	Comp.			20 07					15 30
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 42
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 (Internal)			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		
14C	Comp.			21 41					15

Spectr. Temp.
Focus.....
Spectr. Temp.
Exp. Mtr. Se
20089
5128
1700 2300
317
31x31 plate
403
20000
385
4299
382
12000
30111
388
10000
386

117: Thur. / Fri.

Emulsion Batches:

Date 29/30 Jun 1989... Observers JBL - Tu/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 (internal)								15
	Comp			21 44				ThA	15
	HD 124897 (α Boo)	14 11.1	+19 42	21 46	21 51	01 51W	+19 10		
	Comp.			21 52					15
	Flat (internal)			21 53					20
	Comp for Boph			22 20				ThA	15 sec
	HD 161096 Boph	17 43.0	+4 34	22 21	23 21	00 06E	+04 31		
	Comp.			23 24					15
	Flat			23 26					10
	Comp for Vega							ThA	15 sec
	HD 172167 (Vega)	18 36.6	+38 46	23 33	23 39	00 42E	+38 43		
	Comp.			23 41					15
	Flat								18
	Comp.			23 45					15
	HD 172167 (Vega)	18 33.6	+38 41	23 48	23 53	00 28E	+38 43		

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mir.

6092

388

11000

381

2389

7500

365

18107

~~276~~

10000

420

34129

424

10000

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions ..

Clear

118

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	8092											3022
T/A	15	388											1300
		11000		B= 1.29	K2IIIp						std vel		4092
	15	381											1269
	20	23809											4123
T/A	15 sec		poor	2.77								Focus maximized for max signal on slit	1256
		7500	poor	2.77V	K2III						std vel		3168
	15	365											1220
	18	18107											2983
		27490											
T/A	15 sec												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

1/19 Thur./Fri.

Emulsion Batches:

Date 29/30 Jun 1989 ... Observers JBL - Tu/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.
	Comp.			23 55					15
	Flat								10
	Comp.			23 58					15
	HD 172167 (Vega)	18 33.6	+38 41	00 00	00 06	00 15 E	+38 43		10000
	Comp.			00 08					15
	Flat			00 10					18
	Comp.			00 19					15
	HD 187642 (^{α Aql} Altair)	19 45.9	+08 36	00 26	00 38	00 57 E	+08 46		10000
	Comp.			00 40					15
	Flat								15
	Comp.			00 52					15
	HD 182640 (SAql)	19 20.5	+02 55	00 56	01 56	00 47 W	+03 01		4660
	Comp.			01 57					15
	Flat			02 01					10
		RET.DAT stacked up as JUN2989.DAT. Repacked & permitted to VAX.							

Exp. Mtr.
 345
 14198
 342
 10000
 428
 28095
 397
 10000
 370
 28857
 378
 4660
 376
 3432

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

Focus *Broken CASS*

Spectr. Temp. Dome Temp./Hum. *Note set focus. Bus display @ 02 EST = 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	A0IV						JBL		4454
15 428											1331
18 28095											4083
15 397											1285
10000		B= 0.99	A7IV							T=+0.154	4283
15 370											1275
15 28857											4808
15 378											1295
4660		B= 3.68	F0IV						Amp - KIK		1952
15 376											1172
10 13432											2209

* VAX

12) Thurs / Fri

Page 4

Emulsion Batches:

Date 29/30 Jan 1981 Observers JBL - Tu/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.
FM00021.7N	HD 201750 ^{Seeing} test	21	^(2000.0) 10.5 +36 48			00 26 E	+37 51		

Spectr. Temp.
 Focus.....
 Spectr. Temp.
 Exp. Mir.
 21x31 μm

123 Fri./Sat.

Date 30 Jun / 1 Jul 1989 Observers 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.
	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> permitted 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° IIIaJ-e I A7 June 16

8^m68° IIaO-e I F8 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	
								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
50672	HD 137909 (β Cr B)	15 23.7	+29 27	22 35	23 23	02 20W	+29 06	FeNe Clear	90-90-90
FM000212.TN	HD 176844 ^{Beating} test	(2010.0) 19 00.3	+40 41			00 19W	+40 40		
50673	HD 203064 (68 Cyg)	21 14.7	+43 31	01 27	01 54	01 00E	+43 53	FeNe Clear	90-90
50674	HD 199579	20 53.1	+44 33	02 11	03 18	00 45W	+44 52	FeNe Clear	90-90
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
1616	Sheetograph test - flat field exposure for 150^{sec}								
	Spot plate 50674 for plates 50671, 72								

Spectr. Tem
Focus
Spectr. Tem

Exp. M
Filter

35222

18049/18043

31231/140d

10574

10508

7037

Spectr. Temp. 76 F
 Focus 382
 Spectr. Temp. 69 F for G13

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.

126

Comparison
 type/Filter Exp.
 FINE Diff. out
 Clear 140-145
 FINE
 Clear 90-90
 FINE
 Clear 90-90
 FINE
 Clear 90-90
 FINE
 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=5430 1200/50.8	BS	IIIaJ-e	1	Amfp - KK	Dome WSW	Comp & wk exp/str
31x31 pxd		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

13) Wed./Thurs

Date 12/13 Jul 1989 Observers Bln-Yee

Emulsion Batches:
 $\theta_m 68^\circ$ Ilad-e.IF8 June 26

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
FM000214.YEE	HD 144579 <i>Seeing test</i>	(1989.5) 16 04.6	+39 11	21 04		00 05W	+39 07		
50678	HD 188001	19 47.9	+18 25	21 45	23 20	01 31E 00 35W	+18 33	TeNe Clear	80-80
50678T	Spot calibration for	50678	50678			15 min @ 15V	D4 3900	D3 4300	D2 4810

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

Exp. Nr.
31x31 plates
4221/

Spectr. Temp. 73F Dome Temp./Hum. (20C / 76%) ...
 Focus 385
 Spectr. Temp. 70F Dome Temp./Hum. (16C / 86%) ...

Transparency Conditions semi-clear - cloudy 1.32 .
 Dome opened & fans turned on @ 20:45 .

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		31x31 pixels		V = 6.66	dG8			150 μ	Int. X4 4 frames "N" mode			Dome WSW	
Rede Clear 22 44a	70-20	4229/	5"	B = 6.24	07.5Jaf	BC	G=4238 830/40.2	BS	IIa0-e	1	Blen -0*	80-s comp. = 1293 Clouded over.	Comp ok S/wt ✓

133 Thur./Fri.

Date 13/14 Jul 1989. Observers JBL - 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					00 00	Platform		15
	Flat X 03					00 00	Platform		15
	Flat (bulb) X 4					00 00	Platform		
	Comp.			20 41					15
	Moon			20 44	21 28	01 11W	-25 06		
	Comp.			21 30					15
	Flat			21 32					7
	Flat			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
	Flat			22 13					20
	Flat			22 14					22
	Comp.			22 43					15
	HD 124897 (α Boo)	14 11.1	+19 42	22 50	23 12	04 07W	+19 13		

Spectr. Temp
 Focus.....
 Spectr. Temp
 Exp. Nr. S
 21900
 21492/21811
~~21811~~ 25
 374
 5358
 377
 10659
 1218
 397
 14344
 382
 24238
 26464
 391
 668

Spectr. Temp.

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

Transparency Conditions A few clouds... cloudy... 1:34

Focus

Dome opened @ 19:55

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						W=50 μ H=400 μ	600, 590 \AA			T=+0.083	4621
											ADCU=4660/4707/4755	
15	21892/21811/21818											
	22000 25000										ADCU=4435/4464/4456/4447	
15	374											1620
	5358										T=+0.110 T mins. before spectrograph hit N. per!	2403
15	377											1781
7	10659											2265
8	12188											2617
15	397											1741
	14344		$\beta=1.29$	K2IIIp							T=+0.106. Clouds.	3933
15	382											1658
20	24238											5573
22	26404											6196
15	391							600, 4860 \AA			X-grating tilt = 0.4590	11598
	668		$\beta=1.29$	K2IIIp							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.
	Flat			19 56		00 00	Platform		15
	Comp			20 19					15
2	Moon			20 21	21 02	00 04E	-27 31		
	Comp			21 04					15
	Flat			21 08					20
	Comp			21 25					15
6	HD(24897 (α Boo))	14 11.1	+19 42	21 30	21 41	02 40 W	+19 10		
	Comp.			21 43					15
	Flat			21 45					30
	Comp.			21 51					15
10	HD(24897 (α Boo))	14 11.1	+19 42	21 53	22 00	02 59 W	+19 10		
	Comp.			22 01					15
12	Flat HD(24897 (α Boo))	14 11.1	+19 42	22 03	22 08	03 08 W	+19 10		
	Comp.			22 09					15
	Flat X 4			22 10					12

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

Exp. Mtr.
 25266
 354
 ~29000
 350
 3583
 362
 ~15000
 394
 36148
 392
 7600
 289
 7650
 327
 ~14000

Spectr. Temp. Dome Temp./Hum. ^{18°C} (64°F) / 67%
 Focus
 Spectr. Temp. Dome Temp./Hum.

Transparency Conditions *Clear* 136
 Dome opened @ 19:30

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
15	25266		Echelle tilt = 18.15 X-grating tilt = 0.4328				W=50μ H=400μ	600, 5190Å				5852
15	354											1577
	≈ 20000									JBL	T=+0.111	9290
15	350											1708
20	36583 40348											8938
15	362		Echelle tilt = 8.15				W=50μ H=400μ	600, 4860Å		∅	X-grating tilt = 0.4590	10983
	≈ 15000		B=1.29 K2IIIp							JBL	T=+0.112	4319
15	394											10899
30	36148											4389
15	392										X-grating tilt = 0.4328 T=+0.109	1626
	7600		B=1.29 K2IIIp				W=50μ H=400μ	600, 5190Å		Ad. vel. KK -KK		3117
15	289											1556
	7650		B=1.29 K2IIIp									3141
15	327											1546
12	≈ 14000										T=+0.111	3237
												ADCU = 3237 / 3259 / 3268 / 3257

137

Page 2

Emulsion Batches:

Date ..14/15. Jul. 1989..... Observers ..K.K.-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.	Exp. Nr.
	Comp. (for Pharis)			22 30					15	338
19	HD 8890 (Pharis)	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	2326
	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	1377
	RET.DAT backed up as JUL 1489.DAT, repacked but not permitted to VAX.									

139 Sun./Mon.

Date 16/17 Jul 1989 Observers Yee.....

Emulsion Batches:
 5^m68° IIIA J-e. IAT. June 16.....
 8^m68° IIa V-e IIS. June 26.....
 5^m68° * IIIA J-e. IAT. June 28.....

Plate No.	Object	R.A.		Declination		Starting Time		Ending Time		Hour Angle		Comparison			
		1900		1900		E.S.T.		E.S.T.		End	Declination	Type/Filter	Exp.		
50679	HD 137909 (β Cr B)	15	23.7	+29	27	21	22	22	19	02	29W	+29	03	FeNe Clear	27-007 90-90-90
50679T	Spot calibration for 50679									15 min @ D4		17.5V 3900	15V 4300	15V 4810	
PH000215. YEE	HD 163075 ^{Seeing} test	17	52.0	+46	39					00	11W	+46	34		
50680	HD 8890 (Polaris)	01	22.6	+88	46	23	24	23	29	07	41E	+89	07	FeNe Clear	90-90
50681	HD 8890 (Polaris)	01	22.6	+88	46	23	43	23	49	07	21E	+89	07	FeNe Clear	90-90
50682	HD 161076 (β Cep)	17	38.5	+04	37	00	26	01	37	03	17W	+04	29	FeNe Clear	90-90-90
50682T	Spot calibration for 50682, 83									15 min @ D4		17.5V 3900	15V 4300	15V 4810	
50683	HD 196524 (β Del)	20	32.9	+14	15	01	55	02	35	01	22W	+14	27	FeNe Clear	90-90-90
1616	Spectrograph test - flat field														150 ^{sec}

Spectr. Tem
Focus...
Spectr. Tem

Exp. Mtr.
Filter

17521/17594

31x31 pixels

10064

10091

15010/15023

16018/16051

Spectr. Temp. 73F

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

Transparency Conditions Hazy

Focus 382

Dome opened & fans turned on @ 20:30

Spectr. Temp. 67F

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

Companson Type/Filter/Exp.	Exp. Mtr.	Seeing	Pig. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Rede Clear 90-90 15V 470	17521/17594 B-filter	≈ 5"	B= 3.93	F0p	BC	G=5430 1200/50.8	BS	IIIaJ-e	1	Arm Sp - KK	90-s comp. = 1546	comp w/ok exp OK
								IIIaJ-e				UV
	31x31 pixels		V= 6.5	K0III			150μ	Int. x 4 4 frames "N" mode			Dome W.	
Rede Clear 90-90	10064		B= 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK	T=70F, Focus=383	OK
Rede Clear 90-90	10091		B= 1.9	F8	BC	G=5430 1200/50.8	BS	IIa0-e	1	Arm Sp - KK		OK
Rede Clear 90-90 15V 470	15018/15023	≈ 5"	B= 3.93	K2III	BC	G=5430 1200/50.8	BS	IIIaJ-e [*]	1	std. vel.		comp w/ok exp OK
								IIIaJ-e [*]				V
Rede Clear 90-90	16018/16051	≈ 4"	B= 4.07	F5IV	BC	G=5430 1200/50.8	BS	IIIaJ-e [*]	1	Arm Sp - KK		comp w/ok exp OK

✓ 4) Mon. / Tues.

Date . 17/18 Jul 1989 Observers Blm - Yee

Emulsion Batches:
8th 68th IIa0-e (18 June 26)

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
FM000216.YEE	HD 144579 ^{Seeing} test	(+989.5) 16 04.6	+39 11			00 40W	+39 07		Diff. cut
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	50680.81 + ⁵⁰⁶⁸⁴⁻⁸⁷ 50684.85				15min@15V	D4 D3 3900 4300	D2 4810	
50685	HD 193322 AB	20 14.8	+40 25	23 32	00 45	00 06 E	+40 37	FNe Clear	80-80-80
50686	HD 199579	20 53.1	+44 33	00 52	02 13	00 45 W	+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. Mr.
D. J. Yee
3(x3) pixels
604/609
606/611
604/605
10054

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

Dome Temp./Hum. ^{21C} (69 F) / 78%
 Dome Temp./Hum. ^{18C} (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=					Int. x 4			Dome WSW.	
31x31 pixels		6.66	dG8			150μ	4 frames		"N" mode		
6004/6091	≈ 3"	B= 6.24	07.5Iaf	BC	G=4238 830/40.2	BS	IIa0-e	1	Blu - 0*	80-s comp. = 1362	Guarding? Sl. Str.
							IIa0-e				✓✓
6006/6011		B= 5.94	09II	BC	G=4238 830/40.2	BS	IIa0-e	1	Blu - 0*		Sl. Str.
6004/6051	2-3	B= 5.97	06V	BC	G=4238 830/40.2	BS	IIa0-e	1	Blu - 0*	Intermittent cloud @ 01:00	Sl. Str.
10054	≈ 3	B= 3.98	k2Ib	BC	G=4238 830/40.2	BS	IIa0-e	1	sth. 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.

Comparison Type/Filter	Exp.	Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	1130					RC/BS	1800/48°	BS	HQ	IA			
RA A=1/4	200	109 11								IA			
	600	400 10		V=6.66	dG8	RC/BS	1800/48°	BS	HQ	IA	std. vel.		
RA A=1/4	200	80 10								IA			
RA A=1/4	200	380 19								IA			
	1800	20 3		V≈9		RC/BS	1800/48	BS	HQ	IA	Mki	Count as high as 45. R.A. = 00h 54m	
	200	380 20								IA			
RA A=1/4	200	300 20				RC/BS				IA			
	1800	470 25		B=7.93	05f	RC/BS	1800/48	BS	HQ	IA	Mki	Count as high as 650.	
RA A=1/4	200	870 15								IA			
RA A=1/4	200	330 20								IA			
	600	600 25		V=5.11	F8V	RC/BS	1800/48	BS	HQ	IA	std. vel.	Count as high as 1250.	
RA A=1/4	200	320 15								IA			
RA A=1/4	200	300 15								IA			
	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. $\frac{22C}{(72F)} / 86\%$

146

Comparison Type/Filter/Exp.	Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
RA A=K 200	250 15								IA			
1800	130 10		B= 8.28	05	BS/ RC	1800/48	BS	H α	IA	Mki	Very weak signal !! \rightarrow Maybe it is a graphics problem with PS/2. Channel A failed, or software problem?	
RA A=K 200	280 20								IA			
RA A=K 200	380 30								IA			
600	3000 100		V= 4.13	F7V	BS/ RC	1800/48	BS	H α	IA	std. vel.	Count as high as 4100.	
RA A=K 200	380 15								IA			
Tung A=K 1800	2900 100								IA			
FeNe A=full 1800	700 30								IA			
"	470 25								IB			

147 Mon./Tues.

Page 1

Emulsion Batches:

Date 24/25 Jul 1989. Observers Fds - 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.
	Hartmann Test								
	Shift = -0.61 pixels @ Dome temperature 69°F								
0	Flat							Tung.	
2C	Comp.			20 35					15
3S	HD 147394 (2 Her)	16	⁽²⁰⁰⁰⁾ 19.7 +46 18	20 38	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

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

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

3501
 1473
 1505
 2530
 1650
 1617
 3000
 1617
 1519
 3000
 1433
 1518
 1500
 1648
 1623

151 Mon./Tues.

Emulsion Batches:

Date 24/25 Jul 1989 Observers Fds-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.
30S	HD 218045 (α Peg)	23 04.7 ⁽²⁰⁰⁰⁾	+15 12	02 42	02 52		+15		
31C	COMP			02 53					15
32C	COMP			03 03					15
33S	HD 206672 ⁽²⁰⁰⁰⁾ (γ Cyg)	21 42.1 ⁽²⁰⁰⁰⁾	+51 11	03 07	03 39	01 52 W	+51 06		
34C	COMP			03 39					15
35C	Comp.			03 44					15
	HD 11415 (ε Cas)	01 54.4 ⁽²⁰⁰⁰⁾	+63 40	03 47	04 01		+63 35		
	comp			04 02		01 57 E			15
	4 FLATS @ 2.25								2.2
	4 FLATS @ 3-15								
	4 FLATS @ 4.2								
	4 FLATS @ 7.1								

Spectr. Temp.
 Focus.....
 Spectr. Temp.
 Exp. Nr. S
 6000
 1644
 1568
 3000
 1452
 1466
 3500
 1362
 4500
 6270
 8510
 14480

Spectr. Temp.

Dome Temp./Hum.

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

Focus

23C
Dome Temp./Hum. *(13P) / 85%*

152

Spectr. Temp.

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		6000		2.5	B9V						Fds- lpu	T = +0.075	2646
15		1644											1453
15		1568		4.7	B9V						"	T = +0.063	1343
		3000		4.7	B8V							T = +0.063	1216
15		1452											1255
15		1406											1177
		3500		3.3	B3III						"	T = +0.052	1285
15		1362											1210
22		4500										770, 788, 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 - Tn / 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.
0	Flat								
2	Comp.								15
3	HD 120315 (γ UMa)	13	47.5 ⁽²⁰⁰⁰⁾ +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	19.7 ⁽²⁰⁰⁰⁾ +46 18	20 51	21 13	00 52W	+46 18		
7	comp								15
8	Comp.			21 17					15
9	HD 160762 (2 Her)	17	39.5 ⁽²⁰⁰⁰⁾ +46 00	21 18	21 39	00 03E	+45 59		
10	Comp			21 39					15
11	Comp			21 45					15
12	HD 180554 (1 Vel)	19	16.2 ⁽²⁰⁰⁰⁾ +21 23	21 52	22 39		+21		
13	comp								15
14	comp								15
15	HD 206672 (80 Cyg)	21	42.1 ⁽²⁰⁰⁰⁾ +51 11	22 49	23 29		+51 04		

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr. S

1372

4000

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 @ 20:15 154/1
 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
					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
15	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 Tue./Wed.

Page 2

Emulsion Batches:

Date . 25/26 Jul. 1989... Observers ... H.S. - Tn/Yea.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison		Exp. Mir.
								Type/Filter	Exp.	
16	Comp.			23 32					15	1307
17	Comp.			23 36					15	1512
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. $23.4^{\circ}\text{C}/80.3\%$

Comparison Type/Filter	Exp.	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											1350
		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 switch & sl 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.....

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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.	
31	Comp.			02 43					15	1400
32	Comp.			02 46					15	1394
33	HD 218045 (α Peg)	23 04.7 ⁽²⁰⁰⁰⁾	+15 12	02 48	02 55	00 11 E	+15 04			4000
34	comp			02 56					15	1415
35	Comp.			03 00					15	1324
36	HD 22928 (δ Per)	03 42.6 ⁽²⁰⁰⁰⁾	+47 47	03 02	03 25	04 18 E	+47			3000
37	Comp								15	1278
38	Comp.			03 30					15	1296
39 39	HD 224577 (δ Cas)	23 59.0 ⁽²⁰⁰⁰⁾	+55 45	03 34	03 38		+55			123
39 40	Comp.			03 41					15	1414
40	HD 218045 (α Peg)	23 04.7 ⁽²⁰⁰⁰⁾	+15 12	03 42	03 49		+15 04			3000
41	Comp			03 50					15	1446
42	Comp			03 54					15	1401
43	HD 11415 (ϵ Cas)	01 54.4 ⁽²⁰⁰⁰⁾	+63 40	03 56	04 14	01 40 E	+63 32			2500
44	Comp			04 15					15	1350

Spectr. Temp. Dome Temp./Hum. 23.4° / 88.4% Transparency Conditions Hazy → cloudy
 Focus On mirror cell sensors W = 160μ = 0.237 on micrometer
 Spectr. Temp. Dome Temp./Hum. 22.8° / 90.1% H = 100μ = 0.225 on micrometer 162

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					Echelle Tilt					x grating		
					17.95*	600, 4922	W=160μ H=100μ	4922A		4553	* Echelle tilt probably bumped during day.	
					17.95*						18.18 is what is prompted	16
15s	1683				18.18						& Reset here to 18.18.	1339
	4000	1.86		B3V						Fds l pu		1495
15s	1382											1191
	?											1290
	3058	3.9		B5IV						"		1188
15sec	1296											1185
15	1265											1218
	2655	3.5		B3IV						"	image OK through thin cloud	964
15	1289											1219
15	1323											1297
	3000	3.2		B6III						"		1120
15sec	1320											1357
	11560											
	9980										1160, 1144, 1143, 1145 975, 975, 980, 975	

163

THURS - Fri

Emulsion Batches:

Date July 27./28. 189. Observers Fds. - Tr.....

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Spectr. Temp

Focus.....

Spectr. Temp

Plate No.	Object	R.A.		Declination	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison		Exp. Mtr.
		1900	2000						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	1360
	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
	HD 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
100K data file	Comp									15 ^{sec}	1417
	comp									15	1395 1417
	HD 180554 (100K)	19 16.2		+21 23	21 54	22 29	00 47 E				3000
	comp									15	1414

Spectr. Temp.

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

Transparency Conditions ... clearing ... cooling off ...

Focus

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

168

Spectr. Temp.

Dome Temp./Hum.

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Mag.	Sp.	Inst. Tilt	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					Echelle Tilt							
					18.18	600, 922	W 100% H 100%	4922A				
	6000		1.86	B3V						Fds-lpu	Comp time wrong	2508
15			1.86	B3V								1345
15	1360										Time Reset	1332
	3500		3.9	B5IV						"		1371
15	1363											1314
15	1373											1343
	3000		3.8	B3IV						"	X hair normalized @ zenith Some cloud NW wind	1295
15												1317
15	1398										(Right on in Dec) Image ~ 1' high tot x hair	1327
	6000		1.86	B3V						"		2413
15	1417											1342
15	1395 1417											1402
	3000		4.7	B4IV								1178
15	1414										note where @ 0115E image lower-left of center ie 45° \pm 1/2' at 1st knot	1395

165

#2

Emulsion Batches:

Date Observers

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

NEW DATA
File

→ FLAT

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

1488

3002

1516

1470

3006

1455

2750

1450

1415

3000

1400

3000

1409

167

#3

Emulsion Batches:

Date July 27/28 Observers

.....

Plate No.	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 (80C6)	21 42.1	+51 11	02 15	02 52	01 17W	+51 04		
	Comp								15sec
	comp								15
	HD 22928 δ Per	3 47.6	+47 47	03 01	03 15	04 22E	+47 39		
	comp								15
	comp								
	HD 24720 (ε Per)	clouded out							
	4 flats @ 3.6								
	4 flats @ 4.5								
	4 flats @ 7.1								

+39 54
 +39 54

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

Exp. Nr. S

1468

3001

1536

3001

1470

3007

1438

1440

Spectr. Temp.
 Focus
 Spectr. Temp.

Dome Temp./Hum. $+20.3^{\circ}\text{C} \approx 89.5\%$
 @ 02 30 EST
 Dome Temp./Hum. $20.0^{\circ}\text{C} \approx 90.9\%$ at 04 EST

Transparency Conditions . Cloud @ 03.30 from Nl...
 Low and Rapid
 Odd cloud 168

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
IS		1468											1541
		3001		2.5	B39II							@ 0050E 1/4 Left = 1/4 below & left	1226
IS		1536											1543
IS													1518
		3001		4.7	B3IV							@ 01 W Image upper Right 2/4 1/4	1189
Bsec		1470											1496
IS													1479
		3007		3.0	B3III							Image 1.5' Left @ 1/4 below @ 9 22E	1602
IS		1438											1466
		1440											1481
												Image 1.5' Left \Rightarrow 1/4 below @ 04 30E	
												1279, 1276, 1267, 1270	
												1594, 1586, 1580, 1577	
												2484, 2479, 2458, 2443	

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

Emulsion Batches:

.....

Plate No.	Object	R.A. 2000	Declination 2000	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Nr.
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 (Munich)	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 (MER)	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	1578

Spectr. Temp.
 Focus.....
 Spectr. Temp.
 Exp. Nr. 921
 1555
 1531
 1490
 3000
 1442
 1418
 3000
 1460
 1508
 6000
 1578

171 Fri, Sat.

Page 2

Emulsion Batches:

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

.....

Plate No.	Object	R.A.	Declination	Starting Time	Ending Time	Hour Angle	Declination	Comparison		Exp. Mir.	
		1900	1900	E.S.T.	E.S.T.	End		Type/Filter	Exp.		
15	Comp.									15	1463
16	HD 55763	17 08.7	+65 18	21 31	21 42	00 44 W	+				3010
17	Comp									15 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										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	1483
27	FLAT (Prompt)									5s	14080
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	1572

173

page # 3

Emulsion Batches:

Date .28.129. July. 89. 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.
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

Spectr. Temp.
 Focus.....
 Spectr. Temp.
 Exp. Mtr.
 1525
 3000
 1546
 1538
 3001
 1541
 1544
 2500
 1536
 1523
 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	
								Type/Filter	Exp.
	MD24760 ePer	357.9	+40 01	03 28	03 36	04 10 E			
	comp								15
	comp								15
	MD1145 eCAS	154.4	+63 40	03 43	03 52	01 51 E			
	comp								15
	comp								15
	MD218045 aPer	2304.7	+15 12	03 57	04 01				
	comp								15
	comp								15
	MD24760 ePer	357.9	+40 01	04 08	04 15	03 30 E +			
	comp								15
	comp								15
	MD22928 sPer	0342.6	+47 47	04 18	04 26	E			
	comp								15
	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
 Focus.....
 Spectr. Temp
 Exp. Mtr.
 3012
 1541
 1501
 3021
 1523
 1573
 3019
 1582
 1532
 3006
 1590
 1585
 3014
 1596

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

Focus

Spectr. Temp. Dome Temp./Hum. *15.6°C H=6756* *176*

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		3012		2.9	B0.5V						Fds-lpv		1799
15		1541											1639
15		1501											1601
		3021		3.3	B3.111						"		1582
15		1523											1632
15		1573											1718
		3019		2.5	B9.1V						"		1392
15		1582											1715
15		1532.											1709
		3006		2.9	B0.5V						"		1613
15		1590											1700
15		1585.		$\frac{7}{8}$									1740
		3014		3.0	B5.111						"		1686
15		1594											1791
		<p><i>NOTE - note last 3 sets of flats have been backed upon 1st half disk.</i></p>										<p>1075, 1039, 1044, 1041 1252, 1259, 1257, 1257 1459, 1450, 1454, 1449 1829, 1774, 1721, 1758</p>	

177

Sun-Mon

page #1

Emulsion Batches:

Date July 30/51..... Observers Fols./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 B			10000
	comp								15	1506
	comp			20 09					15 sec	1504
	HD 120315 (η UMa)	13 47.5	+49 18	20 11	20 14	2° 40 W				6250
	comp								15	1542
	comp								15	1519
	HD 147394 (ε Her)	16 19.7	+46 18	20 19	20 28	0 25 W				3005
	comp								15	1481
	comp								15	1440
	HD 160762 (ι Her)	17 39.5	46 00	20 32	20 38 ⁴⁰					2996
	comp								15	1461
	comp								15	1465
	HD 155763 (γ Dra)	17 08.7	46 40 ^{65 18}	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 - Tu

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

Plate No.	Object	R.A.	Declination	Starting Time	Ending Time	Hour Angle	Declination	Comparison		Exp. Nr.
		1900 2000	1900	E.S.T.	E.S.T.	End		Type/Filter	Exp.	
	comp								15	1453
	HD 184930 (iAQL)	19 36.6	-1 17	20 59	21 23	01 56 E	-1 23			2097
	comp								15 sec	1463
	comp								15	1576
	HD 120315 (gamma)	13 47.5	+49 18	21 28	21 33	04 02 W				6002
	comp								15	1559
	comp								15	1562
	HD 147394 (eta)	16 19.7	+46 18	21 38	21 49	01 45 W				3005
	comp								15	1555
	comp								15	1541
	HD 155763 (delta)	17 08.7	+65 ⁴³ 48	21 55	22 01	01 09 W	+65 40			3169
	comp								15	1424
	comp								15	1475
	HD 180554 (iota)	19 16.2	+21 23	22 06	22 34					3001
	comp								15	1501
	comp								15	1561

191

Pg #3

Emulsion Batches:

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

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 (CAQL)	19 36.6	-1 18	22 41	23 04	00 16 E				3060
	comp								15	1590
	Prompt flat								3s	
	comp									1515
	HD 195556 75 Cyg	20 30.1	+48 57	23 15	23 43	00 30 E				2992
	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 180554 (1 Vul)	19 16.2	+21 23	00 19	00 48	01 50 W	21 20			3008
	comp								15	1596
	comp			00 31					15	1532
	MD184930 CAQL	19 36.6	-1 18	00 52	01 16	01 58 W	-1 23			3000
	comp								75	1708
	comp			01 20					15	1644

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

183 Sun. / Mon.

Page 4

Emulsion Batches:

Date 30/31 Jul 1989 Observers Fds - Tu / 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.
145	HD 195556 (45 CVG)	20 30.1	+48 57	01 20	01 49	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 (8 Pen)	3 42.6	+47 47	03 23	03 31				3001

Spectr. Temp
 Focus.....
 Spectr. Temp
 Exp. Mtr. s

Spectr. Temp. Dome Temp./Hum. Transparency Conditions *Fine*
 Focus 184
 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
	3004		4.9	B2.5IV						Fds-lpv		1439
15s	1683											1730
15s	1662											1764
	3001		A.5	B2V						Fds-lpv		1456
15	1643											1629
15	1653											1654
	3010		4.7	B3IV						Fds-lpv		1367
	1543											1585
	1555											1651
	3000		4.8	B1V						Fds-lpv		1529
15	1534											1584
15	1524											1594
	3007		3.3	B3III						Fds-lpv		1508
15	1530											1541
15	1509											1599
	3001		3.0	B5III						Fds-lpv		1473

185 Sun./Mon.

Emulsion Batches:

Date 30/31 Jul. 1989 Observers Fds - Tm/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.
	comp								15
	comp			03 35					15
	HD 24760 (E Per)	03 57.9	+40 01	03 36	03 43	03 55 E	+		
	Comp.			03 44					15
	Comp			03 48					15
	HD 224572 (σ Cas)	23 59.0	+55 45	03 50	04 22	00 42 W			
	comp								15
	FLAT								5s
	comp								15
	HD 218045 (σ Peg)	23 04.7	+15 12	04 26	04 32	1 46 W			
	comp								15
	4 FLATS @ 4.4								
	4 FLATS @ 4.8								
	4 FLATS @ 5.4								
	4 FLATS @ 11.2								

new DATA 16

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

Exp. Nr. 2

1967

148

3000

1500

1489

3001

1522

5s

1631

3030

1621

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions *Clear*

Focus

186

Spectr. Temp.

Dome Temp./Hum. ... *18°/59.6* ..

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
15	1467											1546
15	1468											1595
	3000	<i>2.9</i>	<i>B0.5V</i>							<i>Fds-lpu</i>		1528
15	1500											1669
15	1489											1647
	3001	<i>4.8</i>	<i>B1V</i>							<i>Fds-lpu</i>	<i>T=+0.088</i>	1335
15	1522											1655
6s												1571
15	1631											1725
	3030	<i>2.5</i>	<i>B9V</i>							<i>Fds-lpu</i>		1315
15	1621											1758
											<i>1306, 1300, 1296, 1291</i>	
											<i>1405, 1399, 1395, 1394</i>	
											<i>1561, 1564, 1559, 1558</i>	
											<i>3247, 3237, 3232, 3222</i>	

157

Mon - Tues

Emulsion Batches:

Date July 31 / Aug 1, 1954 Observers Fds. - Tn.....

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.....
.....

Plate No.	Object	R.A.		Declination		Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison		Exp. Mtr.
		1900	2000	1900						Type/Filter	Exp.	
	Prompted flat										5s	
	comp										15s	
	Solar					1900	1909				10000	10000
	comp										5s	
	Comp at 1st star pos'n					1955						
	HD 120315	13 47.5		+49 18		1958	20 02	2 43 W			6000	6000
	comp										15 1352	1352
	HD 120315	13 47.5		+49 18		20 06	20 06	2 43 W 20 10			6000	6000
	comp										15	1370
	comp										15	
	HD 147394 Tau Her	16 19.7		+46 18		20 16	20 27	00 28 W	+46 17			3004
	Comp										155e	1347
	comp											
	HD 160762 iota Her	17 39.5		+46 00		20 32	20 43	00 35 E				
	Comp										15	1358
	comp										15	1356

1189

#2

Mon./Tues.

Emulsion Batches:

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

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.	
	HD155763 3DRA	1708.17	+65 43	20 48	20 53	00 05 W				3015
	Comp								15 sec	
	Comp			20 58					15	7351
	HD180554 (10u)	1916.2	+21 23	20 59	21 25	01 29 E				3000
	comp			21 26					15 sec	1391
	comp			21 28					15	1468
	HD184930 (1A9L)	1936.6	-1 17	21 29	21 52	01 22 E				3006
	comp.								15	1515
	Comp.			21 57					15	1409
	HD195556 45Cyg	20 30.1	+48 57	21 59	22 30	01 37 E				3000
	comp			22 31					15	1415
	comp			22 34					15	1403
	HD206672 (80Cyg)	21 42.1	+51 11	22 37	23 [~] 08	02 12 E				3002
	Comp								15	1362
	comp								15	1401
	HD180554 (10u)	1916.2	+21 23	23 16	23 46	00 52 W				3000

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions *Clear* *128*

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
3015		3.2	B6 III						Fds - lpu		1414
<i>15 sec</i>											1451
15 7351											1513
3000		4.7	B4 IV						Fds - lpu	1.2 L = $\frac{3}{4}$ below @ 145E	1524
<i>15 sec</i>											1454
15 1468											1510
3006		4.4	B5 III						Fds - lpu	1.03 L 1.3 below @ 0130E	1543
15 1515											1540
15 1409											1485
3000		4.9	B25 IV						Fds - lpu	1.3 L = $\frac{1}{4}$ below @ 0230E	1719
15 1415											1505
15 1403											1535
3002		4.7	B3 IV						Fds - lpu	1.2 L off $\frac{1}{2}$ below @ 240E	1746
<i>15</i>											1527
15 1401											1537
15 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.	Exp. Nr.
	comp								15s	1418
	comp								15s	1505
	HD 184930 (AOL)	19 36.6	-1 17	23 50	00 24	01 09 W				3008
	comp								15s	1597
new date	Flat								5	13028
	comp								15	1501
	HD 195556 (ASCY6)	20 30.1	+48 57	00 35	01:10	01 02 W				3000
	comp								15	1502
	comp									1490
	HD 206672 (80CY6)	21 42.1	+51 11	01 14	01 39	00 18 W				3009
	comp									1471
	comp									1445
	HD 224872 (OCAS)	23 59.0	+55 45	01 47	02 30	01 08 E				2978
l	comp								15	1476
	comp								15	1496
	HD 213420 (Lac)	22 30.5	+43 07	02 36	03 01	W				3007

Spectr. Temp. Dome Temp./Hum. *19.6°C... 62.7%* Transparency Conditions *S. / hazy. now*
 Focus *0 DHS EST* *192*
 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
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
15		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 (GCA) 154.4	154.4	+63 40	03 08	03 19				15
	comp								15
	comp								15
	HD 206672 (80EX) 21 42.1	21 42.1	+51 11	03 25	04 02	02 42W			15
	Comp								15
	Comp								15
	HD 22928 (SP) 03 42.6	03 42.6	+47 47	04 08	04 18	03 03 E			15
	comp								15
	comp								15
	HD 218045 (AP) 23 04.7	23 04.7	+15 11	04 25	04 30				15
	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, 3002, 3025, 3015							

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

Exp. Mtr. s
 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 (iMa)	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

Focus.....

Spectr. Temp

Exp. Mtr.

1470

6000

1530

1500

3023

1416

1406

3006

1432

1421

2099

1335

1343

2462

Spectr. Temp.

Dome Temp./Hum. 12.2°C 65.7% Transparency Conditions *part. cloudy*

Focus

196

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
	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 w/ zenith	1497
	5	1416											1323
	5	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

197

p#2

Tues / Wed

Emulsion Batches:

Date Aug 1/2 '89

Observers Fds - 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.
	comp							Th A	15secs
	comp								15
	HD155703 30 _{sec}	1708.7	165 43	22 35	22 46	02 03W	+65 41		
	comp								15 sec
	Comp ₂			22 51	22 51				15 sec
	HD 195556 (45 CYG)	20 304	+48 57	22 53	23 38		+48 51		
	comp								15
	4 flats @ 2.2	717, 711, 712,	708						
	4 flats @ 3.9	1300, 1303,	300, 1296						
	4 flats @ 4.4	1468, 1472,	1469, 1466						
	4 flats @ 9.0	3080, 3057,	3037, 3034						

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Nr.

Se

1410

1425

3001

1385

1376

1370

1442

Spectr. Temp. Dome Temp./Hum. *21.5°/71.4%* Transparency Conditions *Hazy - cloudy* 198

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
Th A 15205	1410											1419
IS	1425											1418
	3001		3.2	B6 III						Fds lpr	image 3/4 cup	1443
IS	1385											1373
IS	1376											1414
	1370	Cloud	4.9	B25 IV						Fds - lpr	1/4 Lofis 5/8 obs 5/8 Lab @ 0115E	726
IS	1442										1/2 above 1/8 LCO 40E	1484

199

Wed - Thurs

Emulsion Batches:

Date Aug. 2/13/89..... Observers Fds.-Tu.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Spectr. Temp	
0	Flat (prompt)					W	+49 18				
1	Comp			21 30				Th A	15 sec		
2	HP 120315 num _a	13 47.5	+49 18	21 30	21 37	W +				9990	
3	comp								15	1513	
4	Comp	16 19.7	+46 18						15	1469	
5	MD 147394 (MER)	16 17.7 ^{16.7}	+46 18 ³³	21 42	22 08	02 53 W	+46 16			2484	
6	comp								15	1425	
7, 8, 9, 10	4 flats @ 4.8 sec	1166, 1159, 1152, 1147								10880	
11, 12, 13, 14, 15	5 flats @ 5.9	1393, 1416, 1413, 1410, 1411								1380	
		↑ do not use T-allow.		Re opened after cloud.							
	comp	21 42							15 sec	1467	
	80 CYG	21 42.1	15 11	02 52	03 27	02 16 W	+51 06			3001	
	comp								15	1478	
	comp								15	1471	
	MD 224572 GCAS	23 59 00	155 45	03 31	04 14	00 45 W	+55 39			2483	
	comp								15	1492	

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions . H₂O₂g 20

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	1471											1589
	3000		3.3	B3III						Fels - epu		1324
15e	1406											1419
15s								PCS	A			
								PCS	B			

203 page #1
Thurs - Fri

Emulsion Batches:

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.....
.....

Date . Aug. 3/4 . 189... Observers . Fols . : 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								15 sec
85	HD 147394 Tau Her	16 ^{16.7} 19.7	+46 ³³ 18	20 33	20 ² 06	01 19 W			
9	comp								15 sec
10	comp								15 sec
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
1857
6003
1349
1367
6037
1337
1488
1252
3047
1263
1256
3512
1362
1350
3002
1278

205 page #2

Emulsion Batches:

Date Aug. 3/4. 189..... Observers F. S. - T. n. - ~~S~~ S.....

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Plate No.	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 κ Cyg	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							
new 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

Comparison type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
15	1272											1169
	1100		4.9	B2.5V						Fols - lpr		558
15	1264											1115
15	1306										T = -0.619 dewar	1183
	1457		3.9	B5LK						Fols - lpr	@0345W 1.3' R $\frac{1}{2}$ " box x hair	679
	1446										Dewar T = -0.376 @ 0125	1290

Spectr. Temp. -30.5°C Dome Temp./Hum. $+24.7^{\circ}\text{C} / 82.9\%$ Transparency Conditions *clouds*
 Focus
 Spectr. Temp. Dome Temp./Hum. $+24.5^{\circ}\text{C} / 84\%$ 208

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe A 1/4 600	4100, 80				200 μ fiber, RC	1800/51.3	RS	4900 \AA PCS	A			
Fe A 1/4 200	150								A			
Fe A 1/4 900 1200	>10000 in cloud gaps	3-4	5.25	A3 III					B		Thru passing heavy cloud	
Fe A 1/4 200	40, 8										dark count 8-9	
Fe A 1/4 500	peak 1400	3?	7.73	G8					A?		focus relay failure - halted	
Fe A 1/4 200	40, 8				7.73 G8							
Fe A 1/4 3600	120, 20								B			
Fe A 1/4 3600	1100, 25								A		Backed up on 5 1/2" floppy	

209

#1

PCS testing / Powered up at approx 20 EST

Wed-Thurs

Emulsion Batches:

Date Aug. 9/10/89..... Observers K.K.-T.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.
^{SP00} 1657.KKT	1st Strong Comp		19895		20 18		+25	FeA A=1/2	200sec
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 ⁰²⁷¹⁹⁰⁰ 057	+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 45	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

Focus.....

Spectr. Temp

Exp. Mtr.

A B

400/10

2300/40

120/9

490/10

650/10

630/25

650/30

450/16

4450/10

312/31

872/87

250 5

130 8

Spectr. Temp. Dome Temp./Hum. 11.94°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~~*

Comparison Type/Filter Exp.	Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
FeA 4-1/2 200	400/10		7.73	G8	200u Fiber/PC	1800/5/13	RS	4900A PCS	IA			420
1200	2300/40		7.73	G8					IB	std vel	as high as 3000 in A	
FeA 2-1/4 200	120/9								IA			
FeA 2-1/2 200	490/10								IA			
1200	650/10	7.3	8.1	A2 (combined spectrum)		The faint one of a close pair			IA	Asm - tk	some "A" comp contamination some cloud	
1200	2300/25		7.3				Lower Right on guiding screen		IB	"		
Halted	650/20		8.1						IA	"	cloud @ 2154: Halted	
FeA 2-1/2 200	450/6								IA		Fans turned off @ 22 EST	
FeA 2-1/4 1800	4450/6								IB			
7" mode	31x31	IntxA			(no wind at all)					Dome WNW	mostly clear again seeing test	
7" mode	87x87	IntxA			200u Fiber Head view					Dome SE	scale for 200u Head view	
FeA 2-1/4 200	250 5				Counts to 350.				IA	some cloud	The brighter and southern of pair, page 195 Obs Handbook	
FeA 2-1/4 200	130 8								IB			
										complete cloud		

213

Tues/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	^{1989.5} 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	^{1989.5} 23 03.3	+28 02	22 10		03 50E		2x60, 2x30, 2x15 secs	
	Vega	^{1989.5} 18 36.6	+38 46	22 19		00 44W		2x5, 2x10 secs	
B	B Her	^{1989.5} 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	^{1989.5} 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... 2:4
 Focus Dome Shutter opened and fans turned on
 Spectr. Temp. Dome Temp./Hum. 20°C 75% Mirrors uncovered at 19:40 @ 19:20 EST

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
										Focus pos'n	Light SW breeze	
5 secs, 5 secs	Exp with 35mm camera behind normal focus point									2277	Light baffle in place	
	" " " " " "									2277	with light baffle removed	
10 secs	HrL 0 40 at end				"	"	"			2276		
	(one frame, this one, saved)									2483	clanking in Fans turned off @ 21:30	
2 x 15 secs	Exp with 35mm camera behind normal focus point									2278		
10 secs										2300		
1/2 sec			2.77	G70							Prob off center: Repeated	
2 x 15 secs	→ 90, 60, dud, dud, 60 secs									2301	Fans buck on @ 23 EST	
1/2 sec			1.25	A2I4						2302	clear sky	

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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}	NS 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			2 0 0			
	E's E° 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	19 346 ^{1989.5}	+29 04	22 24	22 54	06 43 W	+29 05		
	Comp						FeA A=1/4	200	
1677	HD 171232	17 32 ^{1989.5}	+25 28	23 02	23 32	02 28 W	+25 25		1800
	Comp			23 33			FeA A=1/4	200	
1679	Cir X-L HD 226868	19 580 ^{1989.5}	+35 10	23 45	00 17 35	01 45 W			1800
	Comp						FeA A=1/4	200	

Spectr. Temp. Dome Temp./Hum. $18.8^{\circ}\text{C} / 60\%$ @ 2013 Transparency Conditions *Mostly clear!* 216.

Focus

Dome opened 2 Fans turned on @ 19 EST
Then 1 fan turned off at 20:15.

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
			poor									made slight coll. adjustment, axis \rightarrow S $1'$	
												slight coma in this position, axis off to west, but difficult because of tube currents.	
												" " " " " " " " south	
												no visible coma, 40 ^{sec} picture taken	
												$10^{\text{S}}, 5^{\text{S}}$ knife cutting from W	
												$10^{\text{S}}, 5^{\text{S}}$ knife cutting from N	
FeA A1/4	200	A 220				200 μ Fiber with RC	1800/51.3	RS	A900A??	IB		HV on @ 2140	
		B 33		V * 9.05	F7 V *	* Is this the wrong Star? Field drawn.				IA		Focus had drastically changed. Did it change too? * RA set at 19 34.7 wrong star Counts to 3600 in A	1258
FeA A1/4	200	240								IB			
	1500	2300 40		V 7.73	G8 III					IA	std vel	counts to 3000	785
FeA A-1/4	200	200 16								IB	Note Date on MKIII was 1986 corrected now.		
	1500	150 15				(HB seems to be centered ok)				IB	Thin cloud	Counts to 750 in A	228
FeA A-1/4	200	210 12								IA			

27 Pg #2

Emulsion Batches:

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

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Plate No.	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	FeA 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	FeA A=1/4	1200 200
SP00 1685.TN	BMCass Comp	00 53.9	^{1986.3} +64 01	01 50	02 19	01 09 E	+63 58	FeA A=1/4	1800 200
1687	BMCass	00 53.9	+64 01	02 33	03 02	00 26 E			1800
1688	Comp							FeA 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 (FeA at end)							FeA A=1/4	200 sec
	HD 23169	03 43.3	+25 42						16,800
1691	Flat at end (3 hrs) on timer						HD 23169	Yung A=1/4	10,800

Spectr. Temp
 Focus
 Spectr. Temp
 Exp. Mtr. S
 400 15
 380 15
 300 30
 500 20
 700 15
 800 18
 900 10
 500 12
 500 11
 1900 35

Spectr. Temp. Dome Temp./Hum. $16.4^{\circ}C / 69.8\%H$ Transparency Conditions *getting cloudy → clear 218*
 Focus @ 00 25 EST
 Spectr. Temp. Dome Temp./Hum. $15^{\circ}C / 85\%H$ @ 05 EST *It was a nice, dark Red Lunar eclipse*

Companson Type/Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1800	F80 15				500u Fiber with RC	1800/51.3	RS	4900A	TA		separate int from previous thin cloud of C ₆₅ X-1	148
FeA A=1/4 200	230 15								IB			
1200	2600 30		V 7.45	K5111					IA	std/vel	RCGT = -0.9°C Meter Temp 37.8uAmps	598
FeA A=1/4 200	500 20								IB			
1800	700 15		V 8.82-9.33						IA		I know it's a variable, but I know it's field.	245
FeA A=1/4 200									IB			
1800	800 18								IA	safe	Counts to 1050 in A (better seeing?)	
FeA A=1/4 200	200 16								IB			
2600	800 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
FeA A=1/4 200	200 11								IA			
1800			V 8.75	G2V							Field needed for this one	
TUNG A=1/4 1800	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 - 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.
1692	Hartmann Out							Fe A —	180
1693	Hartmann IN							Fe A —	180
1694	Flat 3 hours			15 39	18 39	0 0	platform	Tung A 1/4	10800
1695	Solar Sky			19:06:15	19:36:20			Fe A	200
1696	Comp			19 51				Fe A A=1/4	200
	HR 6355	1989.5 17 04.9	+12 45	20 28			W +	Fe A A 1/4	1200
	Comp				20 54			Fe A A 1/4	200
	HR 6355	1989.5 17 04.9	+12 45	21 02	21 22	01 47 W	+12 42	Fe A	1200
	Comp							Fe A	200
	HR 7534	1989.5 19 46.0	+33 42	21 34	21 54			Fe A	1200
1702	Comp							Fe A	200
1703	HR 7534 #2			22 02	22 22				1200
1704	Comp							Fe A A 1/4	200
1705	Cyg X-1 HDE 226868	1989.5 19 58.0	+35 10	22 34	23 34		+35 07		
1706	Comp								200 sec

Spectr. Tem

Focus. F. 54

Spectr. Tem

Exp. Mr.

A 8

750

900

2070, 35

300/30

230 11

1900 40

210 10

200 30

240 15

1400 75

1500

340 12

700 15

500 12

Spectr. Temp. $38 \approx -28^{\circ}\text{C}$ Dome Temp./Hum. $16.5^{\circ}\text{C} \dots 64\%$

Transparency Conditions... *Fine*..... *220*..

Focus *reset from 230 to 222 as before last night*

Spectr. Temp. Dome Temp./Hum.

Fans & Domo opened @ 19 EST
Prime mirror light baffle installed for tonight

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe A	180	A B				RC	1800/513	RS	PCS	written			
Fe A	180									written			
Tung A 1/4	10800									IA written			
												ND 2 3 in place too	
										IA		scattered lights 3 mag ND in too	
Fe A A-1/4	500	230 11								IA		[note 3 mag ND in cap slide for Bright stars]	
	1300	1900 40		V	A4IV					IA	UBVY std		
Fe A A 1/4	200	210 10								IB			
	1200	2000 30		V	A4IV					IA	UBVY std		
Fe A	200	260 15								IB			
	1200	1400 25		V	F5V					IA	UBVY std		
Fe A	200									IB			
	1300	1500								IB			
Fe A A 1/4	500	240 12								IB			
		700 15								IB			
										IB			
		230 12								IA			

3 mag ND removed

Note - channel "B" no longer flickering

221

pg #2

Emulsion Batches:

Date Aug. 17/18/89... Observers Hdy. - Tu.....

Plate No.	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. A B
1707	HD 201156 B	¹⁹⁰⁰ 21 02.7	+33 44	² 23 48	² 00 08	00 29 W		1200	1200	15
1708	Comp							200	200	8
1709	HD 201156 A	21 02.7	+33 44	00 15	00 36	00 57 W	+34 01	1200	1200	25
1710	Comp							200	200	7
1711	HD 201156 B	21 02.7	+33 44	00 41	01 01	01 22 W		1200	1200	15
1712	Comp							FeA A 1/4 200	200	15
1713	HD 187691	^{1989.5} 19 50.5	+10 23	01 12	01 32	03 ^h 10 ^m W	+10 18	1200	1200	10
1714	HD 187691	"	"	01 35	01 56	03 ^h 34 ^m W		1200	1200	10
1715	Comp							FeA A 1/4 200	200	25
1716	HR 7871	^{1989.5} 20 34.8	+14 38	02 04	02 24	03 ^h 20 ^m W	+14 40	1200	1200	25
1717	HR 7871	"	"	02 25	02 45	3 ^h 41 ^m W	+14:40	1200	1200	25
1718	Comp							200?	200	10
1719	HD 222368	^{1989.5} 23 39.4	+5 34	02 58	03 18	1 ^h 08 ^m W	+5° 28	1200	1200	39
1720	Comp							200	200	
21	HD 222368	23 39.4	+05 34	03 25	03 45	1 35 W		1200	1200	25

Spectr. Temp. Dome Temp./Hum. $14.6^{\circ}C$ $82\% H$ Transparency Conditions *clear* *222* ..
 Focus @ midnight
 Spectr. Temp. Dome Temp./Hum. Room He 0000 is 54.7

Comparison Type/Filter Exp.	Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1200	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	
200	235 8	ie good							IB			
1200	2300 25	separated of A = B	7.3						IB	Asm Sp - KK	counts as high as 3000	
200	250 7								IA			
1200	1200 15		8.1	A2					IA	Asm Sp - KK		
200	220 15								IB			
1200	900 10		5.11	F8V					IB	std vel	some haze	
1200	750 10		3.11	F8V					IA	note, speed contr failed for a while, back now		
200	205								IB	written		
1200	1600 25		4.68	43V					IA	UBV std		
1200	1700 25		4.68						IB	. . . "	another speed contr failure	
200?	210 10								IA		failed again during comp	
1200	2500 39		4.13	F7V					IA	std vel		
200									IB			
1200	1800 25		4.13	F7V					IA	std vel		

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

Focus

Spectr. Temp. Dome Temp./Hum.

Buffer

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe A 1/4	2000	210 10				RelCal	1800/51.3	RS	4900A	IA			
1200		2300 40		✓ 4.29	B8V					IB	UBUYstel	Counts to 2700 in A	
200		190 6								TA			
235		2000 25								IB	Hand up at some point	(rads yellow) FITOS lit up (both A & B)	
Fe A 1/4	200	165 8								IA		OK now	
Tung A 1/4	10800	1700 *			ND2.3 in					IA	* signal lower than for 1st Flat	written	
		21600								IB			

Spectr. Temp.

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

Transparency Conditions ... Mostly clear ... 22.6

Focus

@ 1950

Spectr. Temp.

Dome Temp./Hum.

note 1st seeing test since recent primary collimation work

Comparison pe/Filter	Exp.	Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		31 x 31 pixels				PCS		200u Head			Dome NW	Light ENE breeze	
Winds 1/4	300sec	220 10				Rel Calibrated	1800/51.3	RS	4900A	IB			
	1200	2200 30		V 491	A410					IA	UBV std	written note ND 3 mag in cass hole for bright stars unless noted differently	
	300	220 10								IB		written	
	1700	1800 25								IB	UBV std	written	
Fed 1/4	300	220 10								IA		written	
	1200	250 25		V 555	F0111					IA	UBV std	written	
	300sec	230 10								IB		written	
	700	1300 30								IA		written	
	200	250 8								IB		written	
	1200	8000 120								IA		Cass hole filter removed and image taken out of focus to give \approx 8000 counts in it.	
	300	260 12								IB			
	3600	1000 20								IA		note fainter comp to the North gives \approx 5000 counts we almost did it.	
										IA		?? after Halt, IB intended, but IA was it.	
	1800	200 20								IA			
		250 10								IB			

Halted at 1800 secs
Counts to 1300

227 #2

Emulsion Batches:

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

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
43	HD 201156 B	21 02.7	+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 02.7	+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 36.3	+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. No.
 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. 14.8°C 87.8% at Dawn

Fans turned off at 00:30 EST

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Pig. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	1200	1300 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	
Fe4	2000	220 9								IB		channel B failed, stopped flashing for a while. greens	
H 1/4	1000	3000 50		7.3				counts as high as 3800		IA	written Asm Sp	Then on again	
	200	266 10								IB			
	1700	1200								IB	Asm spl tk	written	
	500									IA	written		
	1200	1200 25		V 5.04	A4m					IA	written u bug std	ND 1.2 reinserted in Cass hole	
2000										IB	written		
	500	1200								IB	written		
	200	220 8								IA	written	moon too close to	
	500	1000 15		4.28	F8V			counts to 1700		IA	std vel	ND 1.2 still in	
2000										IB			
	1800	1400 30								IB		ND 1.2 removed	
	200	190 9								IB		Hdy may have changed Dec index, error It should read = +69 25.	
	1800	500 25								IA			
										EA		why is this exp stronger than 1st one?	

229 #3

Emulsion Batches:
.....
.....
.....

Date *Aug. 18/19*..... Observers .. *Hdy. 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.
	<i>Comp at end</i>							<i>FeA H/4</i>	<i>200sec</i>
<i>1760</i>	<i>Flat at end</i>	<i>3 hrs</i>		<i>0456</i>		<i>0 0</i>	<i>ND 2.3 in</i>	<i>TUNG</i>	<i>10,800</i>

Spectr. Temp.
Focus.....
Spectr. Temp.
Exp. Mtr. B
200 10
190 41

231 Sat

Emulsion Batches:

Date ...1989... Aug. 19/... Observers K.K. Lagina / 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.
1761.HD3	Flat		Sat	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. S
 A B
 2350/40
 410/410
 300 10

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

Dome Temp./Hum. 120.4°C 83%

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

Focus 222

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
		A B											
TKG A 1/4	10800	2350/40				RC/200 0 1800/53.0		RS	PCS		written Tel	on timer	
	7200	<10 / <10				"	"	"	"				
FA A 1/2	7200	300 10				RC/200 0	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.....

Plate No.	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 = 00:35 W 30 secs, 30, 60, 60			
	B HER	15 34.2	+26 45	20 31	20 35	02 43 W	30, 30, 60, 60		
	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 26 W			30
1773	HD 171232 Comp	"	"					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.

1 B

260 55

Done NW

Done West

Done SW

Done East

250 10

340 50

26 5

240 40

250 15

250 50

260 15

Spectr. Temp. Dome Temp./Hum. $20^{\circ}\text{C} / 67.4\%$ Transparency Conditions *Fine* 2.34

Focus Dome opened & Fans turned on in 19 EST

Spectr. Temp. Dome Temp./Hum. Light NW wind

Comparison Type/Filter Exp.	Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
7-1/2 180	2600 55								IB		This file is a BLANK, no counts	
									IA		This file is NOT a dark Primary Light Baffle removed	
											HARTMAN MIRROR Figure tests	
											counterpart of AUG10/11 Tests.	
	Dome NW		2.79	G216	35mm camera			2277				
	Dome West		2.23	A0V	" "	"		2275				
	Dome SSW		3.26	K0	" "	"		2273				
	Dome East		2.92	M25	" "	"						
	250 10				Red PCS coil 1800/530		RS	5200	IA			
	3200 50		7.73	G8IV					IB	std vel	* Dec index error changed erroneously previous night	
	260 5								IB			
	2400 40		7.73	G8III					IA			
	250 15								IA			
			7.73	G8III					IA			
			"	"					IA			
									IA			
	850 20								IA	Abn Sp-KK	Sky from A \approx 50 arc's in A when B taken off in Dec	
	260 15								IB			

#2 235

Emulsion Batches:

Date Aug 21/22 Observers ... T.N. (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	^{1909.5} +26 33	23 07	23 27	E	+26 38	1200sec	330 40
1777	Comp						"	200	290 12
1778.TN1	HD 213947	22 34.1	+26 33	23 39	23 59	00 50 E	"	1200	730 15
1779.TN1	Comp								
1780	HD 213947 (after Reuploading)	(RA reads 22 34.2)		00 45	01 05	00 16 W	+26 38	1200	800 15
1781.TN1	Comp								
1782.TN1	HD 223311	23 48.0	^{1987.5} -06 26	01 19	01 39	00 22 E	-6 22	1200	1000 17
	Comp							Fe A A 1/2	200 230 12
	HD 223311	23 48.0	-06 26	01 49	02 09	00 08 W	-6 22	1200	440 45
	Comp at end							Fe A A 1/2	580 12
1786.TN1	Flat at end (on timer)			ND 2.3 in place		0 0	platform	Tung A 1/4	10,800 200 45

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

Exp. Mic
 A B

Note, ex
 not
 No-A
 I

Spectr. Temp. Dome Temp./Hum. 17.6°C 78.56 @ 23 EST Transparency Conditions .. *Photometric* 236 .

Focus
 Spectr. Temp. Dome Temp./Hum. 15.7°C 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?

Comparison Type/Filter	Exp.	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	
200		290 12								IB			
1200		750 15		\checkmark 7.53	K4 III					IB	slr vel	Counts to 1000 in A	
										IA			
1200		800 15		\checkmark 7.53	K4 III					IA	std vel	1st time i-F-O lights Hung up - all on	
										IB		some cloud now	
1200		1000 17		\checkmark 6.07	gk4					IA	std vel	thin clouds worsening seeing	
FeA A 1/2	200	250 12								IB			
1200		4400* 45		\checkmark 6.07	gk4					IA	std vel	* signal in A generally dropped to a 3600 in clouds	
FeA A 1/2		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. int. This caused the "semi" bomb. \rightarrow we had been down to 100K 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 (Funs 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 A 1/2	200 sec
	HR 6385 sat'n test	^{05.4} 17 09.8 ^{1989.5} +12 35 ⁴⁵		19 56	20 16	00 57W	+12 34		1200
	Comp	[note, intent was HR 6355, but wrong star done] i.e. HR 6385 (corrected entries)							
	HR 6385 sat'n test	17 09.8 ^{05.4} +12 35 ⁴⁵		20 23	20 30	01 20W			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

3000 50

8000 45

It appeared

3400,

1000,

1600,

200 17

1200 35

180 20

1500 130

200 20

1000 35

Spectr. Temp. Dome Temp./Hum. Transparency Conditions 2.78...
 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
Tung 3 Hrs	AVA	A 2000	B 50				1800/530	RS	5200A	IA			
3 Hrs	"	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 x 19:30 screen showed exposure stopped at 9340^{sec} but last command was 'N' ?</p>													
Tung 4 1/4	1800	3400,										written	
Tung 4 1/8	7200	1000,										written	
Tung 4 1/4	10800	1600,					1800/530	RS	5200A	IA		Ch A FIFO lights went out, did H when RZ NOT written yet / written	TOTAL LOW
2 1/2	200 sec	200	12							IB		17.8°C / 78.6°F @ 20 EST	
1300		1200	35							IB	ubrgstet	some cloud NDO6 in beam	
400		180	20							IA		Ch B FIFO lights 2605	
200		4500	120				5500			IA	some cloud	Ch B FIFO flashing again	NDO6 Removal
200		250	20							IA			
1800		1000	35							IA	std ve (B FIFO light off again some cloud	
200										IB			

239 pg #2 Wed-Thurs

Emulsion Batches:

Date Aug. 23/24/89... Observers T.G. (Stefan P. Kennedy 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.	Exp. Mtr. A B
SP001798	HD182572 572	1989.5 19 24.5	+11 55	21 30	21 35	00 01 W	+11 59	r	300sec	9500 430
1799	Comp	Note - Previous exps image slightly defocused to lower count in 'A'						FeA A=V2	200	836 10
1800	HD182572	19 24.5	+11 55	21 43	22 07	00 33 W		+800 Hultsch.	8500 95	
1801	Comp							FeA Comp	200sec	710 15
1802	HD182572	1989.5 19 24.5	+11 55	22 21	22 32	00 59 W			600sec	7500 300
1803	Comp								200	
04	HD 187691	1989.5 19 50.5	+10 23	22 43	22 51	00 52 W			400sec	5500 120
05	Comp									
06	HD187691 #2	19 50.5	+10 23	23 01	23 07		W		300	7500 240
07	Comp								200	260* 15
08	HD187691 #3			23 13	23 19		W +10 27		300	1100 500
09	Comp								200	2150* 20
1810	HD187691 #4			23 24	23 44	01 45 W			1200	8300 60
1811TR	Comp	* Note - I noticed that Comp count in 'A' was higher right after strong stellar flares.							200	260 15
12	HD187691 #5			23 52	00 53		W		3500	5500 22

Spectr. Temp. Dome Temp./Hum. 17°C $81.9\% \text{H}$ Transparency Conditions *Semi cloudy* 2:40
 Focus @ 21 EST
 Spectr. Temp. Dome Temp./Hum. 15.8°C $84.2\% \text{H}$ @ 00 EST

Comparison Type/Filter/Exp.	Exp. A	Exp. B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
300sec	7500	400	✓	5.16	G8IV	PCS Red Collimator	1800/530	RS	5200A	IA	std vel + saturation Test	Clear; No ND filter	
FeA A+V2 1000 written	230	10	Counts	7000	→	11,500	[this Comp revised ChB FIFO 1:54]			IB	CHB FIFO still dead.	some cloud sometimes Red's yellow FIFO lights correct. conform with the green ones.	
FeA Comp 200sec	2500	95	counts	1500	→	4500	in cloud. Seeing variable too			IA	ND inserted into removal from Cass hole		
600sec	7500	300	poor variable	5.16	G8IV					IA	ND 0.6 Removal		
200										IB	written		
400sec	5000	120	poor 50/50	5.11	F8V					IA	std vel written cloud no ND		
										IB	written		
300	7500	240	counts to 9000							IA	std vel written Less cloud no ND		
200	260*	15								IB	written		
300	1000	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	
lights 200	200	15								IB			
300	500	22								IA		Then thin cloud/counts down to 300 Channel "B" FIFO off mode @ 0030	

24) P9#3 Wed-Thurs

Emulsion Batches:

Date AUG 23/24/89... Observers J.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.	
13	Comp							FeA A=1/2	200sec	
14	HD213947	22 34.1	+26 33	01 08	01 21	00:42 W +			800	
1815.IN2	Comp								200	
1816	Flat at End (on timer)			01 54			ND231N	Tung A=1/4	10,800	
1817.IN3	DARK			cluttery afternoon 3hrs						

Spectr. Temp
 Focus.....
 Spectr. Temp
 Exp. Mir. 8
 1800 100
 180 15
 1550 60

Spectr. Temp. Dome Temp./Hum. Transparency Conditions *Clear again*
 Focus 252
 Spectr. Temp. Dome Temp./Hum. *15.6°C ... 83% H*

Comparison pc/Filter Exp.	Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>Fe A 1=1/2 200sec</i>					<i>PCS R C</i>	<i>1800/530</i>	<i>R5</i>	<i>5200A</i>	<i>1B</i>			
<i>800</i>	<i>2800 100</i>		<i>7.53</i>	<i>K4III</i>	<i>counts</i>	<i>to 3300 in "A"</i>			<i>1A</i>	<i>stlvel</i>	<i>No ND in Beam</i>	
<i>300</i>	<i>180 15</i>								<i>1B</i>			
<i>10000 1/4</i>	<i>1550 60</i>								<i>1A</i>			
									<i>1B</i>			

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

Comparison Type/Filter	Exp.	Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Tung #1=1/4	1800	1700 65				PCS Red Col	1800/530	RS	5200A	IA		"B" FIFO not on	
Nirx #1=1/4	1800	31x31 pinda		V 7.73	G8M	PCS Red Col	1800/530	RS	5200A	IA		[On 200m Fiber head] Dome SW } steady med N breeze	
Fel #1=1/2	200	230 20				PCS Red Coll	1800/530	RS	5200A	IB	std vel		
	1200	1800 40	OK	V 7.73	G8M	Counts	to 3000			IA	std vel	"B" FIFO on now	
	200									IB			
	400	6000 300		V 5.16	G8IV	Counts	4500 → 7500			IA	std vel	VERY clear slightly defocussed to lower in focus counts would be ~ 10000/sec	
		230 15								IB			
	800	3000 70		V 5.16	G8IV					IA	std vel	ND 0.6 in Beam	
	200									IB			
	1800	450 30		V 5.16	G8IV	Counts	300 - 700			IA	std vel	ND 1.2 in Beam	
	200									IB			
	1200	500 15		V 9.05	F7V					IA	std vel	(According to recent field No ND of course drawn up)	
	200									IB			
	600	1100 35		V 8.13	G8III	Counts	to 1600			IA	std vel	Fld drawn in pgm book	
	200	210 10								IB			

245 P9 #2

Date Aug. 24/25/89... Observers 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.
	HR 7858	20 33.5	+13 00	23 26	23 32		+13 02		400
	Comp							Felt A=1/2	200
	HR 7858			23 41	00 23		W		2400
	Comp								200
	HR 7858			00 30	00 42	0204	W		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							Felt A=1/2	200
FM 00 223, TN	HD 223094 seeing test			00 58				Int x 4	"N" made
1840, TN3	Flat at end			01 41				TUNG A=1/4	10,800

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

Exp. Mir.
 A B

600 200
 200 20
 500 20
 200 20
 200 100
 200 15
 1800 50
 200 20
 31x31 plate
 1800 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	A2V	PCS RC	1800/53.0	RS	5200A	IA	u buy std	no ND @ 700/pixel Counts 4-8K defocused	
Felt A-42	200	230 20								IB			
	2400	500 20								IA	u buy std	refocussed @ 300/pixel ND 1.2 placed in beam	
	200	225 20								IB			
	700	2800 100								IA	u buy std	500 cuts/pixel ND 0.6 in beam	
	200	220 15								IB			
	300	1800 50		✓ 7.45	F5TR					IA	std vel	no ND	
Felt A-42	200	230 20								IB			
Int x4	Wide	31x31 pixels				On 200m Fiber Head,							
TUXS A-14	10,800	1800 70				Only 264K left on mkIII				IA		Dome South, no wind at all, note Fans off since 22 EST	

247

FRI - SAT

Pg #1

Emulsion Batches:

Date AUG 25/26/89..... Observers Tu./M.K.I.....

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. A B
								Type/Filter	Exp.	
1841.TN4	DARK X	written @	03:41							10800
224.TN	HD171232 scinted	18 32.1	^{1989.5} +25 29	[~] 20 05	^{M.K.I.} (In Double dos)			Just x4	"N" mark	31x31 plate
	Comp for HD171232							FeA H=1/2	200	
1843	HD171232	18 32.1	+25 29	20 09	20 16	00 16E	+		400	250 60
44	Comp.								200	250
45	HD171232 #2	18 32.1	+25 29	20 [~] 28	20 [~] 53	00 21W	+25 36		1500	550 17
46	Comp							FeA H=1/2	200	190 30
47	BD+28 3402	19 34.6	^{1989.5} +29 04	21 08	21 28	00 08 E	+29 11		1200	160 45
48	Comp							FeA H=1/2	200	260 30
49	^{1989.5} HDE 226868	19 54.6	+34 56	21 34	21 40	00 18 E	+35 14		600	1200 40
50	Comp									
51	HDE 226868	19 58.0	^{1989.5} +35 07	22 00	22 20		+35 14		1200	2400 2500
52	Comp								200	240 30
53	HD194071	20 22.2	+28 13	22 33 [~]	22 38				300	3000
54	Comp								200	250 20

Spectr. Temp. Dome Temp./Humt ^{16.5°C / 59%}

Focus

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions ... *Fine* ^{2.98}

*Fans on @ 19 hrs Dome opened too.
WARM Rm Humidity = 46%*

Comparison pe/Filter	Exp.	Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	10800					PCS Red Col	1800/530	RS	5200A	IB			
inst 4 FeA 1-1/2	200	31x31 prob		^v 7.73	G8III	Dome SSW, no wind						In DDLDS, FRAME seems to Grab for 4.5 secs and stop, repeated Like a fast waltz, 1234, 1234	
	400	2500 60		^v 7.73	G8III	Counts to 3100				IA	std vel	no filters	
	200	250								IA			
	1500	550 17				Counts to 800				IA	std vel	Ch "B" FIFO light off NP 0.6 in Beam	
FeA 1-1/2	200	190 20								IA			
	1200	1600 45		^v 9.05	F7D	counts to 1850				IA	std vel	CH "B" FIFO on now no filters of course	
FeA 1-1/2	200	260 20								IA			
	600	1200 40				counts to 1600				IA	halted by CRASH @	^{waiter} 250 SECS	
	2400									IA			
	1200	3000				counts to 3700				IA	std vel		
	200	200 20								IA			
	300	3000				Counts to 3700				IA	std vel		
	200	250 20								IA	st		

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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 22.2	^{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 34.6	^{1989.5} +29 04	23 18	23 58	W	+29 11		2400
	Comp								200
	BD+28 3402	19 34.6	+29 04	00 05	00 21	02 45 W	+29 11		900
	Comp								200
	BD+17 4708	22 09.06	¹⁹⁵⁰ +17 51.0	00 27	00 57	00 47 W	+18 07		1800
	Comp								200
	B M Cass	00 53.55	^{1989.5} +64 00.36	01 10	01 30	01 24 E	+64 08		1200
	Comp								200
	HD 213947	22 34.1	^{1989.5} +26 33	01 39	01 42	W			300
	Comp								
	HD 213947	22 34.1	+26 33	01 51	02 11	01 37 W	+26 37		1200
	Comp								200
	HD 2230949	^{23 45.9} 22 30 22 39	^{1989.5} ^{1989.5} +28 39	02 19	02 24	00 39 W	+28 46		300

Spectr. Temp
 Focus.....
 Spectr. Temp
 Exp. Mir. B
 160 27
 250 15
 400
 1200 40
 700 25
 1000 30
 200 15
 3500 200
 3000 20
 750 35
 1000 40

Spectr. Temp. Dome Temp./Hum. 15°C H. 656 Transparency Conditions *Fine - sl. hazy* ... 250

Focus

Spectr. Temp. Dome Temp./Hum.

Comparison Type/Filter Exp.	Exp. Mtr. B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1200 Feb A-1/2 24	650 27		V 8.13	G8III	PCS RedCol	1800/530	RS	5200A	IA	std vel	ND 0.6 in beam	
	250 15								IA			
2400	400		V 9.05	F7V			Counts to Counts to		IA	std vel	ND 0.6 in beam ⁱⁿ Note	
300									IA			
900	1200 40		V 9.05	F7V		Counts to 1400			IA	std vel	ND 0.6 removed some haze	
200									IA			
1800	700 25		V 9.42	SdF					IA	Mki-pgm		
200									IA			
1200	1000 30								IA		thin cirrus cloud	
200	200 15								IA			
300	3900 200		V 7.53	K4III					IA	std vel		
	900 200								IA			
1200	750 35		V 7.53	K4III					IA	std vel	ND 0.6 put in.	
200									IA			
300	7000 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. - 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.	Exp. Mtr. #
1870	Comp							FeAr H-1/2	200	205 15
1871	HD19445	03 07.8	+26 18	02 41	03 01	02 06 E	+26 24		1200	300 10
1872	Comp							FeAr A 1/2	200	200 12
1873	HD19445			03 09	03 19	01 48 E			600	100 30
1874	Comp								200	
1875	G 191B2B	05 04.7	-52 49	03 45	04 10	02 55 E	+52 54		1800	50 10
1876.TN4	Comp at End							FeAr A 1/2	200	180 15
1877.TN4	Flat at end	3 hrs on timer		04		0 0	platform	Tung A=1/4	10,800	1400 60
Aug. 26/27/89 Sat-Sunday - Cloudy										
1878.TN5	Flat During Tour	3 hrs.		19 10		0 0	platform	Tung H=1/4	10,800	1100 60
<p>* Note signal difference between this and previous Flat. Nothing changed; I just reset timer manually to "on" & opened shutter and re-fired. (No change of telescope pos'n at beginning at least.)</p>										

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

#

205 15

300 10

200 12

100 30

50 10

180 15

1400 60

Signal

Spectr. Temp. Dome Temp./Hum. Transparency Conditions *Hazy - cloudy 252*

Focus

Spectr. Temp. Dome Temp./Hum. *12°C 73%*

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>F₄ A-1/2 200</i>	<i>A B 225 15</i>				<i>RedGal</i>	<i>1800/530</i>	<i>RS</i>	<i>5200A</i>	<i>IA</i>			
<i>200</i>	<i>300 10</i>	<i>8.0</i>	<i>8.0</i>	<i>(SdF) PCS</i>		<i>counts to 450</i>			<i>IA</i>	<i>written MKI pgm</i>	<i>NDD 0.6 in clear sky now</i>	
<i>F₄ A-1/2 200</i>	<i>200 12</i>								<i>IA</i>			
<i>600</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>ND removal</i>	
<i>200</i>									<i>IA</i>			
<i>1800</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>F₄ A-1/2 600</i>	<i>180 15</i>								<i>IA</i>		<i>I see noise outside Ring of Fire</i>	
<i>JUNG A-1/4 10,800</i>	<i>1400 60</i>								<i>IA</i>	<i>In written @ 19 13 EST</i>	<i>Flat signal/ever lower</i>	
<i>JUNG A-1/4 10,800</i>	<i>2100 60</i>								<i>IA</i>	<i>Halted written @ 21 30</i>		
<i>changed S. Red t</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 plating 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.
187A	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
86	BD+17 4708	22 11.0	+18 03	00 14	00 43	00 35 W	+18 08		1730 1800
87	Comp							FeAr A=1/2	200 secs
88.1A	Flat at end (on timer)			02 18		00	platform	Tung A=1/4	10,800
<p><u>Note</u> Flat previous page that applies to this night</p>									

Spectr. Tem
 Focus.....
 Spectr. Tem

Exp. Mtr.
 A B

240 15

H
 100-400
 A B

230 15

240 60

250 14

600 50

240 15

600 20

240 15

600 60

Also note

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%

Comparison Type/Filter Exp.	Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
FeA A-1/2 200	240 15				PCS	1800/530	RS	5200A	IA	written	.	
1200	100 → 400 A B		V 9.4						IA	written	thin cloud Nice Form at 5:00	
	230 15								IA	written		
600	240 60		V 8.13	G8 III	counts to 3000				IA	std vel	some cloud (delete 1st written x2 done)	
FeA A-1/2 200	250 14								IA			
1800	600 20		V 8.13	G8 II					IA	std vel	clear here ND 0.6 in place	
200 1730 1800	240 15								IA			
	600 20		V 9.42	SdF	H _α /H _β @ 1700 secs (cloudy)				IA	mkii pgm	IND removed. Signal with thin cloud ND 0.6 @ 100	
FeA A-1/2 200 1800	240 15								IA		Thick cloud dead of exp	
1800	2200 60	(ND 2.3 in)			counts all (well) > 2000. & to 2250/sec				IA	written	≈ 19 EST Sunday	

Also note increased signal for Tuner 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	Balbed 3470
1890	FeAr Comp			20 10				FeAr A=1/2	
1891	HD171232	18 32.1	+25 29	20 19	20 32	00 07W	+25 34		800
Fm00225.TN	HD171232 <i>seeing test</i>	18 32.1	+25 29	20 35		00 10W	"	Int x4	"N" mode
1892	FeAr								
1893	HD171232	18 32.1	+25 29	20 51	20 57	00 32W	+25 34	no ND in beam	400
1894.TN	FeAr							FeAr A=1/2	200
1895	FLAT (cloudy now) 1hr intended			21 23	22 24	00 00	platform	TUNG A=1/4	3600
1896	FeAr 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				FeA A=1/4	200 secs
1899	Flat (cloud again) 1hr intended			23 17	00 18	0 0	-18°	TUNG A=1/16	3600
1900	Flat (1hr intended)			00 19	01 19	0 0	-18	TUNG A=1/8	3600
1901	Flat			01 26	01 56	0 0	-18 top platform	TUNG A=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

Companson Type Filter	Exp.	Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Tung A=1/4	3470	2100 50	Counts	72000	2250	PCS 200 μ Fiber	1800/530	RS	5200A	IA	ND 2.3 still in	*no signal (change from rising telescope)	
FeAR A=1/2		250 12								IA			
	800	1000 30	7.73	7.73	G8III					IA	std vel	+thin cloud ND 0.6 in beam	
Int x4	N/A	31x31 prints	7.73	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			
no ND in beam	400	2700 75		7.73	G8III	Counts to	3700			IA	std vel	variable cloud	
FeAR A=1/2	200	260 15								IA			
Tung A=1/4	3600	2100 60								IA		clearing again	
	260 sec									IA			
	1200	700 18		9.05	F7V	counts to 800 then down to 500 in cloud				IA	std vel	hazy - cloudy at end	
FeAR A=1/2	200 sec	220 15								IA			
Tung A=1/4	3600	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			
Tung A=1/8	3600	3500 100				Counts 3400 to 3650 (larger scatter)				IA		ND 1.2 untouched	
Tung A=1/16	1800	7300 220				Counts 7150 to 7900 (even larger scatter)				IA		ND 0.6 inserted Chon B' F. to light off	
	1800											of course expected to show as a percentage written	

257

Emulsion Batches:

Date 1989 Aug 28/29 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.	Exp. Mtr.
1903	Test comparison							FeNe A 1/8	200	260
1903	"							FeNe A 1/2	200	910
1904	"							FeNe A 1/8	200	130
1905	DARK (Noise Test)			21 03	23 03				7200	
1906	DARK (Noise Test)			23 30	01 30				7200	
1907	DARK " " "			03 25					7200	

Telescope moved 21 03
Generator on short Time

Spectr. Temp

Focus.....

Spectr. Temp

Exp. Mtr.

259

Tues-wed

Telescope Hartman mirror figure tests.

Emulsion Batches:

Date 1.9.89... 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, 40	
I	Vega	18 36.5	+38 46	* 21 12	21	01 40 W		5, 10, 20, 40, 80	Note 1st
J	Altair	19 50.1	+08 50	21 33				5, 10, end of role	

Spectr. Temp. Dome Temp./Hum 22°C ... $90\% \text{H}$ Transparency Conditions *Hazy ... cloudy*
 Focus on catwalk 260
 Spectr. Temp. Dome Temp./Hum. Note Cass hole light baffle removed

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
5, 10, 20, 5 secs		(180 mm behind focus)			35mm camera	180mm		2415			Tests of mirror figure with metal mask at top end fastened to top end of telescope.	top end
20, 20, 60, 60, 100 secs.		"			"							
5, 10, 20, 30 secs exps												
10, 20, 30												
removed, instead of 12000 Rock pos'n.												
5, 10, 20, 20		0.03	A0V _a		180mm behind focus,			2415			Both fans on by 19 EST & dome opened. (SI Hazy, H=80%)	
5, 20, 30, 30		0.77	A7V _n		35mm camera			2415			(Should be some blanks, shot in Acquisition mode)	
30, 60, 60		2.4	M2					2415			[Renormalized image acquired center to the right on monitor]	
10, 20, 20, 40		"	"					Tmax 400				
10, 20, 20, 40, 90		2.23	M02					11				
10, 20, 40, 80		0.77	A7V _n					"			Note 1st try prob in Image guide flux: Reported	
5, 10, exp		0.77	A7V _n					"			Fans turned off to hear chatter	
											more hazy (Image seen centered before camera started)	
											Note. Nothing on developed 2415 frames?? (we saw image centered)	

Mon-Tues #1 More MIRROR Figure Hartman tests
 26/989
 Date Sept. 18/19..... Observers ... J.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, 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. TK 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. Nr. S

Spectr. Temp. Dome Temp./Hum. $11.8^{\circ}\text{C} / 65.2$ Transparency Conditions *Fine*
 Focus Dome opened & Fans on @ 18:30
 Spectr. Temp. Dome Temp./Hum. 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								#85				
Fe A A=1/2 200	360 15				PCS RedCell	200 μ Fiber 1800/530	RS	5200Å	IA		Redone - prob wrote a blank	
1200	1200 25		V 9.05	F7V					IA	std vel		
Fe A A=1/2 200	370 17								IB			
600	700/20	2"-3"	8.5	M2V					IB	Asm Sp - KK	check cord! Field?	
									IA			
1200	500 15		10	?					IA	Asm Sp KK		
	280 10								IB			
1200	906 15	3.5	V 8.68	dm25					IA	Asm Sp KK	note - did not see south star in finder	
200									IB			
600	5000 100		V 7.53	K4III					IA	std vel	counts to 6000	
800	300								IB			
1200	200 20		V 7.53	K4III					IA	std vel	NDO.6 in beam	

253

#2

Emulsion Batches:

Date ..Sept. 18/19..... Observers ..T.H.....

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
Fm000226, KK	HD 213947	22 294	+26 05	² 23 05		00 05W		Int x 4	"n" made
(1921.TN8)	Fe H Comp			after last PCS exp 2336					200
1922.TN8	Flat at end			23 47	01 47	0 0	top platform	TUNG A=1/4	7200
1923.KK	LONG DARK		shutter closed.			"	"		7200
1924.KK	Fe-A Comp		for stability check	08:45				Fe A 1/12	200
	Another long dark								7200

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

Exp. Mtr. Se

31x31/4x4
 4200 70

300 10

2200 40

415 415

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 16.7	+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	953, 935, 905, 964, 961, 950							

Spectr. Temp. 4

Focus.....

Spectr. Temp.

Exp. Mir. See

20,000

410

675

2000

10

2801

10

2604

10

Spectr. Temp. 17°C 83% Dome Temp./Hum. 17°C $83\% \text{H}$ Transparency Conditions *Fine at First* 266

Focus

Spectr. Temp. Dome Temp./Hum. $+14.5^{\circ}\text{C}$ $90\% \text{H}$ - *why question marks? They're supposed to be %*

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Tilt Inst. Echelle	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Tung					17.37	$\cdot 3078 \times \text{P.H. H} = 400\mu$ 600, 678	45 μ	6678A			45 μ = .283 set	~7500
10S												6568
20,000			\checkmark 0.09	A0V								8200
7A 10 sec							45 μ				\leftarrow 120 μ = .253 set	6870
10S83							120 μ					1391
4110			\checkmark 3.89	B3V			400 μ H 120 μ					
7A 10 sec							"					6655
675							"					6675
2000			\checkmark 4.98	B3Ve			"			28 CYG		950
2801							"					6893
2801			4.98	B3Ve			"			28 CYG		1009
2604							"					6628
			4.98	B3Ve			"			28 CYG.		931
							"					6752
							"					
							"					
							"					
							"					
							"					
							"					
							"					
							"					
							"					

Rejected & permitted.

267 Wed - Thurs #1

Date 1.9.89. Sep 20/21..... Observers Fds. - J.n.....

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.
	Flut (Prompted)								
	4 Flats x 20s	8426, 8901	8476, 8491	at Vega	Pos'n				
	Comp			at Vega	Pos'n			ThA	10secs
	Vega HD172167	18 33.3	+38 41	19 03	19 08	00 13 W			
	Comp							ThA	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. Se
 20.000
 20.000
 2700
 1780
 2400
 424

Spectr. Temp. Dome Temp./Hum. *18.8°C... 69%* Transparency Conditions *sl. hazy*
 Focus Dome 'operates Fans on @ 18 EST *268*
 Spectr. Temp. Dome Temp./Hum.

Comparison per Filter Exp.	Exp. Mir.	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>hA 10secs</i>							"						
	<i>20,000</i>		<i>0.04</i>	<i>A0V</i>			"					<i>5456</i>	
<i>hA 15sec</i>							"					<i>8978</i>	
<i>n 10sec</i>							<i>H=400 170μ</i>				<i>width set .253</i>	<i>6800</i>	
	<i>20 000</i>		<i>0.04</i>	<i>A0V</i>			"					<i>8371</i>	
<i>10</i>												<i>6509</i>	
<i>10</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>10</i>												<i>6991</i>	
	<i>1780</i>		<i>4.98</i>	<i>B3Ve</i>							<i>Thick cloud main</i>	<i>Restarted</i>	<i>832</i>
<i>10</i>												<i>6945</i>	
	<i>2400</i>		<i>4.98</i>	<i>B3Ve</i>							<i>Focus "slant bias when image sl Right of slit</i>	<i>934</i>	
<i>10</i>	<i>624</i>										<i>previous bias tended to be when image sl Left</i>	<i>6972</i>	

268 #12
Wed-Thurs

Emulsion Batches:

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Date 1989 Sep 20/21 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.
	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.

pg 2
Spectr. Temp.
Focus
Spectr. Temp.
Exp. Mr. Se
1830
599
660
4000
650
5000
650
642
5000

271

#3

Emulsion Batches:

Date ... 1989. Sep. 20/21. Observers . Fds. - T₂
.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	MD 22928	3 35 48	+47 28	01 22	01 36	02 24 E			
	comp								10s
	4 flats @ .96s	1325, 1305, 1304, 1325							
	4 flats @ 1.1s	1559, 1561, 1517, 1571							
	4 flats @ 1.2	1695, 1735, 1701, 1716							
	comp								10s
	H052973 (36EM)	6 58 11	+20 43	01 58	02 45	E +			
	comp								
	4 flats @ 1.4 #	2000, 1998, 1951, 1979							
	Flat @ 5s	3641							
	comp								10s
	MD 24760 (ε Per)	3 51 08	+39 43	03 27	03 36				
	comp								10s
	Comp								10s
	MD 22928 (δ Per)	3 35 48	+47 28	03 41	03 55		+4748		
	comp								10

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mr. See

5000

660

2301

5011

654

657

5004

656

273

#4

Emulsion Batches:

Date .1.9.99... 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	105
	HD 35497 (Betelgeuse)	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 2	+20 43	04 1		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							Th A	10
	HD 187929 (MAGW)	19 47 23	+0 45	18 57	19 31	00 38 E	+01 03		
	COMP								10
	4 Flats @ 1s	737, 722, 744, 716			Same posn as HD 187929		"		
	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			
	COMP								15s
	4 Flats @ for Vega	5134, 5204, 5222, 5275						Tung	
	Comp for 28 egg							Th A	10sec
	HD 191610 28 egg	20 05.7	+36 33	20 06	20 46	00 24 W	+36 51		
	COMP								10
	HD 191610	20 05.7	+36 33	20 48	21 41	01 19 W			
	Comp								10s
	4 Flats		330, 347, 322, 449					Tung	0.5 sec
				21/58					

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

Exp. Mtr. Sec.

630

800

646

10000

15s

564

279

pg #1

Sun - Mon

Date . Sept. 24/25/89 Observers . F.d.s. - 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.
1	Flat. Prompted							TUNG	
	Comp							Th A	
	HD 172167 Vega	18 33.3	+38 41	18 50	18 54	00 14 W			Amin 20032
	Comp								
	2 Flats	at Vega posn.						ADCU 6029, 6107	2x2605
	FLUOR COMP	slit widened to 10 pixels						.242 = 180 μm	10s
	HD 149394 Her	16 16 44	+46 33	19 18	19 38	03 15 W			5000
	COMP								10s 941
	Comp								10s 950
	HD 28978 EASL	20 42 16	-9 52	19 45	19 59	00 50 E	-9 28		3000
	comp								10s
	Comp								10s
	HD 22928 SPER	03 35.8	+47 28	20 16	20 46	07 10 E	+47 46		5343
	Comp								10
	comp								10

Spectr. Temp. .

Focus.....

Spectr. Temp. .

Exp. Mtr. | Secs

281

Pg #2

Sun-Mon

Date 1989 Sept 24/25 Observers Fds-Tn

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	
	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		20 sec	
	Comp									10
	comp									10
	HD 25978	20 123	+9 52	22 25	22 55	02 06 W	-9 29		5020	
	Comp									10
	comp									10
	HD 16970	02 38.1	+2 49	23 04	23 35	03 09 E	+		5002	
	comp									10
	comp									10
	HD 22925 s Per	03 35.8	+47 28	23 41	23 58	03 47 E			5016	
	comp									10 s
	comp									10 s

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

854

5000

5050

5003

285

#4

Emulsion Batches:

Date 1969 Sept. 24/25. Observers Fds. - T₄..........
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Plate No.	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	03 51.1	+39 43	01 58	02 07	01 53 E	+40 01		
	comp							T ₄ A	10
	comp								10
	HD 35497 BT ₄	05 19 58	28 31	02 14	02 14				
	comp								
	<u>4 flats @ 18s</u>	1518, 1538, 1552, 1555							
	COMP								10
	HD 16970	02 38.1	+02 49	02 49	03 01	00 17 W	+3 13		
	comp								10s
	comp								10s
	HD 22928 S _{Per}	03 35.8	+47 28	03 09	03 17				
	comp								
	comp								
	HD 24760 G _{Pen}	03 51.1	+39 43	03 21	03 28	00 33 E			
	comp								10
	comp								

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

5006

5154

5000

5409

5013

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

286

Comparison
 type/Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H. order	Program	Remarks	Quality
5006		2.88	B0.5V								1483
											957
											968
5154		✓ 1.65	B7III								1630
											958
											2123
5000		3.44	A3I	18.07	600, 4494, ^{H=400m} 150mm		4494	126	X grating set to -4921 / Dow rot @ 2.5	5ep 3.4"	1389
										Note faint companion seen on TV (good image) Comp is mag 7.2V.	2178
											2193
5409		✓ 2.99	B5III								1625
											2146
											2179
5013		2.88	B0.5V								1502
											2144
											2175

2A
10
10
10
10
10
10

287

#5

Emulsion Batches:

Date ..1969 Sept 24/25... Observers F.d.s. - T.m.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	HD 35497 β TAU	05 14 58	+28 31	03 33	03 36				
	comp								10
	4 flats @ 15.5 s	1530, 1538, 1520, 1522							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 14 58	+28 31	04 31	04 33				
	comp								10

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Nr.

Sec

5014

5005

5006

5009

4887

289

#6

Emulsion Batches:

Date 1989 Sept 24/25... Observers Fds. - 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.
	4 flats @ 13	1380, 1395	1387, 1385						
4510	comp							ThA	10 sec
	HD 16970	02 38.1	+ 02 49	04 49	05 06		W		
	comp								10
	comp								10
	²²⁹²⁸ HD 24760 5 Pen	03 35.8	+ 47 28	05 10	05 18				
	comp								10
	comp								10
	HD 24760 GPa	03 31.1	+ 39 43	05 21	05 30				
	comp								10
	comp								10
	HD 35497 / BTAU	05 19 58	+ 28 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

5002

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions *Fine*

Focus

290

Spectr. Temp.

Dome Temp./Hum. ~~160°~~ 79%

Comparison type/Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H. Order	Program	Remarks	Quality
				18.04	600, 4567	150m	4567	124	X-Grating = .4857	Dewar 2.6	4510
5004		3.44	A3V								1424
											4580
											4605
4991		2.99	B5 III								1526
											4691
											4662
5020		2.88	B0.5V								1479
											4526
											4536
5002		1.65	B7 II								1488
											4598

TA 0.8e

10

10

10

10

10

10

10

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.
	Accepted Flat			18:32				Tung	30s
	comp							Th A	10s
	HD 172167 Vega	18 33.3	+38 41	18:38	18:43	00 08W			10s
	comp								10s
	comp								10s
	HD 147394 $\hat{\epsilon}$ Her	16 16 44	+46 33	18:49	19:14	02 54 W	+46 23		10
	comp								10
	comp								10
wrong \rightarrow	HD 198001 τ A 92 HD 289178 HR 7980	20 42 16	-9 52	19:20	19:55	00 50E	-9 28		10
	comp								10s
	2 flats @ 16s	1883, 1849							
	2 flats @ 13.7s	1624, 1602							
	2 flats @ 76s	8668, 8739							
	comp								10s
	HD 147594 $\hat{\epsilon}$ Her	16 16 44	+46 33	20 27	21 14			W 46 24	
	comp								

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

Exp. Mtr. See
 20000
 991
 5005
 5062
 4800

295

#3

MON-TUES

Emulsion Batches:

.....

Date ..1989..Sept..25/26. 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 24760 G Per	0351.1	+ 39 43	23 43	00 03	03 53 E	+40 01		
	comp							Th 4	10
	comp								10
	HD 35497 β Tau	05 19.58	+28 31	00 19	00 32	04 51 E	+28 38		
	comp								
	4 flats @ 15s	2010, 1970, 1925, 1924							
	2 flats @ 12.5	1591, 1585							
	2 flats @ 53s	6791 6613							
	comp								10
	HD 22928 δ Per	03 35.8	+47 28	00 59	01 17	E			
	Comp								10
	comp								10
	HD 24760 G Per	0351.1	+39 43	01 22	01 22 ⁴¹				
	comp								
	comp								

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

5005

5000

5000

5000

297

#4

Emulsion Batches:

Date 1989. Sept. 25/26.... 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.
	HD 35497 β Tau	05 20.0	+28 31	01 46	01 53	03 30 E			
	comp								10
	comp								
	HD 14386 μ Cen	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 μ Cen	02 14.3	-3 26	02 25					
	4 flats @ 13s	1868, 1833,	1818, 1757						

Spectr. Temp. .

Focus.....

Spectr. Temp. .

Exp. Mtr. Sec

5064

6000

Spectr. Temp. Dome Temp./Hum. $+10.1$ 78.76 Transparency Conditions 17

Focus

298

Spectr. Temp. Dome Temp./Hum.

Comparison Type/Filter Exp.	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	B7III	18.03	600/16 4.2	$H=400$ 150mm	46A2	122	.4789	$T=+0.176$	1872
10												4207
												4183
	6000		\checkmark ≈ 3.5	M III							$T=+0.175$	362
10												4009
												4139
10			\checkmark ≈ 3	M III							<i>Clouded out,</i>	

299

#1

Tues/Wed

Emulsion Batches:

Date .1989. Sept. 26/27... Observers ..Fels/.T.O.....

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.....
.....

Plate No.	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.

Sec

2000

5000

5002

5000

301

#2

Emulsion Batches:

Date 1989. Sept 26/27... Observers F. ds. 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								105
	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. Mr. Ser

4230

5000

5005

20 000

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 Pen	03 35.8	+47 28	00 15	00 40	02 55 E		JhA	10 sec
	Comp								10s
	comp								
	HD 24760 ϵ Pen	03 51.1	+39 43	00 47	01 11	02 40 E		JhA	10 sec
	comp								10s
	comp								
	HD 35497 β Tau	05 20.0	+28 31	01 16	01 25	03 55 E			10s
	comp								10s
	comp								
	HD 14386 Mira	02 14.3	-3 26	01 31	02 37	02 4W -2 58			10
	Comp								
	4 flats @ 11s	2671, 2649, 2610, 2602							
	2 flats @ 9.9	2317, 2328							
	2 flats @ 2.7	6367, 6305							
	comp								10

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

Sec

5000

5000

5000

5000

Spectr. Temp. Dome Temp./Hum. $+14.6^{\circ}\text{C} \dots 6.6\%$

Focus

Spectr. Temp. Dome Temp./Hum.

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

MIRA mag est at $\approx V=3.5$ [about the same as δ cet]
~~sl brighter than δ cet~~ ~~sl fainter than δ cet~~ \times cet
 Definitely brighter than δ cet. Not as Red as δ cet.

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst. Echelle tilt	Grating/Tilt	Slit	Emulsion λ	P.H. ORN	Program Dewar tilt	Remarks	Quality
TAA	165e	5000		2.99	B5 II	18.05		400um 150um	4840A	117	+2.9		2391
													1804
	10s												1815
TAA	16g	5000		2.87	B0.5 V							T=+0.201	2298
													1855
	10s												1885
		5000		1.65	B5 III								2236
	10s												1877
	16s												1899
		20000		$\approx V$ 3.5	M6 III							naked eye visible; same mag as δ cet And sl fainter than δ cet	2691
	10											Note @ 02 EST, MIRA looked the same mag as δ PSC $V=4$	1888
	10					18.05	600/ 4799	400um 150um	4799 4840	118	XG-4662	Dew 2.4	4052

305

#4

Emulsion Batches:

Date 1989. Sept 26/27... Observers Fds-T₄.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	HD 22928 σ Pen	03 35.8	+47 28	03 06	03 24	00 11 E	E		
	comp								10
	comp								10
	HD 24760 ϵ Pen	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						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 @ 18s	1354, 1384, 1358, 1338							
	4 flats @ 0.5	241, 226, 275, 197							

Spectr. Temp.

Focus.....

Spectr. Temp.

Exp. Mtr.

5004

5004

5010

3000

311

Pg#1
301

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 ZHER	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. Secs

5000

5044

20000

20000

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	0441 W	+46 24		
	Comp								10
	comp								
	HD 22928 δ Per	03 35.8	+47 28	20 58	21 17	06 17E			
	comp	at E Per posh							10
	HD 24740 ϵ Per	03 51.1	+39 43	21 26	21 46	06 00E			
	Comp								10
	2 flats 10	20 70, 20 55							
	2 flats 11.5	2349, 2340							
	2 flats 40	8134, 7905							
	Comp								10s
	HD 35497	05 20.0	+28 31	22 45	23 31	05 45E	+28 39		
	Comp								10s
	change super tilt now								
	COMP								

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

Exp. Mtr. Sec

5002

5030

5010

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

Focus

Spectr. Temp. Dome Temp./Hum.

310

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst. <i>Echelle Tilt</i>	Grating/ Tilt	Slit	Emulsion	P.H. <i>ORDER</i>	Program	Remarks	Quality
THA 10s					18.03	600,4754	H=400um 150um	4754A	119	X grating = 4098 Dewar Rotn = 2.9°		9963
			3.89 ^v	B5IV								1968
												9744
												10362
	5002		2.99 ^v	B5III								2245
												10066
	5030		2.88 ^v	B0.5V								2333
												10065
											Cloudy now	
					18.03	600,4754	150um	4754A	119		T = 0.183	10656
	5010		1.65 ^v	B7II	(Bulk of exp after 23 20 EST)						thin cloud = thick	2164
												10543
					18.05	600,4719	150um	4719	120	X grating = 47295 Dewar Tilt = 2.9°		3303

31

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 35447 β Tau	05 20.0	+28 31	00 47	00 54	04 20E			
	comp								
	2 flats @ 11.5	1553, 1554							
	2 flats @ 52	7048, 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
 5000
 5000
 10000

315 Pg #5

Emulsion Batches:

Date 1989 Sep 27/28... Observers Fds-T4.....

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	HD 22928 5Pm	03 35.8	+47 28	03 31 03 31	03 48		W		
	Comp								10s
	comp								10
	HD 24760 ePm	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 dPm	03 35.8	+47 28	04 25	04 45				
	comp								
	comp								
	HD 24760 ePm	03 51.1	+39 43	04 50	05 07				
	comp								
	comp								

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

Exp. Mtr. sec

10010

10005

10025

10000

10000

317

#6

Emulsion Batches:

Date . 1989. 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. See
 2000
 500
 460
 5450
 530
 5150
 514
 6

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. <i>Echelle</i>	Grating/Tilt	Slit	Emulsion	P.H. <i>ORDER</i>	Program	Remarks	Quality
<i>1499</i> 20s				18.34	600, 4481	$H=400$ $W=75\mu$	4481	126	Dewar Rot ^o	2.5	1161
<i>105</i>							.4932				
12000		\checkmark 0.04	AOV								6011
<i>10⁵</i> 500											1800
<i>10⁵</i> 460											1999
5450	3"	B 4.2	K5 +B?						KK subtr.		1451
<i>10⁵</i> 530 545 514											2042
		4.2	K3II						KK subtr		318
<i>10⁵</i> <i>6⁵</i>											325
<i>25⁵</i>											1350
<i>100⁵</i>											2365
<i>KK backed up on 5 1/2"</i>											
<i>© 03 EST, MIRA looked visl brighter than S Cet & sl farther than α Cet</i>											

321

Fri Sat

Emulsion Batches:

Date 1989 Sep 29/30. 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		2x20secs				
						1152, 1173			
17	Comp								10sec
	Comp								10sec

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

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H. ORDER	Program	Remarks	Quality
	30 ^s					Echelle	18.34	H400 W75	4481A = 4932	126			1716
	15 ^s	764											3069
		5000	3.5	4.2	K3 II? + B?							T = +0.144	1129
	15sec												3148
	15sec												3106
		5600		4.2	K3 II							T = 0.149	963
	15sec												3074
	15sec												3077
		5500		4.2	68 II							T = +0.152	1481
	15sec												2969
													3054
		5000		3.8	68 II + F?							T = +0.158	1330
	15sec												2897
		49487	for 25secs									T = +0.162	
	10sec							150um				0.241 slit width	1974
	10sec					Echelle	18.34	H400 W150	4481A = 4932	126			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								70s
20-23L	4 Flats : 40sec - H188 ;			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°C} 77% *Topup @ approx 0 EST* **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	
10sec												1795	
3842												47	
10sec												1795	
	10000									Fds	T = +0.168	3772	
10sec												2003	
15sec							H400 W75				Set .271 for slit width	3082	
	~ 5000		3.63B	G8III	+A3V		W75			KK Subtr.		1447	
15sec												3047	
15sec					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	
15sec												2616	
					backed up as Sep 29 89 .DAT & Kermitted / Logged out.								

225

Sat - Sun

Date Sept 30 / Oct 1 1899 Observers T. n. - Dimitar Honglyin

Emulsion Batches:

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Plate No.	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 Spear posn.							Th A	10s
3	HD 22928	03 358	+47 28	22 29	23 08	04 12 E	+47 47		
4	Comp						"	Th A	10s
	Flts x 4 at same posn			APCQ = 4017, 3997, 4071, 4078			"	Jung	37s

Spectr. Temp.

Focus

Spectr. Temp.

Exp. Mir.

Sec.

Parameters

Note: Dewar

10/10

1000

(96977)

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

Transparency Conditions ... Fine 326

Focus

2 Large Tours before obs

Spectr. Temp. Dome Temp./Hum.

Looked at Blinking Nebula

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst. Edel/6 tilt	Grating/Tilt	Slit	Emulsion	P.H. ORDER	Program	Remarks	Quality
Setup		Parameters @ 4840\AA				18.34	600, 4481	H=400 150 μ	4481 \AA	126	Fds pgn	x grating +4924 Actual 150 μ m = 241 on microorder	
TAH	10s	Note. Power setup @				21 EST, T read = 11.6 (Limit) it had warmed since last setup of 03:35 EST this morning							
		10,010	Fine	2.99	B5III	T = +0.176 @ 22.56j					Fds pgn	T = +0.176 @ 22.36 T seems stable	4150
TAH	10s	1000										T = +0.174	2016
Tung	37s	(96977 typical / cont)				18.34	600, 4481	150 μ	4481 \AA	126			
						Baked up = transmitted							

227 Wed-THURS 1989

Date 1989 Oct 4/5 Observers Tn (Hdg. on 24th)

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.
1926.TNS	Hartmann - IN							FeA A=1/2	200
1927.TNS	Hartmann - OUT							FeA A=1/2	200
SP061928.TNS	FLAT						ND 2.3	Tung A=1/4	200
DT000 169.TN	DRIVE TEST eta Aq1	19 47A	+00 45	18 45	18 49	0025 E	+0107	Int X0	"N" made
FM000227.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							Fe-A A=1/2	200
32	HDE 226868	19 54.6	+34 56	19 51	20 21	01 00W	+35 18		1100*
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			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.
 100, 30
 20 frames
 31 calms
 30-31
 100
 230
 1100*
 230
 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)

Companson Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H. R/B/G	Program	Remarks	Quality
Fe A A=1/2 200					200 μ RC	1800/53 $^{\circ}$	RS	5200A PCS	IA		after refocus	
Fe A A=1/2 200									IB			
Fe A A=1/4 700	1900, 30								IA	written		
Int X0 W/mk	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
Int X4 W/mk	31x31		7.5	K0III	Medium N.W. wind after a gusty afternoon						In Dbl/Dos mode Dome facing West	
Fe A A=1/2 200					(Redcat cannot see)				IA			
Fe A A=1/2 200	1400	OK	9.05	F7V	200 μ Fiber	1800/53	RS	PCS 5200A	IB	std vel		
Fe A A=1/2 200	230								IA			
Fe A A=1/2 200	1100*		10	B					IA	* Count level went down after start Blk-pgm	South & brighter of pair	
Fe A A=1/2 200	230								IB			
Fe A A=1/2 200	700		10	B					IA		Fans turned off @ 21 hrs	
Fe A A=1/2 200									IB			
Fe A A=1/2 200	1500		8.13	G8III					IA	std vel	counts as high as 2100	
Fe A A=1/2 200									IA			
Fe A A=1/2 3600	700		10	dm2.5					IA	Asm Sp KK	"B" channel not blinking	

38: p4 #2

Date 1989 Oct 4/5 Observers Jm.....

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							Fe-A A=1/2	200
	HD 224085 II Peg	23 49.9	+28 06	22 46	23 06	00 09 E	+28 42		
Fm00 228.TN	" Seery test	"	"	23 07	4 frames	00 08 E	"	IntX A	" made
	Comp							FeA A=1/2	200s
	Bm Cass			23 21	23 51		+64 07		1800
	Comp						"	FeA A=1/2	200s
1944.TN8	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.TN8	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.TN8	Flat on Timer			02 21		0 0	platform	Tung A=1/4	7200
1949.TN8	Written 12 04 PM next day? - Prob a comparison								

Spectr. Temp. .
 Focus.....
 Spectr. Temp. .
 Exp. Mtr. Sec
 2200
 31-31 pds
 288
 810
 200
 256
 200s
 800
 1500+
 200
 200
 1900 30
 MIRA

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%

Comparison Type/Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Fe-A A=1/2 200									IB		"B" channel back on	
	2200		\approx 8.3	K2e(III?)	RC	1800/53°	R5	5200A PCS	IB	Rei pgn	Counts to 2800 Still in DBL DOS on MKII Dome SW facing	
Intrk 4 FeA A=1/2 200s	31x31 pixels		n	n		Light	West Breeze					
	280		.						IA			
	800		\approx 9.0						IA			
FeA A=1/2 200s	200								IA			
	250		\checkmark 9.57	K5V					IA	Hsm Sp-tek	Drawn Aug 17/89 Fld checks OK with fld on card.	
FeA A=1/2 200s	1500*	poor	VAB 6.11	dFT 88		(cannot resolve pair)			IA	Hsm Sp-tek	Counts to 2600 (Retreatu)	
	200 frames 55 columns		n	u	On Fiber head	(star is dbl, prob poor choice)					Drive Test in Pbl DOS	.77 pix
FeA A=1/2 200s	200								IA			
Tung A=1/4 700	900, 30			(NO 2.3 in place)					IA			
	Note Light baffle still not in. I just noticed it on desk.											
	MiRA appears to be the same mag and color as α Cet, ie V=3.5											

231

Fri-Sat

Emulsion Batches:

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

.....

..... N.D.O.G. 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	2hrs
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		"	" NOO.G. in	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 → 61 Renamed MAP ⁿ								
62 ^{TOP}	Flat Started on Timer IA			01 29		"	NOO.G. in n	TUNG A=1/8	7200

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

Exp. Mtr. See

1000

170, 8

300, 60

450, 13

300, 15

180, 8

170, 10

350, 10

240, 15

230, 10

170, 10

150, 7

200, 10

3200

Spectr. Temp.

Dome Temp./Hum.

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

Focus

Spectr. Temp.

Dome Temp./Hum. *200um fiber to RS*

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Tung A=1/8	205	2				PCS Red Columnator			3927A	IA	written		
Fe-Ne A=1/4	600s	170, 8	wrv			PCS RC	1800/45.3	RS	"	IB	written	Both channels blinking green	
Tung A=1/8	3600	2000, 60	wr			"	1800/46.0	"	4063A	IA		* Restarted due to Both FIFOs failing ie All FIFO Lights noticed on @ 20 20 EST	
Fe-Ne A=1/2	900	150, 13	wr			"	"	"	"	IA			
Fe-A A=1/2	900	300, 15	wrv			"	"	"	"	IB			
Fe-A A=1/4	600	180, 8	wrv			"	1800/47.0	"	"	IA			
Fe-Ne A=1/2	600	170, 10	wrv			"	"	"	"	IB			
Fe-Ne A=1/4	400	220, 10	wrv			"	1800/48.4	"	"	IA			
Fe-A A=1/4	500	240, 15	wrv			"	"	"	"	IB			
Fe-Ne A=1/2	500	230, 10	wr			"	1800/49.7	"	"	IA			
Fe-Ne A=1/2	500	170, 10	wr			"	"	"	"	IB			
Fe-Ne A=1/4	600	150, 7	wr			"	1800/51.0	"	"	IA			
Fe-A A=1/4	500	200, 10	wr			"	"	"	"	IB			
							5101*		1800/52.3			After going back to 4692A, 1800/49.7, The exact λ center on was not achieved, σ -out by ≈ 1000 I guess, backlash? Home 1st?? ↳ But λ matched to earlier 1800/46.0 exps.	
Tung A=1/8	2200	2200				frame	1800/45.9						

333 Sat-Sun Pg#1

Emulsion Batches:

Date 1989 Oct 7/8' Observers Th... Lopez / m.k.i. 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	19 462	+10 10	19 11	19 31	00 30 W	+10 31		1200
65	Comp							200	200
66	HD187691 #2	19 462	+10 10	19 38	19 48	00 46 W	+10 31		600
67	Comp							FeNe H=1/2	200
68	HD 11503 North	2000 01 535	+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. Mtr. A B
40 16
1500 30
3000 80
350
160
3500 90
160
2500
150 10 P
2500 50 W
140
3000 60

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

Comparison type/Filter Exp.	Exp. Mtr. A B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
61K 1/2 200	410 16				PCS RC	1800/45.9	RS	4040A 4076A	IA		wr	
1200	1800 30		5.7	F8V	PCS RedCal			^{counts} seen Low	IA	std vel	Counts to 3000 in clear in and out of cloud & sky	
200 200									IB	written		
600	3000 80		5.7	F8V	<u>Note</u> Repeats			watching F100 closely.	IA	std vel	Counts to 35000 in clear	
200									IB		written	
400	3500		4.59	B9V					IA	Lopez pgm	wr counts to 4500	
200	160								IB		wr	
400	3500 90								IA		wr counts kept under 4000 by guiding	
200	160								IB		wr	
400	2500								IA		wr in cloud partly	
200s	150 10	poor							IB		wr	
400									IA		wr clear * maybe not written as a stellar exp	
200									IB		wr	
400	2500 50	very var							IA		wr counts up to 5500 accidently	
200	140								IB		wr	
400	3000 60								IA		wr	

335 pg #2

Emulsion Batches:

Date 1989 Oct. 7/8..... Observers Lopez - T.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
79	HD 11503 South	01 48.0	+18 48	21 42		E	+19 21		400
80	n South			21 50	21 57	E			400
1981	HD 11503 South			22 05		E			500 ⁺
1982	HD 11503 South			22 17	22 26				500
1983 LOP	Comp.			22 26			Hatched at 75sec	Fe-Ne	200
1984 LOP	Flat - 2hrs			22 49			ND=0.6	Tung H=1/8	7200 _s
1985 LOP	Long DARK started (lights out)			02 43		0 0	pludform		7200

Spectr. Temp.
 Focus
 Spectr. Temp.
 Exp. Mtr.
 2000 80
 500-200
 * Hatched
 2-3000
 150 8
 7000 80
 with
 40 Start

Spectr. Temp. Dome Temp./Hum. $+4.6^{\circ}\text{C} \dots 75\%$ Transparency Conditions *PART... Cloudy..... 3.3.6*

Focus

Spectr. Temp. Dome Temp./Hum.

\rightarrow Very cloudy

Comparison Type/Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion λ	P.H.	Program	Remarks	Quality
400	3000 80	OK	4.68	AOP	RCS Red Col	1800/45.9	RS	4040A 4060A	IB	written	counts	
400	(3000 \rightarrow 200)								IA	written	Low counts due to cloud? then cloudy by end	
500	* Halted at 37A sec and written								IA	wr	ins out of thick cloud.	
500	2 \rightarrow 3000								IA	wr	good cloud for ND purposes	
700	150 8								IB	wr	thick cloud	
7200	2000 50								IA	wr		
7200	leath L10	Shutter closed							IA			
									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 A-1/8	7200
	Flat [Occasionally noting FIFOs]			20 46	22 46	7	"	"	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.				
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.									

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions ... *Cloudy, mostly* ...

338

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	
<i>Tung 10-1/2 7200</i>	2200 60				PCS Red Col	1800/45.9	RS	4060P	IA	FIFOS OK at start B off at 2057 written			
<i>u 7000</i>	2300 70				"	"	"	"	IA	FIFOS OK at start B off at 2056, still off by 21:12, still off @ 21:47.	WRITTEN		
<i>170</i>	Note, When 2nd Flat finished, "CHA" remained on cont (ie solid green on FIFO light) even after turning down Image Tubes or d/soup.												
<i>120</i>	written after Head Test B [Head Test IA										written at 01 25. asked Test A		
<i>300</i>											IB	written @ 01 30 or Head Test B	
<i>pre 1/4</i>													
<i>Header 2201 buffer</i>	<p>I thought such was the case, ie start and end times in the header are treated diff than other parameters that we specifically enter.</p> <p>correct start and end are written of the last ^{completed} int are written when with whatever buffer is written, even the wrong buffer.</p> <p>But whatever else is in Header, incl the IB or IA. (on the menu) gets written as you see it. T_n</p>												

Spectr. Temp. Dome Temp./Hum. Transparency Conditions 340
 Focus
 Spectr. Temp. Dome Temp./Hum.

Comparison Type/Filted Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
10 ^s								2415			{ astigmatism at zenith ≤ 2mm. Intra- and extra-focal doughnuts look good { intra- & extra-focal images radically different some coma at this altitude?	
1/8 1/8 1/2												
Tung A 1/4 3hrs	1850 35 (ND 2.3)				RC PCS	1800/62.3	RS	H _α	IA			

34 Pg #1

Sun - Mon

Date 89.. Oct. 22/23..... Observers Mki / SAS / 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
SP001988 MKI	Tungsten								
	Comp.			19 07				FeA clear	200
	HD 194071	20:18:05	+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. ...
 2/9
 150 conts
 100/25
 10/20
 100/6
 100/8
 100/10
 100/10
 100/15
 100/10
 100/10

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

Transparency Conditions ... Clear! 3.42

Focus

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

Spectr. Temp. Dome Temp./Hum.

Comparison Type/Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	Wt. P.H.	Program	Remarks	Quality
		A/B				200 μ RC	800 / 62.3°	RS	$\lambda = 6570 \text{ \AA}$ PCS	IA	written		
FeB clear	200s	150 covts								"	written		
	300 sec	1400 / 25		V8.13						"	written	· · · · · · N	
FeB clear		140 / 20								"	written		
						500 μm RC	831 / 39.8°	RS	$\lambda = 6600$ PCS	IA			
										IA			
										IA			
										IA			
		500 / 6								IA			
FeA H=1/2	200s	190 / 8								IA			
	600s	500 / 10								IA			
	600s	600 / 10								IA			
	1000s	750 / 15								IA			
	200s	180 / 10								IA			
	600s	100 / 10								IA			

pg #2
343

Sun/Mon

Date 8th Oct 22/23

Observers Mki/SAS/Jn

Emulsion Batches:

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.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
SP00 2003	As Cam	05 18.8	+69 25	23 50	00 ^h 00				600s
04	As Cam			00 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.
A/B
600/12
600
3/10
600/12
7^{min}
600
180
700/15
200/15
600s/15
200/10
700/12
600s/15
200/10
600/12

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

344

Comparison Type/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	PH	Program	Remarks	Quality
	600s	A/B				200 μm RC	831 / 39.8	RS	$\lambda = 6600$ PCS	IA	written		
	600									IA			
FeA 1/2	200	180/10								IA			
	600	600/12								IA			
	7 min 600									IA		Some cloud	
FeA A=1/2	200	180								IA			
	600	700/15								IA			
	600s	700/15								IA		clear	
	600s	750/15								IA			
	200	180/10								IA			
	600	700/12								IA			
	600s	700/12								IA			
	600s	500/15								IA		seeing degraded	
	900s	170/10								IA			
	600s	1000/12								IA			

buffer

Pg 3
345

962 3301 Wells Fargo

Emulsion Batches:

Date 89 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. .

Focus.....

Spectr. Temp. .

Exp. Mtr. A/B

Secs

600/15

600/15

600/15

600/12

600/12

600/17

600/10

600/30

600/18

600/10

600/13

600/13

600/13

600/10

600/15

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

Focus

Spectr. Temp. Dome Temp./Hum.

346

Comparison Type/Filter	Exp	Exp. Mtr. A/B	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	PAH	Program	Remarks	Quality
600S		350/15				200 μ m RC	831/39.8	RS	$\lambda=6600\text{\AA}$ PCS	IA	written	Seeing degraded at end	
600S		350/15				Note - Look at Frame			(size=9067)	written		Power failure, but integration continued	Poor
FeA A=1/2	200	70/15								IA	written		
600S		300/12								IA	written		Poor
600S		550/12								IA	written	seeing improved	
100		750/17								IA	written		
FeA A=1/2	200	70/10								IA	written		
600		1100/20								IA	written	IA had quit. Restarted exp	
600		100/18								IA	written		
FeA A=1/2	200	70/10								IA	written		
600		500/13								IA	written		
600		550/13								IA	written		
600		500/13								IA	written		
600		70/10								IA	written		
600		500/15								IA	written		

Spectr. Temp. Dome Temp./Hum. $5^{\circ}\text{C}/77\%$ Transparency Conditions ... Clear

Focus

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

348

buffer

Comparison Type/Filter	Exp.	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		
TUNG 4=1/8 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.....

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Plate No.	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 49 E	+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. Ser

20000

8632

871

8000

845

840

4764

Spectr. Temp. Dome Temp./Hum. $11.0^{\circ}\text{C}/56\%$ Transparency Conditions *Semi-clear*

Focus

Spectr. Temp. Dome Temp./Hum.

350

X Grating

Comparison
Type Filter Exp

7A 10s

7A 10s

7A 10s

7A 10s

10s

10s

10s

10s

10s

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt <i>Echelle</i>	Slit	Emulsion	P.H. order	Program	Remarks	Quality
		\checkmark 0.04	A0V	Echelle	19.10	H 400 W 105	4820 Å • 4640	118		Dewar tilt 2.9°	6670
		0.04	H0V								1616
20000		0.04	H0V							Some cloud	8047
											1613
					18.91	H 400 W 105	4481 Å • 4927	127		W105 = 0.259 Dewar tilt = 2.5°	20221
8632		3.38	B3III							Some cloud	2726
											2282
821											2304
8000		3.00	B5III								2262
845											2214
840											2217
4764		3.07	B3V							Poor seeing and cloud!	1442
											2284

Top up @ 22:40

#2

Emulsion Batches:

351 Mon/Tues

Date Oct. 23/24 Observers Fds./Tn./SAS

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.....

Plate No.	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 XORE	05 19 46.0	+6 15 33	00 04	00 45	02 47E	+6 26		
	COMP							ThA	10s
	Obkup							ThA	10s
	HD 35468 XORI	"	"	00 48	01 28	02 03E			
	COMP								10s
	Comp								10s

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

Exp. Mtr. Sec

8000

9250

7306

353

Tue/Wed

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

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T. ✕	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
SP002037.mki	Flat at start			17 40		0 0	platform	Tung A=1/8	2 hours
	I noticed that "B" channel info 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 1950				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.

Focus.....

Spectr. Temp.

Exp. Mtr.

350/15

180/10

200/15

600/12

180/10

2300/30

200/10

1000

1000

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

Focus

Prim MIRROR 80% dew covered

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

354

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
950/15	*										
* Natick "A" channel off @ 18:37 (H/Hel/RI) IA Resumed at 18:37 (ND=2.3)											
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 Col	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		
200/10								IA	written		
300/10		v8.75	G2V					IA	written	Standard Field drawn	
								IA	written		
1000								IA	written		
1000								IB	written		

357

358