

3

Spectr. Te

Focus . . .

Spectr. Te

Exp. Mtr.

Spectr. Temp. Dome Temp./Hum. ... 14°C ... 50% Transparency Conditions . SCATTERED CLOUDS 6

Focus Spectr. Temp. Dome Temp./Hum. ... 12°C ... 53%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				B.C.	1200/50.7	B.S.	IIIant	A		T = 56°F F = 507	OK
B ⁺ FILTER 30000	3-5	5.14	B3V6	B.C.	1200/50.7	B.S.	IIIant	A	Kub Prog.	TELESCOPE REVERSED	v strong
							IIIant				? v
30013	4.5	3.6	B6pev	B.C.	1200/50.7	B.S.	IIIant	A	Kub Prog	T = 56°F	v. strong
9524		3.6	B6pev	B.C.	1200/50.7	B.S.	IIIant	A	Kub Prog	CLOUDS IN	strong

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Sun-Mon

Date Oct 27-28/85 Observers B-R

Emulsion Batches:

098-02 09085-18105

105-25105

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49467F	Focus Test							FeNe ^{#3} diffuser	8-8
49467	HD190390	19 59.6	-11 53	17 48	20 55	2 59W	-11 30	"	2-2-2
49467T	SPOT CAL FOR PLATES 49467					15MIN 4810	HD 5450		
49468	HD13174	2 03.7	+25 53	21 05	21 13	1 47E	+26 04	FeNe ^{#3} diffuser	2-2-2
49469	"	"	"	22 16	23 00	1 00E	"	"	2-2-2
49469F	Focus Test							"	8-8
49470	HD27524	4 15.6	+20 49	23 15	00 49	1 22E	+21 10	FeNe ^{#1} diffuser	4-8
49471	HD3712	0 34.8	+55 59	00 57	01 28	2 56W	+56° 37	"	4-4-4
	seeing (and to a lesser extent transparency) have worsened to the								
49472	HD12929	2 01.5	+22 59	01 33	01 55	1 57W	+23 31	FeNe ^{#1} diffuser	4-4-4
49473	HD18884	2 57.1	+3 42	02 00	03 10	2 16W	+4 10	"	4-4-4
49473F	Focus Test							"	20-20

Spectr. Temp. 57°FDome Temp./Hum. $10^{\circ}\text{C}/66\%$ Transparency Conditions *deteriorating as night progressed* 8Focus 508Spectr. Temp. 44°FDome Temp./Hum. $3^{\circ}\text{C}/74\%$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
8-8				BC	1200/405	150 μ /1.0	098-02E A			T=57°F F=508	OK
2-7-2	NO FILTER 10002	6.86	F1 III	"	"	"	"	A	Fel v G Pgm		fine
							098-02E				✓
2-7-2	NO FILTER 18002	5" + 5.31	F2 III	BC	1200/405	150 μ /1.0	"	A	Fel v G Pgm	to compare w. plate 49459 T=52°F F=510	sl strong
2-2-2	NO FILTER 10006	"	"	"	"	"	"	A	Fel v G Pgm	to compare w. plate 49467 T=50° F=510	fine
8-8										T=49° F=510	OK
4-8	BLUE FILTER 939	6.77	F5 V	BC	1200/50.7	B5	Tl a O E	A	Archive	T=49° F=509	wk
4-4-4	BLUE FILTER 10004	6" + 2.5	K2 III a	"	"	"	"	A	Std Vel	T=47° F=510	Str
4-4-4	point where getting a bright std vel star is a struggle BLUE FILTER 10007	2.2	K2 III a b	BC	1200/50.7	B5	Tl a O E	A	Std Vel		str
4-4-4	BLUE FILTER 10001	2.8	M15 III	"	"	"	"	A	Std Vel		str
20-20											OK
										closed up because of poor observing conditions	

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Mon-Tues

Emulsion Batches:

098-02, 09085-18105

8^m 69° II-0-E 205-25105

Date Oct 28-29/85 Observers B. R. // R.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49474F	Focus Test							FeNe ^{#3} diffuser 8-8	
49474	HD 190390	19 59.6	-11 53	17 46	20 46	2 54W	-11 30	" 2-2	1100
49474F	SPOT CALIBRATION FOR PLATES 49474-75.				15 MIN 4810	① 7V D1 Hd	② 7V D2 4810		
49475	HD 13174	2 03.7	+25 28	20 53	21 31	2 25E	+26 04	FeNe ^{#3} diffuser 2-2	1100
49475F	Focus Test								
49476	HD 212943	22 22.8	+4 12	21 45	23 17	3 02W	+4 45	FeNe ^{#1} diffuser	4-4
	Packet SPECTROGRAPH 23:30				24:00	(tests)			
49477	HD 29316	4 32.0	+53 17	00 12	01:06	01 ^m 20E	+53 37	FeNe ^{#1} diffuser	4-4
49477F	SPOT CALIBRATION FOR PLATES 49476-78.				15 MIN 15V. 3900	① D4 4300	② D3 4810		
49478	HD 6582	1 01.6	+54 26	01:15	02:23	3 ^m 28 W	+55° 02	FeNe ^{#1} NO DIFFUSER	4-4
49478F	Focus Test							FeNe ^{#1} NO DIFFUSER	20-20

Spectr. Temp. 46°F Dome Temp./Hum. $6^{\circ}\text{C}/61\%$ Transparency Conditions *good* 10

Focus 5.11

Spectr. Temp. Dome Temp./Hum. $+1^{\circ}\text{C}/81\%$

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	8-8					BC	1200/150.11	40.5/10	098-02E	A		MAYBE LIGHT STRUCK	
	2-22	NO FILTER 11002	4.5	6.86	F1TII	"	"	"	"	A	Fe/r6 Pgm		fine
									098-02E				uv
	2-22	NO FILTER 11000			F2TII	BC	1200/150.11	40.5/10	098-02E	A	Fe/r6 Pgm		fine
													sl. blue
	4-4-4	BLUE FILTER 4002			KOTTIV	BC	1200	50.7	B5	TaO-E	A	Std Vel	T=430F F=511 fine
	4-4-4	BLUE FILTER 4008	4.5	VAB 5.36	A5n	BC	1200	50.7	B5	TaO-E	A	KKAsmSp	T=400F F=511 fine
													uv
	4-4-4	4000		5.81	G5Vp	BC	1200	50.7	B5	IIcO-E	A	KKAsm-SP	fine
	20-20					BC	1200	50.7	B5	IIcO	A		F=511 OK

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Wed-Thurs

Date Oct 30 - 31 1955 Observers Bl-Tn

Emulsion Batches:

8^m 68^m II.O.E. 105 - 25105

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
49479	HD182917	19 21.9	+50 02	21 12	22 31	5 28 W	+50 18	FeNo ²¹ d.ther	2-2-2
49480	HD207076	21 41.4	-2 40	22 35	23 10	3 43 W	-2 06	"	4-3
49480T	Spot Calc for 49479-80.				15 min @ 151	04 3900	D3 4300	D2 4810	
Pocket Spectrograph 23:30 - 06:10 OF Comet Halley. Visible in Viewfinder despite nearby Moon.									

Spectr. Temp. 43°F

Dome Temp./Hum. 42°F/56%

Transparency Conditions much cloud in south 12 at start

Focus 5 1/2

Spectr. Temp.

Dome Temp./Hum. 45°F/93%

Comparison filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
BLUE FILTER		✓									
364	2.3"	8.4	MB	BC	1200/50.7	B5	ThOCl	A	Obs Pgm	* Exposed suspect	weak
BLUE FILTER											
114	3"	7.89	M7III	"	"	"	"	A	Obs Pgm		v weak
							"				✓

- Easily visible in Pocket Spectrograph eyepiece - symmetrical glob - no detail seen

Spectr. Temp. 49°F Dome Temp./Hum. $47^{\circ}\text{F}/73\%$ Transparency Conditions *partly cloudy* 14Focus 5.10 Spectr. Temp. 45°F Dome Temp./Hum. $43^{\circ}\text{F}/95\%$

* Exp meter normal again - See Dome Log

Exp. Mtr. *	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
BLUE FILTER 5010	2"	✓ 8.4	M ₈	BC	1200/ 50.7	BS	T ₁₀ E	A	Obs Pgm	PH osc. 3.35 → 3.45	good
BLUE FILTER 362	3"	7.89	M ₇ T ₁	BC	1200/ 50.7	BS	T ₁₀ E	A	Obs Pgm	telescope reversed	rwk
BLUE FILTER 5566	3"	✓ 6.48	dF ₈	"	"	"	"	A	KK Asm Sp	cloud finally	good

15

Thurs Fri

7 min @ 68°F - Th
Nov 8

Emulsion Batches:

D20-E

30105

Date Nov. 7-8, 1955 Observers Lg-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.
49484	HD178574	19 40	+1 12	19:02	20 07	3 50W	+1 30	Fe No #1 diffuse	2-4
49485	HD11188	01 44.9	+46 58	20 16	22:15	0 43E	+47 29	"	2-2
49486	HD14633	02 16.7	+41 02	22 23	00 36	1 06W	+41 34	"	3-2-2
49485T	Spot Caln for 49484-88				15 min @ 15V	D4 3900	D3 4300	D2 4810	
49487	Halley			1 25	04 57	3 02W	+	Fe No #1 no diff	2-2-2
49488	HD44990	06 19.8	+07 08	5 08	06 20	2 45W	+7 13	Fe No #1 diffuse	2-2-3
49488T	Focus							"	5-8
Obs attempt next night - but clouds too soon									

Spectr. Temp. 48°F

Dome Temp./Hum. 40°F / 88%

Transparency Conditions cleared off just after

Focus 511

Spectr. Temp. 38°F

Dome Temp./Hum. 35°F / 95%

small cloudy with haze
Halley just visible in my dome enclosure
16comparison
filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
958	4"	7.9	F5	BC	1200/50.7	BS	Ilaloe	A	Ly Pgm	511 48°F oscillation	vwt
7000	4-6"	7.1	B8	"	"	"	"	A	SB-Ly	some cloud	vslwk
9200	"	7.3	08V	"	"	"	"	A	SB-Ly	511 40°F	fine
no filter							"				v
7225	2-3	6.6	F7Tab	BC	1200/47	BS	"	H	"	oscillation	fine
				"	"	"	"	H	set 511 T=38°F		vslwk
<p>Kk *I couldn't see image reflected from 250uslit very well but could see it on slicer. I wasn't sure about end cover on image tube so didn't try to use it. In</p> <p>Apparent tail to the N-E - Good in Vixen eyepiece a very obvious in finder. Compact nucleus</p>											

Mon-Tues

Date Nov. 11-12/55..... Observers B.H. Tu.....

Emulsion Batches:

098-02E 29085-18105
8^m 69° 100-E 105 -30105

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
Packet Spectrograph - 17:15 - 17:55									
located Comet Hartley-Good; too diffuse to get a spectrum on plate									
49489	HD 182917	19 219	+50 02	18:18	19 38	3 22 W	+50 19	Fe N ^o 3 di. filter	3.3.3
49489T	Spot Cal'n for 49489.				15 min @	15V D3 4810	7V D1 H ₂	7V D2 5450	
49490	HD 11188	1 44.9	+46 58	20 00	20 55	1 48 E	+47 27	Fe N ^o 1 di. filter	(2-3) 480-42
49490T	Slit test for rotation							Fe A diff	

Spectr.

Focus

Spectr.

Exp. M

below

No plate

2504

Class 403

1571

Spectr. Temp. 33°FDome Temp./Hum. $-2^{\circ}\text{C}/64\%$ Transparency Conditions *Cloud to South*..... 18.....Focus 5.14Spectr. Temp. 31°FDome Temp./Hum. $-4^{\circ}\text{C}/80\%$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
before telescope limit reached											
NO FILTER 25043	3"	8.4	M6	BC	$\frac{1200}{40.5}$	BS	09802E A		Old Pgm		?
BLUE FILTER 1671	3"	7.1	B38	BC	$\frac{1200}{50.7}$	BS	100E A		SB Ly	cloud	wk
				BC	$\frac{1200}{50.7}$	$\frac{300}{1.7}$	100E A			Rotation error only $\frac{200}{100}$	wk
Note <u>kk</u> There are only 4 100E strips: 14, 5, 1, and 1. + 1 full 100E											
1 full from 098 box over tonight.											

pectr. Temp.

Dome Temp./Hum.

Transparency Conditions

20

ocus

ipetr. Temp.

Dome Temp./Hum.

Comp. Type Filter	SOR. Ex.	xp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
FEAPL	S					RETICON	1800/43°	300μ		-155.3			
"						"	1800/44°	300μ		-155.30c			
640c	S					RETICON	1800/45°	300μ					
FEAPL	S					RETICON	1800/49°	300μ					
FEAPL	S					RETICON	1800/50°	300μ					
FEAPL	S					RETICON	1800/51°	300μ				WITHOUT GOING INTO ENG MODE	
FEAPL	S					RETICON	1800/51°	300μ					
FEAPL	S					RETICON	1800/44°	300μ					
FEAPL	S					RETICON	1800/45°	300μ		-155.30c			
FEAPL	S					RETICON	1200/42°	300μ					
FEAPL	S					RETICON	1200/43°	300μ					
FEAPL	S					RETICON	1200/44°	300μ					
FEAPL	S					RETICON	1200/45°	300μ					
FEAPL	S					RETICON	1200/46°	300μ					
FEAPL	S					RETICON	1250/47°	300μ					
FEAPL	S					RETICON	1200/48°	300μ					

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

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Pig. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				RETICON	1200/49°	300μ	✓				
				RETICON	1200/50°	300μ	✓				
				RETICON	1200/51°	300μ	✓				
				RETICON	1200/52°	300μ	✓				
				RETICON	1200/53°	300μ	✓			DATA DISK #1	
				RETICON	1200/57°	300μ	✓				
				RETICON	1200/53°	300μ	✓				
				RETICON	1200/47°	300μ					
				RETICON	1200/48°	300μ					
				RETICON						DATA DISK #2	58/71
				RETICON						from PLOT DAT	90/62
				RETICON							68/70
				RETICON							87/71
				RETICON							79/71
				RETICON							80/72
				RETICON							
				RETICON							

T = -155.2°C

-154.9°C

Thurs Fri

Date Nov 21-22/85..... Observers 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.
	Focus test							FeAr#2 w diff	80
742	Halley	~ 10 min exposure						FeAr#2 w diffuser	80
	Dark	2x 600sec		01 23					
<p>Core Easily visible in visual slit eyepiece (No. 11 on TV) Also easily visible with my binoculars.</p>									
49490F	Focus test (Nov 23)	New G12				0 0		FeAr#3 w diffuser	20-20
49490Tv	Comparison							FeAr#2 FeAr#1	20 10

Spectr. Temp. Dome Temp./Hum. /62°F Transparency Conditions 28

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.C.	Program	Remarks	Quality
no filter (blank in)					1800/44.5	300μ					
* 92				Reticon	n	300μ (modaker)				(cloud within 10 mins)	143/4000
					covered	<u>cover in</u>				Dome light off	
<p>* Exp meter voltage unchanged. It would count one count in 10 secs on sky only & ≈ 1 count in 9 secs when on comet.</p> <p>Didn't do Flat Fields since there doesn't seem to be any scatter in density.</p>											
<p>Note - Sat morning = 2:10 AM Nov 23 I saw a brt green, fragmented meteor/flash in the NW heading NW while driving North on Bayview. I saw another very good normal meteor in same area when I got home. It was semi cloudy at the time. Tn</p>											
				BC	830/325	350μ	098	A	T-377	set 51A	ok but str
				BQ	1200/507	200μ	1120	A		"	

Spectr. Temp. 26°F Dome Temp./Hum. $+23.9/58\%$ Transparency Conditions 90.4% cloudy 30Focus 515 Spectr. Temp. 24°F

Dome Temp./Hum. /

Halley looked OK at beginning of night
Some difficulty seeing at on slit though.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality	
Blue filter												
5270	5"	7.1	B8	BC	1200/50.7	BS	II01-E	A	L ₇ pgm	cloudy thick + thick	slw k	
			,	"	"	"	IIa0	A		24°F set 515	OK	
				"	830/32.5	"	098	A		23.5°F set	too str conts/blue	
					* wrong tilt, 40.2 for this new G12							

Not safe; was this Fri/Sat?
 * Date Dec 6-7/85? Observers Ri?

Emulsion Batches:

T100105 05125 2nd

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	HD183344	19 24.0	-07 15.0	17:30					
49492	Comet Halley			19 20	21:30	203W	+9 05	Fe A2 ² with R112	2mm 2"
49492T	SPOT CALN PLATE FOR 49492			15MINOR	004 390	203 4200	002 400		

Spectr. T.

Focus

Spectr.

Exp. Mtr.

1:7:08

11:7:41

4:3:05

4:13:22

33

Sat-Sun

Date Dec. 14-15/85..... Observers .. KK-TM.....

Emulsion Batches:

Bl group Sun. H. Hallay. a. 1/2 hr

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
746	0 And HD 217675	22 57.3	+41 47		18:30	W	+42 22	FeA	80 sec
750	OE Halley			18 57	19 21	W		FeA	50 sec
	Fit Field								5 sec
	2x " "								1 sec
Dec 16/85	Ta -	Dark tests							
	Dark	10,5,1	(note, didn't do any "send" before)						
	Darks	10,5,1	(after a number of "send" commands)						
	Darks	600,5,1							

Spectr. Temp.

Dome Temp./Hum. $+16.0^{\circ}\text{F}/72\%$ Transparency Conditions *Fine* 34

Focus

*Looked at Halley 1st
- getting better & larger*

Spectr. Temp.

Dome Temp./Hum. $\dots\dots\dots/$

Companso Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	<i>B Filter</i>											
	<i>300iru</i>	<i>4"</i>	<i>36</i>	<i>R5p</i>	<i>BC</i>	<i>1800/45°</i>	<i>250</i>	<i>Reticon</i>			<i>T = -163.7°C</i>	<i>20001</i>
	<i>27191</i>					<i>1800/43°</i>	<i>300/-</i>	<i>"</i>			<i>cloud - (nothing on disk)</i>	
						<i>1800/45°</i>	<i>300/-</i>				<i>saturated</i>	
						<i>"</i>	<i>"</i>				<i>OK</i>	
											<i>ON DISK #1 Rec 421</i>	
											<i>data very noisy tonight</i>	
											<i>T = -164.8°C</i>	
											<i>T = -164.6°C 22 hrs</i>	

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Thurs Fri

D19 8^h 6^m 00^s

Emulsion Batches:

II.O.E.....06115

Date Dec. 19-20/85..... Observers Bt-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. Mtr.
PI	Comet Halley			17 37	18 08	W		Ne Ar	1E
	"			18 32	18 40				
	"			18 53	19 06				
49423	HD 27742	4 17.6	+20 45	21:02	21:21	1 24 E		FeNe #1 diaphragm	4-
49494	HD 27524	4 15.6	+20 49	21:27	23:55	1 12 W	+21 09	"	4-4
49497	Spot color S	49497-96			15 min. 15V	D4 D3	D3 4800	"	4-4
49495	HD 46223	6 27.0	+4 53	00 18	3 54	2 59 W	+4 56	FeNe #1 diaphragm	4A4
49496	HD 107328	12 15.3	+3 53	04 05	05 08	1 31 E	+3 33	"	6-
49496F	Focus					0 0	"	"	12

Spectr. Temp. Dome Temp./Hum. $+17.7^{\circ}/70\%$ Transparency Conditions *Some cloud* 36

Focus

Spectr. Temp. ... $15.5^{\circ}F$ Dome Temp./Hum. $+9.7^{\circ}/97.7\%$

Exp. Mtr.	Seeing	Pig. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Packet	$100\text{Å}/\text{mm}$ 4.0	60Å no detector	IlaoE			cloud	F=4.25
										more cloud	
										more cloud	
BLUE FILTER					1200						
3347	3"	5.92	B9V	BL	$1200/50.7$	BS	IlaoE	A	Wrong star	T=18 ⁰⁰ set 517	Start comp. wk
BLUE FILTER											
10015	3.2"	6.77	F5V	"	"	"	"	A	Archive		comp. wk
							"				LL
BLUE FILTER					1200						
7416	2"	7.47	B2	BL	$1200/50.7$	BS	IlaoE	A	Archive	check field T=16 ⁵⁵	Some comp. wk
BLUE FILTER											
6502	2"	6.1	K1 III	"	"	"	"	A	SH Vel		comp. wk
				"	"	"	Ilao	H		T=15.5 ⁵⁵ set 517	OK

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Fri-Sat

Date Dec 27-28/85 Observers BH-R

Emulsion Batches:

1A0 105-06115 1185

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49497	HD 46223	6 27.0	+4 53	22 05	01 18	0 56W	+5 00	FeNe #1 d. filter	8-4-8
49497	SPOT CALW FOR PHARES 49497-99.				15 MIN @ 15V	3900 4300 4810			
49498	HD 42543	6 06.3	+22 56	01 23	04 55	4 55W	+23 04	FeNe #1 d. filter	8-4-8
49499	HD 92588	10 36.3	-1 13	05 05	06 27	1 56W	-1 32	"	8-

Spectr. T

Focus

Spectr.

Exp. Mir

Blue-Filter

Blue-Filter

2357

Blue-Filter

1179

Spectr. Temp. 23°FDome Temp./Hum. $-9^{\circ}\text{C}/77\%$ Transparency Conditions *Cloud at beginning of night and at end.*Focus 516Spectr. Temp. 16°FDome Temp./Hum. $-13^{\circ}\text{C}/75\%$

38

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>BLUE FILTER</i> 10012	3"	7.47	B ₂	BC	1200/50.7	BS	Ilad-E	A	Archive		Comp work slut
<i>BLUE FILTER</i> 2357		8.63	M-2	Tab BC	1200/50.7	BS	Ilad-E	A	Archive	T=19°F F=519	Comp work wk
<i>BLUE FILTER</i> 4179		6.4	spk1	BC	1200/50.7	BS	Ilad-E	A	Std Vel	T=17°F F=519	Comp work slut
Note: Comp needs 2 frame											

43

Mon-Tues

8^m 680

Emulsion Batches:

* II 40-E 105-05-26

Date Jan 6-7/86 Observers BH-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.
	P/Halley (1982c)			17 45	18 49	3 33W		NA	15 ^s
49501	HD 27383	4 14.2	+16 18	19 03	00 12	2 41 W	+16 26	FeNe ²¹ no di. filter	10-10-10
49501T	Spot Coll for	49501-03		15 min @ 151		04 03 3900 4300	04 +100		
49502	HD 112264	12 50.4	+47 44	00 32	06 24	0 20W	+47 26	FeNe ²¹ di. filter	10-10-10
49503	HD 115521	13 12.6	+6 00	06 36	07 16	0 11 W	+5 41	"	15-15
49503E	Focus lost					0		"	30-30

Spectr. T

Focus

Spectr.

Exp. Mtr

BLUE FILTER

9225

BLUE FILTER

9995

BLUE FILTER

2859

Spectr. Temp. ... 20°

Dome Temp./Hum. -10°C/60%

Transparency Conditions 5/100 - overcast

Focus ... 516

Spectr. Temp. ... +6°

Dome Temp./Hum. -19°C/93%

44

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Packet Spectrograph	100/4.0	60μ / no debris	Ilac		Obs Pam		
BLUE FILTER 9215	3-5"	7.45	F7V 63V	BC	1200/50.7	BS	* Ilac-E	A	Archive		Fine ✓
BLUE FILTER 9995	3-5"	7.39	M5III	BC	1200/50.7	BS	* Ilac-E	A	Archive	T=130F F=518	Fine
BLUE FILTER 2859	4"	5.0	M2IIa	"	"	"	* "	A	Std Vel	T=60F F=520	slwk
				"	"	"	Ilac	A		T=60F F=520	com signal
										All comps slwk	

Spectr. Temp. $+12^{\circ}\text{F}$

Dome Temp./Hum. $-15^{\circ}\text{C}/70\%$

Transparency Conditions *Hazy* 46

Focus 5.24

Dome Temp./Hum. $-21^{\circ}\text{C}/80\%$

ϵ very cold

Comparison Filter Exp

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

no filter*											
6584				BC	830/40.2	25 μ	IIaE	A	du pyro	Reversal broken 1pc saved	wrong comp. exp. time

Note, with exp meter filter, Compton slit counts = 1/sec - Sky counts / count in 7 sec

stopped when count behind tree.

B Filter

1750	4.6	7.1	B8	BC	1200/50.7	BS	IIaE	H	SB-Ly	* Ice crystal scattering (tree slow) I think.	shiny sky weak + finger print + flare
------	-----	-----	----	----	-----------	----	------	---	-------	---	--

$T = +10^{\circ}\text{F}$ Se + 520

Too cold, Telescope, motors & dome turning getting stiff. Me too!
KK Note - I think I took a couple of pictures (2);
but advanced film about 4 times. Camera left on mount.

PS. I turned off exp meter refrigerant because fan was noisy & I don't think cooling is a problem. I think you turned it off for the coldest months last year.

Spectr. Temp. $+32^{\circ}\text{F}$ Dome Temp./Hum. $30^{\circ}\text{F}/82\%$ Transparency Conditions *clear - sl. haze*Focus $5/4$ *windy - SW 50*Spectr. Temp. $+34^{\circ}\text{F}$ Dome Temp./Hum. $33^{\circ}\text{F}/90\%$ Comparison
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>B Filter</i>											
3100	3"	27	G8III	BC	1200/507	BS	II40-E	A	Ly - Pyro	Fld Down <i>BS much slower</i> the slit? <i>Comp Stuck</i>	<i>slut</i>
2070	3-6"	7	F7Iab	"	"	19/15	"	A	Ly - Pyro	<i>gusty - wind guided</i>	<i>vslut</i>
1280	"	6.2	A0V	"	"	"	"	A	Ly - SP	<i>slut</i>	<i>Comp Stuck</i> <i>Slut</i>
<p><i>KK Note - These plates put in previous night's box to be developed whatever way you wish. OK by Ron</i></p>											

51

Mon-Tues

Date Jan. 13-14/86... Observers Ch. Ta.....

Emulsion Batches:

10^m MUP2 68I₁ 20⁺ E for packed
I₂ 20⁺ E 105 - 08016

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
	P/Halley (1982c)			18:00	19:14	4 40W		NcA	15
	Single Spot Cuts exp for P/Halley)				15 min @ 15V	^{D3} 4300			
49510	HD 35410	5 19.4	-0 59	19 48	21 01	0 20E	+0 49	FA 43 Filter	80 80-80
				Very clear obscured during whole exp.					+
49511	HD 35410	5 19.4	-0 59	21 07	21 47	0 28W	+0	Fe Net d. 1059	28
				Very clear till 21 37 Cloud by 21 38					
				Forgot to un cap 405 11, but Exp meter comments apply					

53

Tues - Wed

Date Jun 14-15, 1986 Observers Tn

Emulsion Batches:

10^m M4D2 GR II-Q-E 1.D.5 - 08016 24 217

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49511	Comet Halley (1982i)			17 55	19 26	5 00 W	-5 17	FeAr Pittner	80-80 70
	Looks much brighter than last night and seems to have a bright core again, - Sky alone, doesn't count tonight, even at exp end.								
49511T	Spot Calm for 49511-15					15 min @ 15V	D4 D3 3900 4300	D2 4800	
49511F	Focus test					≈ 4 W	≈ +48°	FeNe no diff	15-15
49512	HD 217675	22 57.3	+41 47	19 54	20 02	4 20 W	+42 11	FeNe I no diff	10-10
49513	HD 6582	01 01.6	+54 26	20 09	20 55	3 09 W	+54 48	"	12-12
49514	HD 66751	07 59.9	+70 00	21 06	22 40	2 07 E	+69 56	"	8-8
49515	HD 76095	08 49.0	+26 36	22 50	00 09	1 25 E	+	FeNe I no diff	8-8

Spectr. Temp. $+12^{\circ}\text{F}$ Dome Temp./Hum. $-15^{\circ}\text{C}/69\%$ Transparency Conditions *Fine* 54

Focus 52.5

Spectr. Temp. $+5^{\circ}\text{F}$ Dome Temp./Hum. $-19^{\circ}\text{C}/80\%$

Comparison / Filter	Exp.	Exp. Mtr	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		<i>no filter</i> # approx read 2900	?			BC	830/40.2	150/110	IIaD-E	A	P/Halley	Reversed	sl weak dent on slit
<p>Last night it looked more different with no obvious cause. * during mid comp Exp meter counted about 3000</p> <p>Note, That darn cage light came on during comet exp - not sure for how long. It seemed to affect exp meter rate a bit. maybe, let's replace switch.</p>													
									IIaD-E			Reversed	
		B filter				BC	830/40.2	BS	IIaD	A		T = $+10.5^{\circ}\text{F}$ Set 525	comp V Red
		10,264	2-3"	3.6	B6p	BC	1200/50.7	BS	IIaD-E	A	Asm Sp-KK	reversed set 519	comparison in stallor comp slit fine *
		8,300	"	5.81	G5p	"	"	"	"	A	"	"	fine *
		6,500	"	7.7	dF8	"	"	"	"	A	"	unreversed eggs	fine *
		TU	image	"Just"	usable	for	HD 66751					hope there's no flexure	
		3,000	2-3"	7	G0	BC	1200/50.7	BS	IIaD-E	A	Asm Sp KK	T = $+6^{\circ}\text{F}$ Cut short	fine *
<p>due to temp. expansion mirror failure.</p>													
<p>* comp lumpy due to just adjustment</p>													

55

Mon-Tues

Emulsion Batches:

Date Jan. 20-21/36. Observers Bt-Ri

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	Starlight-1 Photometer tests - #1								
	S Ori A	(1950) 5 31.0	(1950) -00 19	22:45	23:02	1 ^h 15 ^m W			
	diaphragm #6		25.8	sec	diaphragm #3		2.9	sec	
	"	"	24.6	sec	"	"	3.4	sec	
	"	"	22.8	sec	"	"	3.3	sec	
	diaphragm #5		5.2	sec					
	"	"	4.9	sec					
	"	"	4.8	sec					
	diaphragm #4		4.3	sec					
	"	"	3.9	sec					
	"	"	4.6	sec					

57

Thurs - Fri

Date 1986 JAN 23/29... Observers ... Tn

Emulsion Batches:

9" MWP-2 68° II 9.0-E 125 - 0.8016

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49516	o And HD 217675	22 57.3	+41 47	18 [*] 22	18 44	3 38 W	+42 21	Fokoff no diff	12 10
49517	HD 6582	01 01.6	+54 26	18 52	19 32	2 20 W	+55 02	"	10 10
49517T	Spot Caln for	49516-18			15 min @ 15V	D4 3900	D3 4300	D2 4210	
49518	HD 36485	05 26.9	-0 22	19 45	21 05	0 35 E	-0 09	Fokoff no diff	7-7-7
49518T	Spot Caln	for 49516-18	(Repeat)		15 min @ 15V	D4 3900	D3 4300	D2 4210	

Spectr

Focus

Spectr

Exp. M

B

780

Vol.

B-100

6316

Spectr. Temp. 24° Dome Temp./Hum. $20^{\circ}/60\%$ Transparency Conditions *semi cloudy* 58Focus 515

Spectr. Temp.

Dome Temp./Hum. $18^{\circ}/80\%$ *very cloudy at 1st - Inexpensive
+ No Exp. at 1st (cap problem)*Comparison
Filtered Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B 6/195											
*	2"	3.6	B6p	BC	1200/507	BS	II ₀ -E	A	Asm Sp	Exp meter 1836-1841 gives 5 R cpts	sl str
7800	"	5.81	G5Vp	"	"	"	"	A	"	clear now	sl str
very rugged B filter	4x5									- too big at 1st till I bit off 2 corners	✓
6316	2-3'	6.7	B2Vp	BC	830/402	BS	II ₀ -E II ₀ -E	A	He Rich - L ₆	some cloud T = 22°F Set 5 21	complete sl str ✓
<p>KK - Did an extra Spot since strips were all to be used. You are what for an extra one for low tests or something I believe.</p> <p>developed Spectroden DC 9 1/2" 66°F</p>											

61

Mon - Tues

Date Feb. 10: 11/86 Observers B. R. R.

Emulsion Batches:

HD-7D5-22015
 not 6"
 YES 6" MY MAT 10 1/2"

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	CCD Tests to 19:15								
49520	HD 42543	6 06.3	+22 56	19 26	01 23	4 18W	+23 04	F-No #1 d. 8-8-8	8-8-8
49520T	SPOT PLATE CAL	FOR 49520-21		15 MIN @ KUOLTS	3900	430	4810		
49521	HD 115521	13 12.6	+6 00	02 43	03 50	0 16E	+5 40	F-No #1 d. 8-8-8	8-8-8

Spectr. Temp. 26°F.....

Dome Temp./Hum. -10°C / 58%

Transparency Conditions OK... cloud at end.

Focus... 515.....

Spectr. Temp. 18°F.....

Dome Temp./Hum. -13°C / 93%

62

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
BLUE FILTER 3142	4"	863	M ₁₂ I ₁ J ₁ BC		1200 / 50.7	BS	T ₁ O ₁ E A		Archive		WK
							I ₁ O ₁ E				r?
BLUE FILTER 2281	5"	50	M ₂ T ₁ BC		1200 / 50.7	BS	T ₁ O ₁ E A		Std. Vc / F=517 T=16°F		WK

63

Tues-Wed

Date Feb. 11-12, 1966 Observers B.R.

Emulsion Batches:

8^m 68^o JAL 105-22015 you mean
 5^m 68^o Martel 215-21015 6? no?
 YES R!

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49522F	Faus Test							Fok #1 ditto	3030
49522	HD 18884	2 57.1	+3 42	18 10	18 28	0 24W	+4 09	"	8-8-8
49523	HD 44131	6 15.0	-2 54	18 45	22 16	1 07W	-3 47	"	8-8-8
49524	HD 47105	6 31.9	+16 29	22 23	22 29	1 05W	+16 30	"	30-30
49525	HD 103095	11 47.2	+38 26	22 50	01 47	0 54E	+37 58	"	8-8-8
49526	HD 122742	13 58.6	+11 16	01 55	04 31	0 21E	+11 01	"	8-8-8
49526T	SPOT CALU FOR PLATES 49522, 23, 25, 26					15 MIN @ 15 VOLTS	3900 4300	4810	

Spectr

Foc

Spectr

Exp. M

346 F

802

346 F

800

346 F

3504

346 F

801

346 F

7301

Spectr. Temp. 23°FDome Temp./Hum. $-7^{\circ}\text{C}/55\%$ Transparency Conditions *part. ... much cirrus*.....Focus 5.6

64

Spectr. Temp. 140°FDome Temp./Hum. $-15^{\circ}\text{C}/94\%$ Comparison
Filter Exp.

#1

3.3

8.8

8.8

30.3

8.8

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Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	1200/ 507	B5	Il-D-E	A			coats/red
BLUE FILTER 8029	4"	2.8	M.5TH	"	"	"	"	A	Std Vel		fine
BLUE FILTER 8005		5.2	gM1	"	"	"	"	A	Std Vel		fine
BLUE FILTER 35040		1.9	A0TV	"	"	"	Il-D-E	A	KK Asm Sp	may be light + struck T=180°F F=517	fine comp/str
BLUE FILTER 8000		7.2	G8V	"	"	"	Il-D-E	A	KK Asm Sp		fine
BLUE FILTER 7301		6.8	G8V	"	"	"	Il-D-E	A	KK Asm Sp	T=150°F F=518	fine
							Il-D-E			cloud	fine v? coats/red

all Il20 have crinkled edges
- are we cold?

Spectr. Temp. $+20^{\circ}\text{F} \dots -7^{\circ}\text{C}$ Dome Temp./Hum. $+15^{\circ}\text{F}/60\%$ Transparency Conditions *Part. Cloudy*..... 66Focus *517*.....

Spectr. Temp.

Dome Temp./Hum. $+10^{\circ}\text{F}/66\%$ *Snow blowing in old dome
due to very recent snow fall*Comparison
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>B filter</i>											
7,150	1.2"	\approx 7	G0	BC	1200/50.7	BS	II-O-E	A	<i>Asm. Sp. Mtr.</i>	<i>some cloud</i>	<i>fine</i>
							II-O-E		<i>note had to trim both trays in box</i>	<i>they were too long</i>	
				BC	1200/50.7	BS	II-O	A		<i>T=16.5" set 517</i>	<i>DK</i>

667

Sat-Sun

Emulsion Batches:

D-19 5^m 68ⁿ

...H.A.J. et al. 245-21016

Date Feb. 15-16/86..... Observers ...T.A.....

I	Plate No.	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	49528	HD 112028	12 48.3	+83 58	18 58	21 15	6 10 E	+83 37	Fe No 1 no diffuser 27-	52
4	49528T Spot cal'n for 49528-29					15:00 D4	17.5V 3900	15V 4300	15V 4300	
	49529	HD 86360	9 52.9	+12 55	21 27	23 23	1 11 E		Fe No 1 no diffuser 1575	6

Spectr. Temp. $24^{\circ}\text{F} - 5^{\circ}\text{C}$ Dome Temp./Hum. $-8^{\circ}\text{C} / 60\%$ Transparency Conditions *Semi-clear - 7 more cloudy*Focus 5.5 Spectr. Temp. 20°F Dome Temp./Hum. $12^{\circ}\text{C} / 70\%$

68

Exp. Mir.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
≈ 22000	$2^{\circ}-5^{\circ}$	5.28	B8	BC	1200/507	BS	Dial-eg	A	SB-Bln	* Exp meter timer @ 20sec but \approx time = 27 secs \uparrow the brighted of pair = the south star	OK
							Tri-eg				✓
6,200	$3^{\circ}-4^{\circ}$	5.22	B9IV	BC	1200/507	BS	"	A	SB-Bln	T = 21°F Set 5/6 Cloud	OK

69

Fri-Sat

Emulsion Batches:

Date Feb. 21-22/86.... Observers Tn.....

5^m 68^o ... J.A.O.E. 105... -27016
 ... III. et. of 2.15... -21016

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49530	HD 6582	01 01.6	+54 26	18 49	20 27	5 11 W	+54 45	Felt #1 no d. filter	7-9
49530T	Spot Cal'n for 49530	31		15 min @ 15V		D4 3900	D3 4300	D7 4-8-10	
49531	HD 6961	01 05.0	+54 37	20 32	20 51	5 31 W	+54 58	Felt #1 no d. filter	12-13
49532	HD 29316	04 32.0	+53 17	21 01	23 48	5 59 W	+53 20	n 27- 13-3	21-22
49532T	Spot Cal'n for 49532	33		15 min @ 15V		17.5V 3900	15V 4300	15V 4510	
49533	HD 86360	9 52.9	+12 55	23 57	01 57	1 50 W	+12 38	Felt #1 no d. filter	17-18

Spectr. Temp. $27^{\circ} - 3^{\circ}C$

Dome Temp./Hum. $-8^{\circ}C / 66\%$

Transparency Conditions *Fine* 70

Focus $51A$

seeing v bad at 1st

Spectr. Temp. 17°

Dome Temp./Hum. $-14^{\circ}C / 86\%$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
450	$10-5^{\circ}$	5.81	G5V	BC	1200/50.7	BS	IIUO-E	A	Asm Sp Kk	Reversal	fine
							"			poor pencil label	v?
5800	$6-3^{\circ}$	4.50	A7V	BC	1200/50.7	BS	"	A	Asm Sp Kk	Reversal	fine
21000	$3-10^{\circ}$	5.15	A5n	"	"	"	IIIal-efg	A	"	Reversal T=22 ^o f set 516	Fine
							IIIal-efg				r
22,000	$5-3^{\circ}$	5.22	B9IV	BC	1200/50.7	BS	IIIal-efg	A	SB Bl ₂	Unreversal T=17 ^o f set 517	Fine

Mon-Tues

Emulsion Batches:

Date Feb. 24-25/86.. Observers Bt..Tn.....

..II a.o. E. 105.. - 19026
..III a.o. E. 215.. - 22016
..... 21 YOU MARR

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49534T	Spot Calc for	49534-35, 37-38			15 min @ 15V	D4 3900	D3 4300	Fe No #1	
49534	HD 6582	1 01.6	+54 26	18 44	19 57	4 52W	+54 49	Fe No #1	11-11
49535	HD 6961	1 05.0	+54 37	20 03	20 22	5 15W	+54 59	"	11-11
49536	HD 47105	6 31.9	+16 29	20 31	20 38	0 02E	+16 17	"	22 22
49537	HD 66751	7 59.9	+70 00	22 23	01 59	3 54W	+69 40	"	8 8 8
49537T	Spot Calc for	49536, 39 (49540 → 43)		15 min @	D4	17.5V 3900	15V 4300	Fe No #1	
49538	HD 103095	11 47.2	+38 26	02 09	05 39	3 50W	+37 44	Fe No #1	8 8 4
49539	HD 137909	15 23.7	+29 27	05 50	06 29	1 04W	+29 17	"	22 22

Spectr. Temp. $+29^{\circ}\text{F}$ Dome Temp./Hum. $-4^{\circ}\text{C}/61\%$ Transparency Conditions *Some cloud* 72

Focus $515 - 517$

Spectr. Temp. $+15^{\circ}\text{F}$ Dome Temp./Hum. $-14^{\circ}\text{C}/85\%$ was 93% at midnight

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
							IlcOE				✓
BLUE FILTER 7075	2-3"	5.81	G5V _p	BC	1200 /50.7	B5	IlcOE	A	KK Asm Sp	telescope reversed	fine
BLUE FILTER 8805	2"	4.5	A7V	"	"	"	"	A	KK Asm Sp	"	fine
BLUE FILTER 28913	2-3"	1.9	A0V	"	"	"	MaTelg	A	KK Asm Sp	" cloud	fine
BLUE FILTER 7035	2"	6.48	dF8	"	"	"	IlcOE	A	KK Asm Sp	" ^{but} oscil. @ 1 ^h W	fine
							MaTelg				✓
BLUE FILTER 5186	3"	7.2	G8V	BC	1200 /50.7	B5	IlcOE	A	KK Asm Sp	Reversed still oscil. @ 1 ^h W T = 20°F F = 516	fine
BLUE FILTER 25557	2-3"	3.93	F0p	"	"	"	MaTelg	A	KK Asm Sp	telescope unreversed	fine

Spectr. Temp. $+21^{\circ}\text{F}$ Dome Temp./Hum. $-11^{\circ}\text{C}/60\%$ Transparency Conditions $\text{Fine} - \text{hazy} \dots \text{74} \dots \text{gusty} \dots$ Focus 51.7 Spectr. Temp. $+14^{\circ}\text{F}$ Dome Temp./Hum. $-14^{\circ}\text{C}/95\%$ Saw Mercury till 19:10 approaching horizon s/south of due west. Greatest elongation E is 18° on Feb 28. But Mercury viewing is supposed to be unfavorable in SW?

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
85050	2.3"	35.4	A5n	BC	1200/507	BS	Walden	A	Asm Sp-KK	TUOK	fine
28440	"	1.9	A0IV	"	"	"	"	"	"	TUOK	"
39,773	2.4"	5.22	B9IV	"	"	"	"	"	SB-Blk	TUOK	"
24,159	3.5"	3.93	F0p	"	"	"	"	"	Asm Sp-KK	TUOK	fine

getting cloudy & Blk wants to go over

KK - A reminder about plates - only 4/1 spot IIaDs in done, - only in frig

only 4/1 spot IIIaDs in done, - in vacuum not ready

Also - Develop these IIaDs with best rights IIIaDs of course to include that spot plate for these exp.

Note BS lens frosty

Spectr. Temp. *210°F*Dome Temp./Hum. *-11°C/60%*Transparency Conditions *fine* 76Focus *520*

Spectr. Temp.

Dome Temp./Hum. *-16°C/65%**wind speed increasing during night*

Comparison e/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						B.C.	120/40.5	B.S.	098-02				bluish
						"	"	100μ SLIT	098-02				wash
						"	"	B.S.	098-02				ok could be stronger
		BLUE FILTER 1650	4"	7.6	M6	BC	830/40.2	BS	Ilav-E	A	KK Asm Sp	T=210°F F=520	* Floures Exp 04
		BLUE FILTER 12650	4"-5"	4.3	MOST	BC	830/40.2	BS	Ilav-E	A	Std Vel	T=120°F F=521	* Vstr comp str
								B.S.	Ilav-E	A		T=110°F F=521	raw s/b
													* Comps too str - Emulsion peeling

77

Thurs. Fri

Date Feb 27-28/86 Observers Bt-R

Emulsion Batches:
8^m 68° $\text{ThO-E} \dots 105-26026$
5^m 68° $098-02E \dots -07016$

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49546	HD 6130	0 57.5	+60 32	18 30	19 39	4 50W	+60 54	FeNe #1 no filter	8-8-5
49546T	SPOT CALN FOR PLATES 49546					15MIN @ 15 VOLTS 3900 4300		no filter 4910 FeNe #1	
49547	HD 6130	0 57.5	+60 32	19 49	20 43	5 54W	+60 54	no filter no filter	5-5-5
49548	HD 44131	6 15.0	-2 54	21 00	21 48	4 22W	-2 51	"	5-5
49548T	SPOT CALN FOR PLATES 49547-48.					15MIN 4810 Hd			
49548F	FOCUS TEST							FeNe #1 no filter no filter	15-15

Spectr. Temp. $+17^{\circ}\text{F}$Dome Temp./Hum. $-12^{\circ}\text{C}/58\%$ Transparency Conditions *cloud and light snow...
at end* ✓ 78Focus 517Spectr. Temp. $+16^{\circ}\text{F}$Dome Temp./Hum. $-12^{\circ}\text{C}/75\%$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
BLUE FILTER		✓			1200					TELE REVERSED	
10000	4"-5"	5.92	FOTI	BC	50.7	B5	11a0-E	A	Fe/rG Pgm	T = 17°F F = 517	fine
							11a0-E				✓
NO FILTER		✓			1200						
50004		5.92	FOTI	BC	40.5	B5	098-02E	A	Fe/rG Pgm	T = 16°F F = 518	sl str
NO FILTER										telescope unreversed	
27290	4"-5"	5.2	gMi	"	"	"	"	A	Std Vel	T = 16°F F = 518	sl str
							098-02E				✓
					1200/40.5	B5	098-02E	A		T = $+16^{\circ}\text{F}$ F = 518	OK

Spectr. Temp. $+14^{\circ}\text{F}$Dome Temp./Hum. $-13^{\circ}\text{C}/70\%$Transparency Conditions *Sl. hazy*..... 82.....

Focus..... 51.8.....

Spectr. Temp. $+8^{\circ}\text{F}$Dome Temp./Hum. $-17^{\circ}\text{C}/85\%$Comparison
Filter Exp

10-1-2

10-1-2

15v

45v

10-1-2

10-1-2

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
17754	3	25.4	A5a	BC	1200/507	BS	IIIa-epg	A	Asm Sp		slwk
13769	2-3	5.22	B9IV	"	"	"	"	A	SP Blm		slstr/as (desired)
3256	3'	6.8	G8V	BC	1200/507	BS	IIa0-E	A	Asm Sp		slwk ✓
							IIa0-E				

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Tues - Wed

Date Mar. 11-12, 1966 Observers M.H. - T.T.

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	Ex
	Orion Neb 20 sec S of θ Ori C				1 min				
	Orion Neb 20 sec S of θ Ori C			20 03 38	20 18 38			W	
	" " " "			21 10 16	21 40 19			W	
	NGC 2392 \approx 8 sec S of central star			22 03 47	22 36			W	
	Dust Stg	¹⁹⁵⁰ 10 36.7	¹⁹⁵⁰ +43 32'	23 03 08	00 03			W	
	Flat Fld		with diffuser		2 secs				
	" "		" "		5 secs			(10 sec saturation)	
	η Uma	¹⁹⁵⁰ 13 47.5	¹⁹⁵⁰ 49 19	00 57	00 58				
	"	"	"	04 15	04 16			(1 min exp)	
	NGC 6543							(35 min)	

Spectr. Temp.

Dome Temp./Hum.

70%

Transparency Conditions

89

Focus

Spectr. Temp.

Dome Temp./Hum.

Comparison
type/Filled

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B filter				BC	1800/45.3250		Reticon		AD units	no data	
27				"		"	"		6441/8000	very good	OK
152				"	"	"	"		12562/8000	(comp diff in the dark) possible comp light)	
				↑ very fine - no noise							
2				P.C	1900/453	250			1979/4000	OK	OK
0				"	"	"	Reticon		100/4000	very clear dark	nothing
				"	"	"	"		2012/4000	Top of up	
				"	"	"	"		7761/8000		
				"	"	"	"		8215/4000	(3 min exp too)	
16,374				"	"	"	"		1348/4000		Fine
no filter				"	"	"	"		11804/16000		

Note: Will make detailed notes.

Mar. 17-18/86. Observers *B. T.*

Emulsion Batches:
 4 1/2 70° ... III. J. P. 0.15 - 28026
 ... Har. E. 1.05 - 28026
 4 1/2 70° ... 0.98 - 0.2E 0.7016

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49558	HD 47105	6 31.9	+16 29	19: 04	19 09	0 03W	+16 34	FeNe ²¹ d. P. 1/2	23-23
49559	HD 44131	6 15.0	-2 54	19: 16	20 00	1 04W	-2 48	"	11-11
49560	HD 66751	7 59.9	+70 00	20 07	21 31	0 46W	+69 54	"	7-7
49561	HD 76095	8 49.0	+26 36	21 40	00 14	2 45W	+26 23	"	7-7
49561T	Spot Calc for 49559-61			15 min @ 15V		D4 3900	D3 4300	D2 4810	
49562	HD 137909	15 23.7	+29 27	00 21	00 57	3 05E	+29 16	FeNe ²¹ d. P. 1/2	14-14
49563	HD 182917	19 21.9	+50 02	01 21	02 58	5 02E	+50 21	FeNe ²¹ d. P. 1/2	5-8
49562T	Spot Calc for 49558, 49562					15 min @ D4 3900	175V 150 4300	4810	
49563T	Spot Calc for 49563					15 min @ D3 15V 4810	D1 7V Hd	D2 7V 5450	

Spectr. Temp. $+40^{\circ}\text{C}$

Dome Temp./Hum. $+1^{\circ}\text{C}/55\%$... ? prob more

Transparency Conditions .. Hazy .. 5/5 only ..

Focus 511... 513.....

Spectr. Temp. $+1^{\circ}\text{C}$

Dome Temp./Hum. $-1^{\circ}\text{C}/97\%$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
BLUE FILTER					1200						
36626	1.2"	1.9	AoTV	BC	50.7	BS	IIIaJely	A	KK Asm Sp		fine
BLUE FILTER											
2670	2.3"	5.2	g1H1	"	"	"	IIaD-E	"	st/vel		sl/wk
BLUE FILTER											
6195	2"	6.48	LF8	"	"	"	IIaD-E	A	KK Asm Sp		good
BLUE FILTER											
7072	1.2"	6.6	GO	"	"	"	IIaD-E	A	KK Asm Sp	T=+3°C cloud bit	good
BLUE FILTER											
35274	2"	3.93	Fop	BC	50.7	BS	IIIaJely	A	KK Asm Sp	T=+2°C	fine but sl. uneven
NO FILTER											
6530	3"	8.4	M6	BC	40.5	BS	O98-02E	A	Obs 1gm	Very hazy F=513 T=+35°F	cont w/ Hx v str
							IIIaJely*				
							*No, It is a IIIaJely				
							might be IIaD-E but a spot prob not really required in this case?				
							O98				

Thurs-Fri

Date Mar. 20-21/56 Observers Bt. R.Emulsion Batches:
2^m 168° Feb-E 1 D5-17036
5^m 68° 098-02-E 07016

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49564F	Focus Test							Fe No #1 no d. filter	30-30
49564	HD 24740	3 51.0	+22 11	19 00	21 23	5 03W	+22 33	Fe No #1 no d. filter	8-8-8
49565	HD 115604	13 13.1	+41 06	21 41	22 19	3 21E	+40 58	"	8-8-8
49566	HD 115604	"	"	22 31	23 01	2 39E	"	Fe No #1 no d. filter no filter	5-5-5
49566T1	SPOT CAL FOR PLATES 49564, 65, 67-68.					15 MIN. 15 VOLTS	3950 4300	Fe No #1 no d. filter	
49567	HD 122742	13 58.6	+11 16	23 10	01 33	0 53E	+11 00	Fe No #1 no d. filter	8-8-8
49567T1	SPOT CAL FOR PLATES 49567, 69-71.					15 MIN. 4810	7401 7702 5450	Fe No #1 no d. filter	
49568	HD 163506	17 51.4	+26 04	01 40	02 50	3 26E	+26 09	Fe No #1 no d. filter	8-8-8
49569	HD 163506	"	"	02 57	03 39	2 38E	"	Fe No #1 no d. filter	5-5-5
49570	HD 182917	19 21.9	+50 02	03 47	04 02	3 45E	+50 23	"	5-5-5
49571	HD 182917	"	"	04 06	05 46	2 01E	"	"	5-5-5

Spectr. Temp. $+12^{\circ}\text{F}$Dome Temp./Hum. $-13^{\circ}\text{C}/67\%$.Transparency Conditions *fine*.....

90

Focus *5.17*.....

Spectr. Temp.

Dome Temp./Hum. $-15^{\circ}\text{C}/89\%$.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
							<i>TaO-E</i>	<i>A</i>			<i>v. sl. red</i>
<i>BLUE FILTER</i>					<i>1200</i>						<i>* comp on</i>
<i>8000</i>	<i>5.7</i>	<i>5.93</i>	<i>F2IV</i>	<i>BC</i>	<i>50.7</i>	<i>B5</i>	<i>TaO-E</i>	<i>A</i>	<i>Fe/rG Pgm</i>	<i>telescope oscillation at 3"</i>	<i>stellar</i>
<i>BLUE FILTER</i>											
<i>10014</i>		<i>5.03</i>	<i>F3III</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>TaO-E</i>	<i>A</i>	<i>Fe/rG Pgm</i>	<i>T=140F F=518</i>	<i>fine</i>
<i>10 FILTER</i>					<i>1200</i>						
<i>40114</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>40.5</i>	<i>"</i>	<i>O98-02E</i>	<i>A</i>	<i>Fe/rG Pgm</i>	<i>T=140F F=519</i>	<i>fine</i>
							<i>TaO-E</i>				<i>✓</i>
<i>BLUE FILTER</i>					<i>1200</i>						
<i>6000</i>	<i>5"</i>	<i>6.8</i>	<i>G8V</i>	<i>BC</i>	<i>50.7</i>	<i>B5</i>	<i>TaO-E</i>	<i>A</i>	<i>KK Asm Sp</i>	<i>T=13°F F=519</i>	<i>good</i>
							<i>O98-02</i>				<i>✓</i>
<i>BLUE FILTER</i>					<i>1200</i>						
<i>10000</i>		<i>5.8</i>	<i>F2Ic</i>	<i>BC</i>	<i>50.7</i>	<i>B5</i>	<i>TaO-E</i>	<i>A</i>	<i>Fe/rG Pgm</i>	<i>T=110F F=519</i>	<i>OK * comparison on stellar</i>
<i>10 FILTER</i>					<i>1200</i>						
<i>40309</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>40.5</i>	<i>"</i>	<i>O98-02E</i>	<i>A</i>	<i>Fe/rG Pgm</i>	<i>T=110F F=519</i>	<i>fine</i>
<i>10 FILTER</i>											
<i>3007</i>	<i>8.4</i>	<i>"</i>	<i>M6</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>O98-02E</i>	<i>A</i>	<i>Obs Pgm</i>		<i>Em OK</i>
<i>10 FILTER</i>											
<i>24209</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>O98-02E</i>	<i>A</i>	<i>Obs Pgm</i>	<i>T=109F F=519</i>	<i>fine</i>
											<i>* Comp slstr T00</i>

Fri-Sat

Date Mar 21-22/86 Observers Bt-R.Emulsion Batches:
8^m 68° Had-E. 2.D.5-17036.....
5^m 68° 09B-2-E. 9085 -07016.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49572F	Focus Test							FeNo #1 d. filter	30-30
49572	HD6130	0 57.5	+60 32	19 00	20 10	6 48 W	+60 53	"	8-8-8
49573	HD6130	"	"	20 24	21 32	8 10 W	"	FeNo #1 no d. filter mylar filter	5-5-5
49573T	SPOT CAL FOR PLATES 49572, 75, 76,				15 MIN @ 15 VOLT	3900	4300	4810	
49574	HD715604	13 13.1	+41 06	21 55	22 10	3 36 E	+40 48	FeNo #1 no d. filter mylar filter	5-5-5
49575	HD115604	"	"	22 15	22 35	3 01 E	"	FeNo #1 no d. filter	8-8-8
49575T	SPOT CAL FOR PLATES 49573-74, 77-78.				15 MIN	4010	4170	5450	
49576	HD95735	10 57.9	+36 38	22 47	02 37	3 15 W	+36 11	FeNo #1 no d. filter	6-6-6
49577	HD182917	19 21.9	+50 02	02 56	04 27	3 21 W	+50 22	FeNo #1 no d. filter mylar filter	5-5-5
49576F	Focus Test							FeNo #1 D. filter	30-30
49578	HD182917	19 21.9	+50 02	04 32	04 52	2 45 E	+50 22	FeNo #1 no d. filter mylar filter	5-10

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Mon-Tues

Date Mar. 24-25/86 Observers Bt.-Ri.....

Emulsion Batches:

5^u 68° 112J19

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49579F	Focus Test								30-30
49579	HD 47105	6 31.9	+16 29	19:00	19:07	0 22W	+16 33	FeNe ^{no} 1 diffuser	23-23
49580	HD 56986	7 14.1	+22 10	19:13	19:49	0 22E ^x	+22 08	"	23-23
49581	HD 81797	9 22.7	-8 14	19:56	21:46	0 11W	-8 27	"	23-
T1	Comparison test							Temp FeNe	13 ^{su}
T2	"							"	"
Slice - rotated away from stop									

Spectr. Temp. 37°FDome Temp./Hum. $+2^{\circ}\text{C}/56\%$.Transparency Conditions *poor and getting worse.*Focus 512Spectr. Temp. 36°FDome Temp./Hum. $0^{\circ}\text{C}/81\%$

94

Compansor /Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30-34								<i>TlaO-E</i>				<i>can't see red</i>
23-27	BLUE FILTER 40371	2-3"	1.9	AoIV	BC	1200 / 50.7	135	<i>TlaTely</i>	A	KK Asm Sp		<i>fine</i>
23-28	BLUE FILTER 40006		3.9	FoIV	"	"	"	<i>TlaTely</i>	A	KK Asm Sp	<i>cloud</i>	"
23-29	BLUE FILTER 24000		2.2	K ₃ II-III	"	"	"	<i>TlaTely</i>	A	5th Vel	T=370F F=512	"
								<i>A</i>			F=509 T=570F	"
								<i>A</i>				"

Sat-Sun

Emulsion Batches:

.. II 40-E 12.5 -17036

Date MAR. 29-30/26 Observers ... 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.
49582	HD 66751	07 59.9	+70 00	21 30	23 55	* 4 00W	+69 42	Foils diffuser	5-10-5
49583	HD 137909	15 23.7	+29 27	00 07	00 18	2 58E	+29 16	"	11-11
49584	HD 115521	13 12.6	+6 00	00 23	01 11	0 05W	+5 39	"	11-11

Spectr.
Focu
Spectr.

Exp. M
F

7.00

3.70

3.500

Spectr. Temp. +61.4° 16°C

Dome Temp./Hum. +58°f/52%

Transparency Conditions Sl. hazy 96

Focus 506

Spectr. Temp. +60.7° 15°C

Dome Temp./Hum. +55°f/65%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Blue 9448											
7,100	1-2"	7	JF8	BC	1200/207	B3	JL-D-E	A	Asst. Sp. H	* Reversal both nod 83 -19.80	
7,170	2-5"	3.93	Fop	"	"	"	"	"	"		fine
3,500	3-8"	5.0	M2	"	"	"	"	"	std vel	Seeing getting v bad	slwk

Spectr. Temp. $+6.4^{\circ}\text{F}$

Dome Temp./Hum. $+12^{\circ}\text{C}/62\%$

Transparency Conditions *Fine... cloudy*..... 98

Focus... *506*.....

Gusty NW

Spectr. Temp. $+4.3^{\circ}\text{F}$

Dome Temp./Hum. $+3^{\circ}\text{C}/94\%$

Comparison Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
BLUE FILTER					1200						
35356	4"	1.9	AOTV	BC	50.7	BS	IIIaTdy	A	KK Asm Sp	* reversal "84"	fine
BLUE FILTER											
32200	4"	3.9	FOTV	"	"	"	"	"	"		fine
							"				"
5392	3.4"	2.7	dFC	BC	1200/50.7	BS	IIaO-E	A	KK Asm Sp	* reversal <i>Saturation</i> exposure curtailed because of electrical short in RA drive. Corrected by Mr	fine
	15 min @ 15V	D4 3900	D3 4300	D2 4810			IIaO-E				*
BLUE FILTER					1200						
35182	4"	3.93	Fop	BC	50.7	BS	III. J-Erg	A	KK Asm Sp	T=50% S=509	
no filter	4"	8.4	M6	"	820/40.2	BS	IIaO-E	A	Obs Pgn	T=97% S=512	OK
note - no filter counts started @ 0210, note - only 200 counts in 1st 30 min with blue filter in.											
Blue filter reversal incident to go to with some sensitivity - i.e. no TV image at all											
					1200/?			A		T=50% F=509	
								A		"	
* Do not use - plates over developed calib. not											

Spectr. Temp. $+50^{\circ}\text{F}$Dome Temp./Hum. $+8^{\circ}\text{C}/57\%$ Transparency Conditions *hozy - Cloud - 1/2 moon*Focus 50.9Spectr. Temp. 42°CDome Temp./Hum. $4^{\circ}\text{C}/80\%$ * Tilt increased sl from what I had
set to bring HB on for sure.
Tilt Prob $50.8 - 50.9$ now 100

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
BLUE FILTER 3655	4"	5.81	G5 Vp	BC	1200 / 50.7	135	TaO-E	A	KK Asm Sp	telescope reversed	Comp Wt Slut
BLUE FILTER 6650	4"	6.48	df8	"	"	"	TaO-E	A	KK Asm Sp	" "	Comp Wt Slut
NO FILTER 44573	3-4"	8.4	M6	BC	830 / 40.2	135	TaO-E	A	Obs Pgm	T=43°F F=514 telescope unreversed cloud	Comp OK Slut

Spectr. Temp. 49°F 10°C Dome Temp./Hum. $79.5^{\circ}\text{F}/60\%$

Transparency Conditions thin clouds but OK

Focus 510

Spectr. Temp. 43°F Dome Temp./Hum. $73.7^{\circ}\text{F}/80\%$

Cloudy 1 hr 507

104

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
19772	1"	2.4	m2	BC	1800/46°	BS	IIIa-eg	A	KK pym	Set 510	x s/str
19675	1-3"	4.9	m3	"	"	"	"	"	"	"	x "
19918	2-3'	4.5	M3II	"	"	"	"	"	"	Set 513 T=46°	x "
18411	"	4.6	M0III	"	"	"	"	"	"	"	x "
20415	2"	5.0	M3III	"	"	"	"	"	"	"	"
					"	"	"	"	-	T=45° Set 513	x cart s/rel
4500	2-4"	5.0	m2	BC	1800/46°	"	IIa0-E	"	std vel	some cloud	fine
28900	"	3.93	Fop	"	1200/50.7	"	IIIa-eg	"	Hsm Sp	T=44° Set 511	comp wk s/rel
				"	"	"	IIa0	"	"	43° Set 511	comp s/rel
* spectra displaced from center in y somewhat											

Spectr. Temp. 45°FDome Temp./Hum. $4^{\circ}\text{C}/60\%$ Transparency Conditions *OK*.....Focus 5.10Spectr. Temp. 43°FDome Temp./Hum. $2^{\circ}\text{C}/73\%$

114

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
BLUE FILTER 40015	4"	393	Fop	BC	1200/30.7	B35	T11aToby	A	KK Arm Sp.		fine
BLUE FILTER 1908		84	Mb	"	"	"	T11aE	A	Obs Page	$9 = 44^{\circ}\text{F}$ F=511	slwk
							T11a0-E				✓

Spectr. Temp. ... 6.505

Dome Temp./Hum. ... 12°C ... 76%

Transparency Conditions ... Good 116

Focus 505

Spectr. Temp.

Dome Temp./Hum. ... 11°C ... 80%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				B.C.	1200/50.7	B.S.	Iao	A			
				B.C.	1200/50.7	150 L	Iao	A			
8006		5.3	F6 II	B.C.	1200/50.7	B.S.	Iao-E	A	JTP VEL		fine
8010		6.1	K1 III	B.C.	1200/50.7	B.S.	Iao-E	A	STD. VEL	T=63°F F=506	fine
3000		6.8	G8 I	B.C.	1200/50.7	B.S.	Iao-E	A	KK Asm Sp	T=60°F F=506	wt

Spectr. Temp. 59°F Dome Temp./Hum. .. 11°C ... 55% Transparency Conditions ... good 118

Focus 50.7

Spectr. Temp. 52°F Dome Temp./Hum. .. 09°C ... 83%

Comparison / Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	BLUE FILTER											
7500		6.67	G0	B.C.	1200/50.7	B.S.	IIa0-E	A	KK-Asm Sp			good
8000		6.80	GBI	B.C.	1200/50.7	B.S.	IIa0-E	A	Asm Sp-KK	T=56°F F=508		good comp. wh
40000		3.93	F0p	B.C.	1200/50.7	B.S.	IIIaTe4	A	Asm Sp-KK	T=53°F F=508		fine
8000		5.9	G0I	B.C.	1200/50.7	B.S.	IIa0-E	A	STD VEL	T=53°F F=508		fine
							IIIaTe4		III			✓
40000		2.2	A5III	B.C.	1200/50.7	B.S.	IIIaTe4	A	Asm-sp-KK	T=52°F F=508		fine
40000		3.68	F0II	B.C.	1200/50.7	B.S.	IIIaTe4	A	Asm-Sp-KK			fine

Spectr. Temp. 640F

Dome Temp./Hum. 15°C / 52%

Transparency Conditions 122

Focus 506

CLEAN 120W ARC FEW VERY DIRTY

Spectr. Temp. 55F

Dome Temp./Hum. 10°C / 56%

Comparison
Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
BLUE FILTER 8008	3"	3.3	FaTV	BC	1200/ 50.7	BS	TI-O-E TI-O-E	A	5th Vel		fine ✓
							CCD viewing,		VCR recording	! still photography.	
BLUE FILTER 8000		6.8	G8V	BC	1200/ 50.7	BS	TI-O-E	A	KK Asm Sp	T=61°F F=506	fine
BLUE FILTER 2505	4"	8.4	MB	"	"	"	"	"	Obs Pgm	F584 F=507	cloudy ✓

123

Mon. Tics

Date May 12-13/86 Observers St. Ri.

Emulsion Batches:

IND-E 1D 5-10056

5^m 68^s 09X02E 09085-05056

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49626	HD66751	7 59.9	+70 00	20 13	23 13	6 09W	+69 42	Fe/ clear	25-25-25
49627	HD148783	16 25.4	+42 06	00 42	01 27	0 04W	+42 01	"	25-25-25
49627T	SPOT CAL FOR PLATES 49626-27				15MIN @ 15VOLTS	3900	4300 4810		
49628	HD148783	16 25.4	+42 06	01 33	01 43	0 21W	+42 01	Fe No/ clear	5-5-5
49629	"	"	"	01 47	01 49	0 26W	"	"	8-8
49630	HD182917	19 21.9	+50 02	01 59	03 14		+50 21	"	8-8
49630T	SPOT CAL FOR PLATES 49628-30				15MIN	4810	5450		
49630	HD182917	19 21.9	+50 02	03 14	03 30		+50 21	Fe No/ clear	
49630	HD182917	19 21.9	+50 02	03 31	03 54	0 26E	+50 21	Fe No/ clear	8-8-8

Spectr.

Focus.

Spectr.

Exp. Mtr.

BLUE FILTER

52872

BLUE FILTER

52922

NO FILTER

10053

NO FILTER

10025

NO FILTER

NO FILTER

NO FILTER

10060

Spectr. Temp. 61°F.....

Dome Temp./Hum. 14°C / 47%

Transparency Conditions high cloud..... 124

Focus... 506.....

APERTURE WHEEL TROUBLE
ON ALL 098-02E EXPOSURE

Spectr. Temp. 54°F.....

Dome Temp./Hum. 10°C / 48%

Comparison Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	BLUE FILTER		✓			1200/						
Jan 25-25	3872	3"	6.48	LF8	BC	50.7	B5	TlO-E	A	KK Asm Sp	cloud telescope reversed	wk
	BLUE FILTER					"	"	TlO-E	A	Obs Pgm	T=56°F F=509 CH Cyg std	fine
25-25	5292		6.56	Mell	"	"	"	TlO-E				✓
	10 FILTER					1200/						fine
Jan 5-5	40053		6.56	Mell	BC	40.5	B5	098-02E	A	Obs Pgm	T=55°F F=509	comp st sl weak
	10 FILTER		"	"	"	"	"	098-02E	A	Obs Pgm		comp sl. str.
8-8	10025		"	"	"	"	"	098-02E	A	Obs Pgm		fine
	10 FILTER		✓					098-02E	A	Obs Pgm	no exposure	comp. sl. str.
8-8			8.4	M6	"			098-02E				✓
	10 FILTER		✓			1200/						
			8.4	M6	BC	40.5	B5	098-02E	A	Obs Pgm	no exposure	
	10 FILTER		✓			1200/						
Jan 8-8	10006		8.4	M6	BC	40.5	B5	098-02E	A	Obs Pgm	T=54°F F=509	wa ok cont weak comp. sl. str.

Sat-Sun

Date May 24-25/36 Observers Bt. Pe

Emulsion Batches:

Tab-E 105-10056

Plate No.	Object	R. A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49634	HD 161096	17 38.5	+4 37	00 28	00 39	1 11 E	+4 41	Fc/clear	25-25-2
49635	HD 137909	15 23.7	+29 27	00 46	00 58	1 24 W	+29 18	"	25-25-2
49636	"	"	"	01 02	01 15	1 40 W	"	"	25-25-2
49637	HD 8890	1 22.6	+88 46	01 28	01 33	9 03 E	+89 17	"	25-50
49638	"	"	"	01 44	01 51	8 50 E	"	"	25-25-2
49639	HD 159561	17 30.3	+12 38	02 00	02 04	0 22 W	+12 43	"	25-50
49640	"	"	"	02 14	02 17	0 36 W	"	"	38-38
49641	HD 165908	18 03.2	+30 33	02 24	03 02	0 49 W	+30 40	"	25-25-2
49641T	SPT CAL FOR PLATES 49634-41				15 MIN @ 1500 LBS		3900	43m	
49642	HD 182640	19 20.5	+12 55	03 09	03 49	0 16 W	+14 11	Fc/clear	60-66

Spectr. Temp. ... 62°F

Dome Temp./Hum. 14°C/93.9%

Transparency Conditions thin, high cloud at times...

Focus 506

128

Spectr. Temp. ... 58°F

Dome Temp./Hum. 12°C/97.9%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
BLUE FILTER 8032	4"-8"	3.93	K ₂ III	BC	1200/507	135	Tl ₂ O-E	A	Std Vel	testing comparison control system - 15 ^m	fine
BLUE FILTER 10620		3.93	Fop	"	"	"	Tl ₂ O-E	A	KK Asm Sp		fine
BLUE FILTER 10125		"	"	"	"	"	Tl ₂ O-E	A	KK Asm Sp	Fe arc had to be cleaned at 1 st comp	fine
BLUE FILTER 10016		2	F	"	"	"	Tl ₂ O-E	A	KK Asm Sp	Fe arc had to be cleaned at 1 st & last comp	fine
BLUE FILTER 10076		"	"	"	"	"	Tl ₂ O-E	A	KK Asm Sp	Fe arc had to be cleaned at mid-comp	"
BLUE FILTER 10066		2.2	A5III	"	"	"	Tl ₂ O-E	A	KK Asm Sp	Fe arc had to be cleaned at 1 st comp	"
BLUE FILTER 10006		"	"	"	"	"	Tl ₂ O-E	A	KK Asm Sp	Fe arc had to be cleaned at end comp	fine
BLUE FILTER 10001	5"	5.5	F7V	"	"	"	Tl ₂ O-E	A	KK Asm Sp	Fe arc had to be cleaned at mid-comp T=60°F S=506	fine
							Tl ₂ O-E				✓
BLUE FILTER 39387		3.68	F0IV	BC	1200/507	135	Tl ₂ O-E	A	KK Asm Sp	Fe arc had to be cleaned at mid-comp	fine

Spectr. Temp. 70°F.....

Dome Temp./Hum. 19°C/63%

Transparency Conditions poor... high cloud.....

Focus 504.....

130

Spectr. Temp.

Dome Temp./Hum. 14°C/86%

Comparison Filtered Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	BLUE FILTER		✓			1200						
	8019	3"	496	K-III	BC	30.7	BS	IIIaTely	A	Std Vel	high cloud	some fog* slight
								IIaD	A		T=70°F F=504	OK
								IIIaTely				✓
	BLUE FILTER					1200						
	40016		393	Fop	BC	50.7	BS	IIIaTely	A	KK Asm Sp	Fe are had to be cleaned	fine*
	BLUE FILTER											
	8000		6.55	d65	"	"	"	IIaD-E	A	KK Asm Sp	Fe are had to be cleaned	fine
	BLUE FILTER											
	3511		6.56	Mott	"	"	"	IIaD-E	A	Obs Pam	Fe are had to be cleaned	fine
	NO FILTER					1200						
	40026		"	"	"	40.5	"	098-02E	A	Obs Pam	T=66°F F=505	fine
	NO FILTER											
	10077		"	"	"	"	"	098-02E	A	Obs Pam	T=66°F F=507	fine
	NO FILTER		✓									
	10099		8.4	Mb	"	"	"	098-02E	A	Obs Pam		fine
								IIaD-E				✓
	NO FILTER		✓			1200						
	40002		8.4	Mb	BC	40.5	BS	098-02E	A	Obs Pam		fine
								098-02E	A		T=63°F F=507	OK
								098-02E				✓
	BLUE FILTER		✓			1200						
	11009		3.78	FSTV	BC	30.7	BS	IIIaTely	A	KK Asm Sp	T=63°F F=505½	

* These emulsions made in preparation for 10001/2 but should be your watch

Date *Mon-Tues* *May 26-27/86* Observers *Bt-Ri*.....

Emulsion Batches:
 $8^{\circ} 68^{\circ}$ *F.R.O.E. 7.D5-26056...*

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
49652	HD137909	15 23.7	+29 27	20 30	20 41	2 46E	+29 19	Fe/clear	38-38
49653	"	"	"	20 45	20 53	2 34E	"	"	38-38
49654	HD140538	15 39.1	+2 50	21 01	22 24	1 19E	+2 40	"	25-25 ²⁵
49655	HD8890	1 22.6	+88 46	22 34	22 38	11 52E	+89 18	"	38-38
49656	"	"	"	22 44	22 47	11 43E	"	"	38-38
49657	HD148783	16 25.4	+42 06	22 56	23 27	1 01E	+42 01	"	25-25 ²⁵
49658	HD182917	19 21.9	+50 02	23 37	03 52	0 28W	+50 19	"	25-25 ²⁵
4965BT	SPOT CAL FOR PLATES 49652-58					15MIN @ 15VOLTS	\odot 04 \odot 03 \odot 02		

Spectr. T
 Focus...
 Spectr. F
 Exp. Mtr
 BLUE FILTER
 10003
 BLUE FILTER
 10009
 BLUE FILTER
 8000
 BLUE FILTER
 10015
 BLUE FILTER
 10159
 BLUE FILTER
 4078
 BLUE FILTER
 3502

Spectr. Temp. 70°F.....

Dome Temp./Hum. 20°C/63%

Transparency Conditions . poor . high cloud and haze

Focus . 504.....

Spectr. Temp. 62°F.....

Dome Temp./Hum. 16°C/68%

Fe are had to be cleaned frequently during night

132

Comp. Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	BLUE FILTER					1200						
38-39	10003	2'3"	3.93	Fop	13C	507	135	T10-E	A	KK Asm Sp		fine
	BLUE FILTER											
38-39	10009	"	"	"	"	"	"	T10-E	A	KK Asm Sp		fine
	BLUE FILTER											
25-26	8000	6.55	d65	"	"	"	"	T10-E	A	KK Asm Sp		fine
	BLUE FILTER											
38-39	10015	2	F	"	"	"	"	T10-E	A	KK Asm Sp		fine
	BLUE FILTER											
38-39	10259	"	"	"	"	"	"	T10-E	A	KK Asm Sp		fine
	BLUE FILTER											
25-26	4078	6.56	M6II	"	"	"	"	T10-E	A	Obs Pgm		slut
	BLUE FILTER											
15-16	3502	8.4	M6	"	"	"	"	T10-E	A	Obs Pgm		with OK
								T10-E				v

133

Flu four at sunset

Emulsion Batches:

8-68

6-68

.. 17.20.E. 105-26056

.. 17.41.05. 255-07046

Date *Wed. Thuis*
May 28:29/86 Observers *B.H. 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
49659	HD140538	15 39.1	+2 50	21 08	22 52	0 42E	+2 40	Fe/clear	25-25
49659	HD140538	15 39.1	+2 50	22 57	00 50	1 15W	+2 40	Fe/clear	25-25
49660	HD158633	17 25.3	+67 24	00 58	02 43	1 24W	+67 26	"	25-25
49661	HD196524	20 32.9	+14 15	03 02	03 35	0 52E	+14 38	"	90-90
49661T	Spot Calc for 49661			15 min	OD4	3900	4300	4810	

Spectr. T.

Focus

Spectr.

Exp. Mtr.

Blue Filter

8000

Blue Filter

8000

Blue Filter

8000

Blue Filter

8000

Spectr. Temp. 73°

Dome Temp./Hum. 22°C / 58%

Transparency Conditions ... 5/1/84 29

134

Focus 523

Frequent Fe arc problems again tonight

Spectr. Temp. 70°F

Dome Temp./Hum. 20°C / 65%

Comp. Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
BLUE FILTER						1200						
8000			6.55	d65	BC	50.7	B5	T _h O-E	A	KK Asm Sp	no exposure	
BLUE FILTER						1200						
8000	3"		6.55	d65	BC	50.7	B5	T _h O-E	A	KK Asm Sp		good
BLUE FILTER												
8000	2"		7.09	LK1 G9V	"	"	"	T _h O-E	A	KK Asm Sp		good
BLUE FILTER												
40024	2"		3.78	F5IV	"	"	"	M _h T _h g M _h l-dy	A	KK Asm Sp		good

Spectr. Temp. 77°F

Dome Temp./Hum. 75°F / 52%

Transparency Conditions bit haze, no cloud

Focus 505

Spectr. Temp.

Dome Temp./Hum. 67°F / 80%

136

I think open here w/ as/was wrong

Comparison
Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40830	3	3.93	Fop	BC	1200/50.7	BS	IIIaJefg	A	KK asm-sp	1st comp at mid exp	fine
4393		7.62	68V	BC	830/40.2	BS	IIaD-E	A	KK asm-sp	getting better	3rd comp with
37742		3.68	FoIV	BC	1200/50.7	BS	IIIaJefg	A	KK asm-sp	T=72°F Set 504	good comp with
38000		2.2	A5III	BC	1200/50.7	BS	IIIaJefg	A	KK asm-sp		no comp

Note - comps for 1st 2 photos may not exist because Aperture was out of focus. I discovered this by re-photographing 49664 ->

139

Mon-Tues
Date June 2-3/86. Observers Bt-Tn.....

Emulsion Batches:

Il. O. E. 105 - 29056
5° 68' . 0.98-02 E. 09085 - 05056

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49667	HD102870	11 45.5	+2 20	20 30	20 45	1 22W	+1 57	Fe/ clear	* 20-20-20.2
49668	HD137107	15 19.1	+30 39	20 52	21 43	1 11E	+30 30	"	20-20-20.2
49667T	Spot Calc for 49667 -	69. + 49672	+74 + 75	15 min @ 15V		D4 3900	D3 4300	"	
49669	HD144287	16 00.0	+25 30	21 50	01 37	2 02W	+25 24	Fe/ clear	16-16-16-16
49670	HD182917	19 21.9	+50 02	01 49	03 22	0 26W	+50 22	Fe/No/ clear	4-4-4
49671	"	"	"	03 25	03 49	0 53W	"	"	4-4-4
49671T	Spot Calc for 49670-71			15 min @		15V D3 4810	7V D1 5950		

Spectr. T.

Focus . . .

Spectr. T.

Exp. Mtr.

BLUE FILTER

2064

BLUE FILTER

3042

BLUE FILTER

5240

NO FILTER

43009

NO FILTER

10018

Spectr. Temp. 56°FDome Temp./Hum. $11^{\circ}\text{C}/51\%$ Transparency Conditions *Fine*..... 140Focus 508

Spectr. Temp.

Dome Temp./Hum. $6^{\circ}\text{C}/55\%$

Companso /Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		BLUE FILTER					1200						
		8064		4.16	F9V	BC	50.7	BS	TaO-E	A	Std Vel		fine
		BLUE FILTER											
		8042		6.2	G2V	"	"	"	TaO-E	A	KK Asm Sp		fine
									TaO-E				✓
		BLUE FILTER					830						
		5240	poor	7.62	G8V	BC	40.2	BS	TaO-E	A	KK Asm Sp		fine
		NO FILTER					1200						comp. exp.
		40009		8.4	M6	"	405	"	098-02E	A	Obs Pgm	T=50°F F=510	OK
		NO FILTER											comp. exp.
		10018		"	"	"	"	"	098-02E	A	Obs Pgm		OK
									098-02E				✓
<p>* comp. exp. procedure for TaO plates except for 830/40.2 exps (i) 20^s for 1st exp, (ii) two shots of 20^s separated by ~45^s for mid exp., (iii) 20^s for final exp.</p>													

191

Tues-Wed

Date JUNE 3-4 1986..... Observers T.n.....

Emulsion Batches:

8^m 68° II.O.F. 105-29056

III.O.F. 215-07046

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49672F	Focus test					2 20E	+2° 57	Fel/ckw	20-20
49672	HD 136202	15 14.2	+2 09	20 35	21 13	1 35E	"	Fel/ckw	20-20
49673	96 Her HD 164852	17 58.1	+20 50	21 21	23 18	2 12E	+20 57	"	20-20
49673T	Spot Colls for 49673 only					15 min @ 04	17.5V 15V 3900 4300	15V 48/0	20-20
49674	HD 137107	15 19.1	+30 39	23 27	23 55	1 04W	+30 27	Fel/ckw	20-20
49675	HD 140538	15 39.1	+2 50	00 02	00 51	W	+2 41	"	20-20

Spectr. Temp. ... 60°F

Dome Temp./Hum. +10°C / 52%

Transparency Conditions .. high .. getting worse

Focus ... 50.7

142

Spectr. Temp. 53°F

Dome Temp./Hum. +10°C / 55%

Comparison
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Blue filter				BC	1200/50.7	BS	II40	A			ok
6049	poor	5.60	F8	"	"	"	II40-E	A	st/val	some cloud	fine
41088	"	5.19	B3IV	"	"	"	III40-efg	A	SB Bin/Ly	SKy OK	fine
							III40-efg				
8000	OK	6.2	G2V	BC	1200/50.7	BS	II40-E	A	Asm Sp tk	cloud coming (maybe some to use in stellar)	fine
5300	soso	6.55	D65	"	"	"	"	A	"	cloud ended	fine

Spectr. Temp. ... 70°F

Dome Temp./Hum. 68°F / 50%

Transparency Conditions *sl. hazy* 144

Focus ... 504

Spectr. Temp. ... 69°F

Dome Temp./Hum. 66°F / 70%

504
507Comparison
Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Time of exp	Remarks	Quality
<i>Rue filter</i> 39000	OK	3.93	Fop	BC	1200/50.7	BS	IIIa-efg	A	Asm Sp KK	40 30 40	574 360 446 * <i>sunlight</i> at <i>compents</i>	Good
4000	OK	7.09	dk1	BC	1200/50.7	BS	IIa0-E	A	Asm Sp KK	20 20 20	228 183 221 199 * <i>comp in stellar</i> <i>sl wk</i>	
<p>K.K. Ron will need at least 1.5" for Sunday or other (open) night. I don't mind doing more work of his star. I did this 10" spot because there were plenty of them in box anyway.</p>												

Spectr. Temp. ^{50°} 62°F

Dome Temp./Hum. 14.5°C/91%

Transparency Conditions ^{slight haze} ... ^{cloud in S}

Focus 507

Spectr. Temp. 59°F

Dome Temp./Hum 10°C/95%

146

Comparison
Filter Exp

Exp. Mtr.	Seeing	Pg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	exp time	ctr	Remarks	Quality
60320	2	7.09	AKI BAV	BC	1200/50.7	BS	IIaO-E	A	KIK asm sp	20 = 306 20 = 97 20 = 44		20-169 20-36	slwk
							IIaO-E						
6128	2	~2	F	BC	1200/50.7	BS	IIaO-E	A	KIK asm sp				fine
6102	"	"	"	"	"	"	"	"	"				fine
												<u>clouds from SE</u>	

147

Sun/Mon.

Emulsion Batches:

Title S. of ... 215 - 14056

I.I.O.E. ... 105 - 04066

Date June 8-9 1986 Observers Ly-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
49681	HD86360	9 52.9	+12 55	20.43	21:41	4 35 W	+12 41	Fel/clear	?/30 30
49681 T	Spot Calc for 49681 & 49683				15 min @ D4	3900	4300	4810	L
49682	HD128220	14 30.6	+19 39	21:57	01 06	3 24 W	+19 22	Fel/clear	18 18
49682 T	Spot Calc for 49682, 84 + <u>next night</u>				15 min @ 15V	3900	4300	4810	
49683	HD 164852	17 58.1	+20 50	01 16	03 19	2 09 W	+20 59	Fel/clear	18 18 2
49684	HD 187691	19 46.2	+10 10	03 26	03 35	0 57 W	+10 31	Fel/clear	* 20 20-

14056
04066

Spectr. Temp. 69°F

Dome Temp./Hum. 60°F/53%

Transparency Conditions Fine... clear by team

Focus 505

Spectr. Temp. 58°F

Dome Temp./Hum. 50°F/80%

148

Compass
deFütel Exp

Exp. Mtr.	Seeing	Pig. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
12574	3.2" 5.2	B7IV	BC	1200/50.7	BS	IIIa Setg	A	SB-B1u	1st arc didn't shut off 7 min	stopped sl/wk Comp sl/wk	
	30 sec arc = 193 cnts					IIIa Setg			moved scope in RA to fine arc	BROKEN 2 pieces	✓ sl/wk
	30 sec arc = 172					IIIa Setg					✓ sl/wk
1850	3" 8.5	sd0+g	BC	830/40.2	BS	IIc OE	A	SB-Ly	Set 509 T=66°F		sl/wk but OK
<p>note mid 18 sec exps only resulted in 107 counts on Exp meter for each exp. (shuttle = 700 cnts)</p>											
						IIc OE					✓
38000	3"	5.19	B3IV	BC	1200/50.7	BS	IIIa Setg	A		T=60°C Set 507	
										only resulted in 175 counts	last 25 sec comps give (200 → 400 counts)
30000	3"	5.5	F8V	BC	1200/50.7	BS	IIc OE	A	sl/wk	20 sec = 158 cnts 20 sec = 190 cnts 20 = 300	sl/wk OK
<p>Kt all done IIIa used up 100</p>											

Spectr. Temp. ... 66°F

Dome Temp./Hum 65°F./45%

Transparency Conditions Fine..... 150

Focus ... 505-507

Spectr. Temp. ... 60°F

Dome Temp./Hum 55°F./52%

Spot Caln for these Da 00's of previous night

Companson pe/Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Comp Time	Exp Cats	Remarks	Quality
8400	7000	2"	F62	JG2	BC	1200/507	BS	II ₀₀ -E	A	Asm Sp	20 = 257	80 = 283		OK but v slwk
	2202		"	"	"	"	—			3 min exp				
	5350		"	"	"	"	—			3 min				
	1,600									3 min				
	2,809									3 min				
2012	6000	2"	709	dk1	BC	1200/507	BS	II ₀₀ -E	A	Hsm Sp	20 = 283	20 = 255	20 = 270 20 = 321	OK but v slwk
2012	6000	3"	G155	JG5	"	"	"	"	"	"	T = 62%	Set 507		OK v slwk
	(90 = 150 mid-comp) (20 = 250 mid-comp) End comp 230 cats													

Spectr. Temp. 66°F.....Dome Temp./Hum. 15°C 55%.....Transparency Conditions .. CLOUDS AFTER 02:00 ..Focus 508.....

152

Spectr. Temp.

Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
8003		6.79	09I	B.C.	B ³⁰ /40.2	B.S.	II ¹⁰⁰ -E	A	Bln-0*		fine
8001		5.60	FBII-I	B.C.	B ³⁰ /40.2	B.S.	II ¹⁰⁰ -E	A	STD-VEL		fine
5402		6.22	dFG+ G8	B.C.	d ¹⁰⁰ /50.7	B.S.	II ¹⁰⁰ -E	A	SPBIN-Bln	9:62P F=506 CLOUDED IN	sl/wk
							II ¹⁰⁰ -E				-

53

New Dig

Date Mon. Tues
June 16-17/86. Observers Bt. Ri.

Emulsion Batches:
5sm Iso-E. 105-07066
5' 098-02-E 09085-05056

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison		
								Type/Filter	Exp.	
49691	HD146051	16 09.1	-3 26	20 52	21 34	1 12 E	-3 34	Fe / clear	20-20-20	
49692	HD148783	16 25.4	+42 06	00 36	00 51	1 46 W	+42 03	Fe No / clear	3-3-3	
49693	HD182917	19 21.9	+50 02	00 56	03 01	1 00 W	+50 21	"	3-3-3	
49693T1	SPOT CALN FOR	PLATES 49692-93				15 MIN @	4310	75 VOLTS D5 70 VOLTS D2 70 VOLTS D2	DL 5450	
49693F	FOCUS TEST							Fe No / clear	9-9	

Spectr. Temp. 68°F.....

Dome Temp./Hum. 17°C/80%

Transparency Conditions *strong NW wind at start
cloudy periods // cloud*

Focus 504.....

Spectr. Temp. 60°F.....

Dome Temp./Hum. 12°C/84%

154

Comparison
Filter Exp10
10
10
3-3-3
7/8-5
5-5
10
10

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
BLUE FILTER					1200						
6589		4.32	M0.5 III	BC	50.7	35	T60-E	A	Std Vel	exp. ended by cloud	F051 OK Suo
10 FILTER					1200						
40015		6.56	M6 III	"	40.5	"	098-02E	A	Obs Pgm	T=630F F=507	Suo
10 FILTER											
29632		8.4	M6	"	"	"	098-02E	A	Obs Pgm	exp. ended by cloud	Suo
							098-02E				✓
					1200/40.5	3.5	098-02E			T=590F F=507	✓ OK

Date ~~TUES~~ ~~WED~~ ~~JUNE 17/19/46~~ Observers ~~VENU-R~~.....

5^{PM}
5

Emulsion Batches:
 Jao-E 225-04066...
 Jao-E 225-10066...

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49694F	FOLUS 9RT							Fe/ CLEAR	20-20-20 20-20-20
49694	HD 93521	10 42.7	+38° 06'	21:00	23:14	05:53W	+37° 47'	Fe/ CLEAR	20-20 20-20
49694T	SPOT CAL FOR PLATES 49694, 49696-97				15MIN @ 15 VOLTS	3900		③ D2 4300	
49695	HD 164352	17 58.1	+20° 50'	23:25	01:22	00° 47' W	+20° 57'	Fe/ CLEAR	20-20 20-20- 40,000
49695T	SPOT CAL FOR PLATE 49695				15MIN @ D4	3900		③ 15V DLTS 4310	
49696	HD 182572	19 20.2	+11° 44'	01:30	02:27	00° 30' W	+12° 02'	Fe/ CLEAR	20-20 20-20
49697	HD 193322 AB	20 14.8	+40° 25'	02:34	03:3 ?	00° 45' W	+40° 49'	Fe/ CLEAR	20-20 20-20
					error of 33 min. somewhere?				
					End time is likely 03:36; HRL is correct				

Spectr. Temp. ... 509

Dome Temp./Hum. ... 17°C ... 52%

Transparency Conditions ... Good

156

Focus ... 61°F

Spectr. Temp.

Dome Temp./Hum. ... 09°C ... 52%

Comparison
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				B.C.	830/402	B.S.	II ₂₀	A		T = 61°F F = 509	✓ cont. streak
BLUR FILTER 10000	6.79	09IV		B.C.	830/402	B.S.	II ₂₀ -E	A	Bln - O*		1 st streak vs/wk
							II ₂₀ -E				✓
BLUR FILTER 40,000	5.19	83IV		B.C.	1200/507	B.S.	III ₂₀ 4	A	SB-Bln	T = 57°F F = 507	Streak
							III ₂₀ 4				✓
BLUR FILTER 8,000	5.94	G8II		B.C.	830/40.2	B.S.	II ₂₀ -E	A	STD VEL	T = 56°F F = 511	fine
12,000	5.94	09IV(N)		B.C.	830/40.2	B.S.	II ₂₀ -E	A	Bln - O*	T = 54°F	1 st streak fine

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions ... *Fine* 158

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
				BC	1200/42	250μ					
					4	"				very fine Hd	
					1800/48	—				OII dulled	

*fine with 1 sec integration**fine image**very fine Hd**OII dulled*

Spectr. Temp. ... 68°F / 20°C.

Dome Temp./Hum. 76.5°F / 70%

Transparency Conditions . Fine - sky cloudy 160

Focus 505

Spectr. Temp. .. 63°F

Dome Temp./Hum. 75.9°F / 80%

no 098 in dome unfortunately
no request for them, unfortunately

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
6300	3"	6.79	09V	BC	830/402	BS	I ₄₀ -E	A	B _{1/2} -0*	2 mid comps → 180 cuts each	is OK sl wK
							I ₄₀ -E				✓
4100	2.35 [*]	7.53 [*]	07.5III	BC	830/402	BS	I ₄₀ -E	A	B _{1/2} -0*	Fe arcs 203 cuts, 200, 230, 260 seems fainter than 7.5.	Fe sl/str sl wK

Spectr. Temp. 73.9f.....

Dome Temp./Hum. 72.9f/50.6

Transparency Conditions sl. cloudy..... 162

Focus 503.....

Spectr. Temp.

Dome Temp./Hum.

+ thunder storm coming

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Blue filter				BC	1200/50.7	BS	IIaO	A		Fe lines 90 = 166 cts,	Too weak Drummed
8087		5.00	BTV	BC	"	"	IIaO-E	A	SB Ly		For slit slw k
24400		"	"	"	"	"	IIaO-E	A	"	only 2 100 cts / 20 sec exp Some cloud clouded	slw k
						"	IIaO-E				✓
Note IIaOs put with previous night's plates											

163

Tues - wed

Date June 29-30/86... Observers Sgt - Th.....

Emulsion Batches:

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.....
.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
1st	Focus test	Comp 120 FeA, Stellar 120sec	FeA	give 122° CCW	for Louguin	oh 4 lines.			
	Flat fld, A5, T20, C2, L.G, A	31750		9689/16000	2nd	9688/16000			
804 _{Tn}	HD139892	15 35.6	+36 58	21 17	22 09		+ 2	T60, A5, C1 x2	
809 _{Tn} -816	Vega	[RC00809, 11/16]	Tn 01 192						
1st	Focus test @	0 hr	a	30° CW rotation required	as things cool, a CW rotation required				
818 _{Tn}	more Vega	thru clouds		01 12	01 22	too cloudy			
	Flat Fields	C2	T20						
	Darks with	slit replaced by cover	& all lights out.						

165

Wed-Thurs

Date June 25/26 / 1986 Observers Lgt - 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.
	Focus TEST			20:39		Comp	120sec. FeA	sk I	
^{826 in} 804	HD 139892	15 ^h 35 ^m .6	+36° 58'	21:00 ^{21:00}	21:35			FeA FeArc	T60+H T30+3
^{827 in}	HD 139892	"	"	21:37	21:50				
	FLAT FIELD			21:54				TUNG	T15
	"							"	T6
	"							"	TAT
	"			22:01				"	T15
	"			22:03.6				"	T12
	"			22:09				TUNG	9000 cts
	"			22:10				"	8000 cts
	"			22:13				"	"
^{838 in} 809	VEGA			22:41	22:48			FeA FeArc	T60+H T30+
^{cloud}	DARK			23:12:21					3x720 sec. 3 find pt

167

Thurs - Fr.

Date June 26/27, 1986 Observers Lgt - 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.
844 _{in} 811	Focus test	1st indicated	109° CW, did 100° CW	2nd indicated		4 0E	+38 50	C1 A5	120/120
	Vega			21 03	21 11			FeA FeArc	120 30+30
	Flat Fld "Lamp"		C2, A5	21 25 , T12					
847 _{in}	Vega			21 42	21 52	(then cloud)		FeA FeArc	120 30+30
	Flat Fld "Lamp"		C2, A5, T12	X 2					
	Focus Test	indicated	40° CW & I did it						
851 _{Tn}	Vega			22 31	22 40			FeA FeArc	120 30+30
	Flat Fld		(C2, A5, T12)	X 2					
856 _{Tn}	Polaris			23 10		E		FeA FeArc	120 30+30
857 _{in}	Vega			23 41	23 52				
858 _{in}	Vega			23 54				FeA FeArc	120 30+30
	Flat Fld "Lamp"		C2, A5, T12						
	DARK X3			00 58					3x 540 sec. each 3 field patterns

Spectr. Temp. Dome Temp./Hum. *70° / A37* Transparency Conditions *hazy - cloudy* *168*

Focus

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

Reticon night

Comparison / Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>15</i>	<i>2nd ind. to 25° CW; 20 CW</i>				<i>BC</i> <i>1800/A25</i>	<i>1800/A25</i>	<i>250/10</i>	<i>HG</i>			<i>T = -154.9</i>	
<i>11</i>	<i>20439</i> <i>conts total</i>				<i>BC</i>	<i>4</i>	<i>"</i>	<i>LG</i>	<i>1st</i>	<i>Fe Arc 2048</i>	<i>conts</i>	
<i>12</i>	<i>20439</i> <i>conts total</i>							<i>LG</i>	<i>2nd</i>	<i>Fe Arc 2170</i>		
											<i>Cloud</i>	
<i>13</i>	<i>56321</i>	<i>cloud</i>			<i>BC</i>	<i>1800/A25</i>	<i>250/10</i>	<i>note</i> <i>Disc file should read "LG" not "HG"</i>			<i>T = -155.0</i> <i>Fe Arc = 1200</i> <i>Fe Arc = 1200</i>	
								<i>LG</i>			<i>T = -154.8</i>	
					<i>BC</i>	<i>1800/A25</i>	<i>250/10</i>	<i>HG</i>			<i>T = -154.9</i>	
<i>14</i>	<i>50000</i>				<i>"</i>	<i>"</i>	<i>"</i>	<i>LG</i>			<i>T = -155.0</i>	
					<i>"</i>	<i>"</i>	<i>"</i>	<i>LG</i>			<i>T = -155.0</i>	
<i>15</i>	<i>49070</i>				<i>"</i>	<i>"</i>	<i>"</i>	<i>LG</i>			<i>T = -155.0</i>	<i>Done!</i>
	<i>452170</i>				<i>"</i>	<i>"</i>	<i>"</i>	<i>LG</i>			<i>T = -155.0</i>	
<i>16</i>	<i>50427</i>				<i>"</i>	<i>"</i>	<i>"</i>	<i>LG</i>			<i>T = -155.0 cloud</i>	
					<i>"</i>	<i>"</i>	<i>"</i>	<i>LG</i>			<i>T = -155.0</i>	
					<i>"</i>	<i>"</i>	<i>"</i>	<i>LG</i>			<i>T = -155.0</i>	

169

Sun - Mon

Date June 29-30 1966 Observers T.A.

Emulsion Batches:

R: Std. Was. of 215 - 10066
... D. 0 - E 315 - 13066

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
49702F	Focus Test					1 0 E	+36 49	Fel/clear	2 x 100 100
49702	HD 139892	15 35.6	+36 58	20 40	22 27	1 02 W	+36 44	Fel/clear	20 x 20 20 20 20 20 20
49703	HD 164852	17 58.1	+20 50	22 33	00 44	0 56 W	+20 58	"	20 20 20 20 20
49703 T	Spot Caln for	49702 - 03		15 min @ D4		17.5V 3900	15V 4300	15V 4810	
49704	HD 187691	19 46.2	+10 10	00 53	01 08	0 25 E	+10 42	Fel/clear	1

Spectr.

Focus

Spectr.

Exp. Mtr.

7000

35000

42000

7000

Spectr. Temp. $69.5^{\circ}F$ Dome Temp./Hum. $76.3^{\circ}F / 55\%$ Transparency Conditions *Fine but gusty* 170Focus 50.5

Spectr. Temp.

Dome Temp./Hum. $75.3^{\circ}F / 95\%$ Comparison
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks <i>Exp Count 1.4 to 5.0 for Feires</i>	Quality
<i>June Filter</i>				BC	1200/50.7	B5	IIa0	A		* Cats Exp meter 93A/1100	control red
32000	v poor	5.00	B7V	"	"	"	IIIa5-efg	A	Ly ppm	1st mid 1st 378 850 613 cats	too slow fine streak
42000	poor	5.19	B3IV	"	"	"	"	"	SB Bln	500 650 520 cats	too slow v slow
							"				-v
7000	poor	V 5.11	F8V	BC	1200/50.7	B5	IIa0-E	A	st/1vel	1st normid gnd 324 475 T=62F	fine

1710

Pg #1

Emulsion Batches:

floppy #9

Date June 30 - July 1/86 Observers Lgt - 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.
	Focus test	1st model	54° ^{1CW} done	(2nd indicates 22° ^{CCW} , medid 15° ^{CCW})		0 20W + 35		C1, A5	120/120
	Vega	1986.5 18 38.5	1986.5 +38 46	20:50	20 57			C1, A5 C5, A5	120 *40
	Flat Field "Lamp"							C2, A5	12 sec
	Vega			21:10:41	21:18:40			C5, A5 C1, A5	T40 T120
	Flat Field "Lamp"							C2, A5	12 sec
	"							"	"
	Vega			21:35:09				C1, A5 C5, A5	120 45
	Polaris			22 07	23 21			2x (C1, A5 C5, A5)	120 45
621000	Flat Field for Polaris							C2, A5	12 sec
	Vega			23 37	23 43			C5, A5 C1, A5	3600 120
	Focus test	Right on, only 2° ^{CCW} asked for							
	Vega			00 02	00 08			C5, A5 C1, A5	36270 120 sec
	Flat Field for Vega							C2, A5	12 sec
	HD 204867	21 26.3	-6 01	00 27				Comp HG also OK (C5, A5 C1, A5)	640 24 sec
	Flat Field for HD 204867		also HG					C2, A5	3 sec

Spectr. Temp. Dome Temp./Hum. *63°/56%* Transparency Conditions *172*

Focus
Spectr. Temp. Dome Temp./Hum. */* *Reticon Night*

Comp. Filter	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	<i>Blue filter</i>				<i>BC</i>	<i>1800/425</i>	<i>25/1.0</i>	<i>HG</i>			<i>T = -155.5</i>	
	<i>450,120</i>				<i>"</i>	<i>"</i>	<i>"</i>	<i>LG</i>			<i>-155.5 * 30 sec Feare = 3.983 cents</i>	
								<i>LG</i>		<i>7922/8000</i>		
	<i>44 9,760</i>				<i>"</i>	<i>"</i>	<i>"</i>	<i>LG</i>		<i>8463/16000</i>	<i>T = -155.5</i>	<i>40 sec. Feare 4470</i>
								<i>LG</i>			<i>T = -155.4</i>	<i>7950/8000</i>
								<i>LG</i>			<i>T = -155.4</i>	<i>7913/8000</i>
	<i>450400</i>							<i>LG</i>			<i>T = -155.6</i>	<i>35 sec Feare 3694</i>
	<i>400,963</i>	<i>Try</i>	<i>375K</i>	<i>next line</i>				<i>LG</i>			<i>T = -155.6</i>	<i>45 sec Feare 4184</i>
								<i>LG</i>				<i>3251 cents</i>
	<i>469350</i>				<i>BC</i>	<i>"</i>	<i>"</i>	<i>LG</i>			<i>T = -155.7</i>	
								<i>HG</i>				
	<i>451023</i>				<i>"</i>	<i>"</i>	<i>"</i>	<i>LG</i>			<i>-155.7</i>	
								<i>LG</i>				
	<i>75029</i>	<i>4"</i>	<i>374</i>	<i>Goib</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>HG</i>		<i>std vel</i>	<i>T = -156.0</i>	<i>9599/16000 good</i>
					<i>"</i>	<i>"</i>	<i>"</i>	<i>HG</i>				<i>9337/16000 good</i>

pg#2

Emulsion Batches:

Date June 30 July 1..... 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.
	Vega	1986.5 18 38.5	1986.5 +38 46	01 28	01 36			E5A5 C1A5	3100cnts 120sec
	Vega	"	"	02 03					
	Vega n	"	"	02 12	2 18			C5A5 C1A5	3469cnts 120sec
	focus test	inverts	54° CW	1 sid	45° CW			C1A5	120/120
	Vega			03 00	03 06	249W		C5A5 C1A5	3500cnts 120sec
	Darks x 3			420secs	3 fixed patterns				

Spectr. Temp. Dome Temp./Hum. Transparency Conditions .. *Fine* *174*

Focus

Spectr. Temp. Dome Temp./Hum. *57° / 63%*

Comparison Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	<i>Blue Filter</i>											
<i>45 3-2-8</i>	<i>450427</i>				<i>BC</i>	<i>1800/42.5</i>	<i>250/10</i>	<i>LG</i>			<i>T=-156.6 dewar topped up before</i>	
<i>45 10-10-8</i>	<i>* 525156</i>				<i>u</i>	<i>u</i>	<i>u</i>	<i>n</i>			<i>-156.5 * saturated</i>	
<i>45 8-1-8</i>	<i>450116</i>				<i>n</i>	<i>n</i>	<i>1</i>	<i>n</i>			<i>Flat Field done before focused</i>	
<i>45 10-1-8</i>					<i>u</i>	<i>u</i>	<i>u</i>	<i>HG</i>			<i>T=-156.7</i>	
<i>45 10-1-8</i>	<i>450889</i>				<i>u</i>	<i>u</i>	<i>u</i>	<i>LG</i>			<i>T=-156.7</i>	
								<i>LG</i>			<i>T=-156.7</i>	
											<i>why so noisy?</i>	

175

Wed/Thurs.

Date July 2/3, 1986... Observers Lgt - Ri

Emulsion Batches:

f11111 124 11

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	FOCUS TESTES							C1 A5	120/120
	VEGA							C1 A5	120
	HD 172167	18 33.5	+38 41	23:53	00:02			C5 A5	35
	FLAT FIELD X2							C2 A5	1250
	VEGA							C5 A5	35
	HD 172167	18 33.5	+38 41	0:12	0:19	00 ^h 10 ^m W		C1 A5	120
	"	"	"	0:29	0:36			"	"
	FLAT FIELD							C2 A5	12
	HD 8890	01:22.5	+88° 46	01:01	01:14			C5 A5	7
								C1 A5	24500
	FLAT FIELD			01:23				C2 A5	3500
	HD 8890	01:22.5	+88° 46	01:23	01:38	06 ^h 32 ^m E			
	HD 172167	18 33.5	+38 41	01:45	01:53			C5 A5	35
								C1 A5	120
	FOCUS TEST							C1 A5	120/120
	HD 172167	18 33.5	+38 41	02:16	02:23	02 ^h 13 ^m W		C5 A5	35
								C1 A5	120
	FLAT FIELD							C2 A5	12500
	HD 172167	18 33.5	+38° 41'	02:34	02:41			C5 A5	35
								C1 A5	120
	HD 172167	18 33.5	+38° 41'	02:46	03:00	02 ^h 50 ^m W		C5 A5	35
								C1 A5	120

Spectr. Temp. Dome Temp./Hum. 17°C ... 92% Transparency Conditions ... Clear ... 176

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		Y -154.8		RETICON B.C.	1800/42.5	250/1.0	H.G.			T -154.8	
450326		0.04	A0V	RETICON B.C.	1800/42.5	250/1.0	L.G.			T -154.8	
451067		0.04	A0V	"	"	"	L.G.			T = -154.9	
449241		"	"	"	"	"	L.G.			T = -154.9	
							L.G.			T = -154.9	
70140		2.5	F8IB	RETICON B.C.	1800/42.5	250/1.0	H.G.			T = -154.9	
				RETICON B.C.	1800/42.5	250/1.0	H.G.			T = -156.0	
		2.5	F8IB	RETICON B.C.	1800/42.5	250/1.0	H.G.			T = -156.2	
450800		0.04	A0V	RETICON B.C.	1800/42.5	250/1.0	L.G.			T = -156.2	
				RETICON B.C.	1800/42.5	250/1.0	H.G.			T = -156.1	
451220		0.04	A0V	RETICON B.C.	1800/42.5	250/1.0	L.G.			T = -156.2	
				RETICON B.C.	1800/42.5	250/1.0	L.G.			T = -156.1	
448452		0.04	A0V	RETICON B.C.	1800/42.5	250/1.0	L.G.			T = -156.1	
450799		0.04	A0V	RETICON B.C.	1800/42.5	250/1.0	L.G.			T = -156.1 CLOUDS	

Spectr. Temp. ... 63°F

Dome Temp./Hum. ... 13°C ... 53%

Transparency Conditions ... SOME CIRRUS ... 180

Focus ... 506

Spectr. Temp.

Dome Temp./Hum. ... 12°C ... 53%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
37672		5.19	B3V	B.C.	1200/50.7	B.S.	Ilford	A	S.B.-B1/2	CLOUDS NEAR END	Fok slwk
							Ilford				✓
				B.C.	1200/50.7	B.S.	Ilford	A		T=60°F F=506	OK

Spectr. Temp. 83°F

Dome Temp./Hum. 25°C 70%

Transparency Conditions hazy 182

Focus 501

Spectr. Temp. 81°F

Dome Temp./Hum. 25°C 85%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BCL	1200/50.7	BS	Ilud.	A			✓ cooler vs/Red
10000		50	BIV	B.C.	1200/50.7	B.S.	Ilud of	A	SB-Ly		✓ ok
30000		52	B3ID	B.C.	1200/50.7	BS	"	A	SB-Blu	cloud.	✓ ok

Spectr. Temp. ... 81°F Dome Temp./Hum. ... 23°C / 64% Transparency Conditions ... CLOUD AT FIRST
 Focus ... 502 THEN GOOD 184
 Spectr. Temp. ... 71°F Dome Temp./Hum. ... 20°C / 80%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40000	3	5.0	B7V	B.C.	1200/50.7	B.S.	Ilford	A	SB-Ly	some cloud.	fast wk fine
40050		5.2	B3II	B.C.	1200/50.7	B.S.	Ilford	A	SB-B/n	T=75 F set 503	fine
							Ilford				✓
1600		28.0	TS-63	BC	1200/50.7	BS	Ilford	A	Bn Cep-Ly	T=71°	wk

185

wed./Thurs

Date .. July .. 9-10 / 1986 Observers Lgt - Tn

Emulsion Batches:

... Il. a. l. E. 335-13066
 ... Il. a. l. E. 255-20066

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
49711	HD 8890	1 ^h 22.6	+88° 46'	20:46	20:48	10 50E	+89° 20'	Fe/clear	30-30 30-
49712	HD 8890	1 ^h 22.6	+88° 46'	20:55	20:57	10 ^h 41 ^m E	+89° 20'	Fe/clear	20-10 25-10
49713	HD 158633	17 ^h 25.3	+67° 24'	21:08	23:25	0 ^h 54 ^m W	+67° 26'	Fe/clear	025- 20+20 ^{3/2} 30-30-50
49714	HD 159561	17 ^h 30.3	+12° 38'	23:53	00:04	1 ^h 25 ^m W	+12° 42'	Fe/clear	120
49715	HD 182640	19 ^h 20.5	+2° 55'	00:16	00:48	0 ^h 18 ^m E	+3° 13'	Fe/clear	90 90
49716	HD 159561	17 ^h 30.3	+12° 38'	01:01	01:14	2 ^h 33 ^m W	+12° 42'	"	60 70
49716T	SPOT CAL FOR PLATES 49711-13, 49717-19			19	15min @ 15V	D4 3900	D3 4300	D2 4810	
49717	HD 191026	20 ^h 02.6 ^m	+35° 42'	01:37	02:43	1 ^h 31 ^m W	+36° 02'	Fe/clear	25 25 25
49718	HD 212943	22 ^h 22.8 ^m	+4° 12'	02:50	03:25	1 ^h 06 ^m E	+4° 45'	"	60 30
49719	HD 196524	20 ^h 32.9 ^m	+14° 15'	03:34	03:44	2 ^h 02 ^m W	+14° 40'	"	25 25
49719T	test						comp stellar	Fe au Fe A	80° 80°?

Spectr. Temp. 74°F Dome Temp./Hum. $69^{\circ}\text{F} / 58\%$ Transparency Conditions Clear 186

Focus 503

Spectr. Temp. 63°F

Dome Temp./Hum. $59^{\circ}\text{F} / 89\%$

Exp. Mtr.	Seeing	Pig. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>B. Filter</i> 7644	2-3	~2	F	B.C.	1200/50.7	BS	IIaO-E	A	Asm-sp KK	1 st 30-230 2 nd 30-472 30-187	fine
7506	2-3	~2	F	B.C.	1200/50.7	"	"	"	"	1 st 20-321 2 nd 25-310 10-136 10-119	fine
3245+170 3070	2-3	7.09	AKI or GAV	"	"	"	IIaO-E	"	"	1 st 25-318 3 rd 20-302 2 nd 20-188, 20-281	Fes/str Fine
36205	2	2.2	A5 III	"	"	"	IIaJ-ctg	"	"	Spec. T=70 Focus=504 1 st 30-337 2 nd 120-693 30-187 50-141, 50-459 *Possibly on stellar	comp. on stellar
38480	3	3.68	Fo IV	"	"	"	"	"	"	1 st 90-1200 2 nd 90-701	fine
36449	3	2.2	A5 III	"	"	"	"	"	"	1 st 60-906 2 nd 70-816	fine
							IIaO-E				
3562 3540	3	6.21	KO IV	BC	1200/50.7	BS	IIaO-E	A	" for Percy	1 st 25-347 3 rd 25-307 2 nd 25-302	Spec = 67 up Focus = 505 F12.9
5022	3	V=4.79	KO IV	"	"	"	"	"	STD	1 st 60-564 2 nd 630-413	fine
8007	3	V=3.78	F5 IV	"	"	"	"	"	Asm sp KK	1 st 25-456 2 nd 25-474	fine
750 counts 188 counts				BC	1200/50.7	BS					

KK Note: Trials of Tonight added to last night's III and exp box from frige. It is also same "2006" batch

Spectr. Temp. 67°F

Dome Temp./Hum. 160% / 80%

Transparency Conditions ... S1 cloudy → V cloudy

Focus 505 509 Per 612

Spectr. Temp. 61°F

Dome Temp./Hum. 155% / 90%

new liquid light guide for arc

188

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks			Quality
										#1	#2	#3	
6496 5142	poor	6.72	1F8+68	BC	1200/50.7	BS	IlO-E	A	SB Bln	173 cuts	182 150 180	187	fine comp fair
1638+1/1							IlO-E						-V
8160	OK	5.83	065V	BC	830/40.2	BS	IlO-E	A	Bln O*	#1 136	#2 287	#3 189	fine
8058	OK	4.64	F7V	γ	γ	ll	* IlO-E	A	S=Vcl	#1 355	End - 360	cloud	fine comp fine

Spectr. Temp. *76.1*.....

Dome Temp./Hum. *73% / 59.2*

Transparency Conditions *Fine → cloud*.....

Focus *5.03*.....

192

Spectr. Temp.

Dome Temp./Hum. */*.....

Comparison
Fitted Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>Blue Filter</i>										<i>* exp water cut</i>	
<i>40000</i>	<i>poor</i>	<i>5.19</i>	<i>B3IV</i>	<i>BC</i>	<i>1200/50.7</i>	<i>BS</i>	<i>III ab-efg</i>	<i>A</i>	<i>SB Bln</i>	<i>#1 446 #2 807 #3 429</i>	<i>Fe slwk ok</i>
							<i>III ab-efg</i>				<i>-v</i>
<i>1000</i>	<i>Fair</i>	<i>5.7</i>	<i>B&III</i>	<i>BC</i>	<i>1200/50.7</i>	<i>BS</i>	<i>III ab-efg</i>	<i>A</i>	<i>SB-Ly</i>	<i>#1 200 #2 200 #3 400 #4 250 #5 250</i>	<i>Fe slwk slwk</i>
				<i>"</i>	<i>"</i>	<i>"</i>	<i>III ab-efg</i>	<i>A</i>		<i>60s / 150</i>	<i>130261 - Clouds</i>
										<i>high age fog</i>	

Spectr. Temp. 71°F.....

Dome Temp./Hum. 73°F / 59%

Transparency Conditions Fine - sl. cloudy.....

Focus 50.6... for both disps.

Spectr. Temp. 69°F.....

Dome Temp./Hum. 61°F / 50%

194

Comparison Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Blue filter											
31000	2"	5/11	A2V	BC	830/402	BS	Utal-efg	A	GRAY pgm	#1 446 #2 450 #3 420	sl. str but fine
no filter blank in)											
40000	5"	5/11	A2U	BC	1200/405	* BS	emulated 2 hrs only 098002	A	Gray pgm	* didn't see mid comp with -UV filter over it -UV as well	
30200	"	"	"	"	"	"	"	A	"		
							"				

Spectr. Temp. 70°FDome Temp./Hum. $73^{\circ}\text{F} / 60\%$ Transparency Conditions *Fine...sl. hazy*..... 200.....Focus 5.04Spectr. Temp. 66°FDome Temp./Hum. $62^{\circ}\text{F} / 96\%$ *cloudy*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
BLUE FILTER											
40106	OK	5.19	B3IV	BC	1200/50.7	BS	IIIa-Jeg	A	Bln SB	* #1 #2 #3 625 619 633	fog Exp OK
							IIIa-S-efg				v v
8455	OK	5.11	F8II	BC	1200/50.7	BS	IIa-O-E	A	std vel	* #1 #2 #3 187 510 140	Fo sl. ok fine
4765 ^{x*}	OK	6.24	07.5Iaf	BC	830/40.2	"	"	A	Bln 0*	T=70°F set 506 *200 207 (in 3rd read done)	sl. ok
* Note: after mid Fe Arc, plate was mistakenly capped & exp continued for another 600 cuts before ending.											
7944	SOSO	6.78	04Iff	BC	830/40.2	BS	IIa-O-E	A	Bln 0*	* #1 #2 #3 225 238 219	fine
							IIa-O-E				v
7844	OK	6.26	09Ib-I	BC	830/40.2	BS	IIa-O-E	A	Bln 0*	* #1 #2 #3 217 212 218	fine
6145	OK	5.19	09.5Ib	BC	830/40.2	BS	IIa-O-E	A	Bln 0*	* #1 #end # 306 331	fine
Note: Fe Arcs for 830/40.2 are right on for Exp.											
Note: All G12, IIaOs of 0* should be given atleast 10K cuts.											

201

Tues - Wed

Date Aug. 5-6. 186..... Observers M.H. - T.H.....

Emulsion Batches:

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.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	Focus test	suggested	134° CCW	done, only	3 hrs,	0 0	+44	Fine COA5	5-5
	"	"	66 CW	done	6 hrs,				3-3
	"	"	31° CCW	(20° CCW done)	11 hrs,				"
	"	"	27° CW	done	4 hrs				"
	"	"	12° CW	(not done)	4 hrs				"
Notes recharge.	"	"	11° CW	7° done	(only time changed from 3-3)				2-2
	"	"	40° CCW	not done	5 hrs				2-2
	" Repeat	"	19° CCW	10° done. <u>ccw</u>	4				2-2
	"	"	41° CCW	nothing not done	5 hrs,				2-2
	Fld Fld							C2A5	2 sec
	" "							C2A3	2 sec
								C2H4	2 sec
	Dark (black cloth over slit)			1800 secs	not done				
Augb	Dark			3×10^5					

Spectr. Temp.

Dome Temp./Hum. $+70^{\circ}\text{F}/90\%$ Transparency Conditions *Cloudy - hazy* 202...

Focus

Spectr. Temp.

Dome Temp./Hum. 190% Note - for slit, $R = 12000$ for stellar α to check slit length. Use light & dark cloth to illuminateCompass
Filter Exp

5 5-5

33

37

40

42

45

45 87

43 88

44 89

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				BC	1800/56.1	250/110	Reticon		$T = -163.5^{\circ}\text{C}$	centered on 6592 \AA	
									$T = -163.5^{\circ}\text{C}$		
									$T = -163.5^{\circ}\text{C}$		
				BC	1500/56.1	250/110				14000/16000	
				"	"	"	OK - but			2000/4000	
										7100/8000	
									$T = -163.2$	spikes Max 332	
									-162.5	no spikes $\sigma = 20 \text{ ADU}$	

saturated

note (light on for

 ≈ 6 secs)

not 2

But Aperture disc was the 2 sec shutter I noted.

Spectr. Temp. 69°F Dome Temp./Hum. $64^{\circ}\text{F}/91\%$ Transparency Conditions clear - gusty 204

Focus 504

Spectr. Temp. 67°F Dome Temp./Hum. $57^{\circ}\text{F}/97\%$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>4e filter</i>										<i>+ Comp cats</i>	
7500	2-3 3-4"	6.21	KO IV	BC	1200/50.7	BS	IIaO-E	A	Percy/KK	1-478 2-475 cloud at end	Faint VSI cut
							IIaO-E				VV
7037	2-3 3-4"	4.64	F7V	BC	1200/50.7	BS	IIaO-E	A	std. vel.	1-473 2-471	std. vel
1-856 2-758				"	"	"	IIaO-E	A		1-856 2-758	color visible blue
5400	3-4"	4.64	F7V	BC	830/40.2	BS	IIaO-E	A	std. vel	spec. T = 64.5°F F=507 1-373 2-372	fine color visible blue
1-893 2-893				"	"	"	IIaO-E	A			color visible blue

Spectr. Temp. 67°F

Dome Temp./Hum. 62°F / 52%

Transparency Conditions Fine 206

Focus 505 - 509

Spectr. Temp. 57.4°F

Dome Temp./Hum. 57°F / 52%

good molecules after OPT
persoids

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Blue filter										* Exp meter cuts	
8,300	3"	6.5	Aop	BC	1200/50.7	BS	I ₁₀₀ -E	A	Kub p _{9m}	#1 #2 #3 300 417 535	slwk ✓
							I ₁₀₀ -E				
40,200	4"	3.6	B6p	BC	1200/50.7	BS	I ₁₀₀ -efg	A	Kub p _{9m}	#1 #2 #3 902 933 set 50%	fine ? like bad guiding ✓
							I ₁₀₀ -efg				
36,344	3"	3.68	FOU	BC	1200/50.7	BS	I ₁₀₀ -efg	A	Asm Sp Kk	#1 End 895 864	fine ✓
10,000	2.3"	6.26	0916-TT	BC	830/40.2	BS	I ₁₀₀ -E	A	Bln-O star	#1 #2 #3 135 343 set 509 T=60%	fine
10,400	3"	5.19	09516	"	"	"	I ₁₀₀ -E	H	Bln-O *	#1 #2 #3 222 258 T=58%	fine
5,300	5"	4.64	F7U	"	"	"	I ₁₀₀ -E	A	stavel	#1 end 350 300	fine
				"	"	"	"	"		#1 #2 #3 727 270 set 509 T=57%	OK

207

Tues - Wed

Date Aug. 12-13, 1946..... Observers ... K. K. - T. G.

Emulsion Batches:

.. II. G. - E. 3. J. 5. - 12086

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49749	HD 183656	19 25.6	+3 14	20 17	21 52	0 31 E	+3 31	Foklar	*
49749T	Spot Calc for 49749-53				15 min @ 15V	D4 3900	D3 4300	D2 4810	*
49750	HD 162732	17 47.4	+48 25	22 03	23 37	2 55 W	+48 30	Foklar	*
49751	HD 191026	20 02.6	+35 42	23 44	00 43	1 45 W	+36 05	"	*
49752	HD 218915	23 06.7	+52 31	00 58	03 23	1 20 W	+53 06	"	*
				03 29			+541	"	*
✓49753	HD 222368	23 34.8	+5 05	03 29	03 41	1 09 W	+5 41	Foklar	*

12086

Spectr. Temp. +67°F.....

Dome Temp./Hum. 63°F/...67%

Transparency Conditions *Save a lot of sunburns. (see: ray, us)* 208

Focus..... 505-509(612)..

Spectr. Temp. +62°F.....

Dome Temp./Hum. +58°F/...78%

Barium cloud Release? @ 21 05 EST
NOT Barium - KK

Comparison
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
10267	2"	60	HCP	BC	1200/30.7	BS	II ₄₀ -E	A	Kob pgm	#1 #2 #3 471 625 464	wrong dray slwk
							II ₄₀ -E				VV
5200 4800 10,000	2"	6.2	A _p	BC	1200/30.7	BS	II ₄₀ -E	A	Kob pgm	#1 #2 #3 487 506 433	λ wrong slwk
8000	2	6.2	KOV	"	"	"	"	A	P _y -pgm	400 405 378 T=628	"
10,400	2"	7.20	09.5I ₆	BC	830/40.2	BS	II ₄₀ -E	A	Pl ₂ O+	251 305 250 T=618 set 509	fine
<p>Note 1st 3 exps may have had grating tilt of 45.7° Dev will decide what center would be shifted 600 Å BLUE 1st set of intended. 353</p>											
6,000	2"	4.6	F7V	BC	830/40.2	BS	II ₄₀ -E	A	stive	1st 1st 353 477	fine

Spectr. Temp. 70°F Dome Temp./Hum. $66^{\circ}\text{F}/62\%$ Transparency Conditions *clear* 210Focus 504 *few clouds at 23:45 EST*Spectr. Temp. 65°F Dome Temp./Hum. $60^{\circ}\text{F}/94\%$ *clouded in at 00:45 EST*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
36100	3"	2.2	A5 III	BC	1209/507	BS	III aJ-ef	A	KK asm sp	1-900 2-1000	Fo slat Fine
3723 3100	3"	7.09	dK10r GAV	"	"	"	IIa0-e	A	KK asm sp	1-400 2-300 3-352	Fo slat slat
							III aJ-ef				VV
18128 19931	2-3"	3.68	Fo IV	"	"	"	III aJ-ef	A	KK asm sp	1-751 2-649 3-701	broken cloud F=505 last 1/2 of exposure Fo slat fine
18733 156	3"	4.63	A3m	"	"	"	"	"	"	1-698 2-757 3-642	cloud! Fo slat Exp slat

12086

Spectr. Temp. 76°F.....

Dome Temp./Hum. 75°F./72%

Transparency Conditions *Some cloud... then more.....* 212
getting gusty too

Focus ... 5.03.....

Spectr. Temp. 76°F.....

Dome Temp./Hum. 72°F./98%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks			Quality
										#1	#2	#3	
<i>Blue filter</i>													
12,000	2-4"	6.5	AOp	BC	1200/50.7	BS	IIc0-E	A	Kub pgm	413	450	439	SI w/k
							IIc0-E						VV
9000	3-4"	6.21	KOIV	BC	1200/50.7	BS	IIc0-E	A	Pg pgm	360	434	400	Fe sl w/k Fine

213

Date Mon.-Tues.
Aug. 18/19Observers Lgt - R.

New Strip Bath

with grow
2 nites

Emulsion Batches:

8^m68 J100-E. 3TS-12006.....
5^m68 J100-E. 2TS-10006.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49760	HD 8890	1 ^h 22 ^m .6	+88° 46'	19:57	20:14	8 ^h 50 ^m E	89° 18'	Fe/clear *	
49761	HD 8890	1 ^h 22 ^m .6	+88° 46'	20:20	20:25	8 ^h 36 ^m E	89° 18'	" *	
49762	HD 183656	19 25.6	+03° 14'	21:15	23:21	1 ^h 22 ^m W	+03° 32'	Fe/clear *	
49762T	SPOT CAL FOR PLATES 49760-62, +49765				15 MIN @ 15V	① D4 ③ D3 3900 4300	① D2 4910		
49763	HD 159561	17 ^h 30 ^m .3	+12° 38'	23:29	23:41	3 ^h 38 ^m W	+12° 42'	Fe/clear *	
49764	HD 182640	19 ^h 20 ^m .5	+2° 55'	23:49	00:41	2 ^h 47 ^m W	+3° 12'	" *	
49764T	SPOT CAL FOR PLATES 49763-64,				15 MIN @ 15V	① 17.5V ② 15V ③ 15V 3900 4300 4910			
49765	HD 195987	20 ^h 29 ^m .4	+41° 32'	00:57	04:07	5 ^h 05 ^m W	+42° 00'	Fe/clear *	
49765E	FOCUS TEST							Fe/clear	800c 900

Spectr. Temp. 77°F Dome Temp./Hum. $71^{\circ}\text{F}/75\%$ Transparency Conditions *few clouds* 214

Focus 503

clear after midnight

Spectr. Temp.

Dome Temp./Hum. $62^{\circ}\text{F}/77\%$

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	8845	3"	~2	F	bc	1200/50.7	BS	IIaO-E	A	KK asm sp	1-521 2-509	fine
	8145	3"	~2	F	BC	1200/50.7	BS	IIaO-E	A	KK asm sp	1-552 2-595	fine
	12900		6.0	AOp	B.C.	1200/50.7	B.S.	IIaO-E	A	Kub. Prog	① 501 ② 500 ③ 400 CLOUDS ON HAND OFF	Fo sl/wk vs/wk
								IIaO-E			Spectrograph T = 73°F	VV
	36012	"	2.2	A5 III	B.C.	1200/50.7	BS	IIIaJ-of	A	KK asm sp	1-1003 2-1001	use 2400 or 2000 Fo wk fine
	38000	"	3.68	F0 IV	"	"	"	"	A	"	1-653 2-652	3-555 Fo wk fine
								IIIaJ-of				VV
	2109+675	"	7.82	G9V	B.C.	1200/50.7	B.S.	IIaO-E	A	KK asm sp	1-301 F=43 2-300 3-307 4-300	Fo wk WK
						1200/50.7	BS	IIaO	A		F=67 F=504	WK but OK

Spectr. Temp. 73°F Dome Temp./Hum. $70^{\circ}\text{F}/50\%$ Transparency Conditions \dots Some cloud 216Focus 503 Spectr. Temp. 66°F Dome Temp./Hum. $62^{\circ}\text{F}/81\%$ at beginning, but
very clear rest of night

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20118 20050	$\sim 3''$	3.93	Fop	B.C.	1200/50.7	B.S.	IIaJ-ef	A	KK asm sp	1-653 3-658 2-633 66 #67 on plate	smudges OK
7000	$\sim 3''$	5.94	G8IV	"	"	"	IIaO-E	A	std val. KK asm sp	1-400 3-400 2-400 #67A on plate	fine
12000	$\sim 3''$	6.0	A0e	"	"	"	IIaO-E	A	Kub Prog.	1-402 3-504 2-432	fine
							IIaO-E				vw
4463 3804	$\sim 3''$	6.21	K0IV	B.C.	1200/50.7	B.S.	IIaO-E	A	Percy/KK	1-401 3-408 2-401	fine
3780 3722	$\sim 3''$	7.7	F5	"	"	"	IIaO-E	A	KK asm sp	1-400 3-450 (AB) 2-403	sluck
8003	$\sim 3''$	$\sqrt{3.78}$	F5IV	"	"	"	"	A	KK asm sp	1-600 2-600	fine
8010	$\sim 3''$	4.4	F5IV	"	"	"	"	A	KK asm sp	1-599 2-601	$T=66^{\circ}\text{F}$ (spect) $F=505$ fine
4196 3824	$\sim 3''$	5.17	A2	"	"	"	"	A	KK asm sp	1-399 3-395 2-450 - broken in 2 pieces	1 piece smudged
5310	$\sim 3''$	3.6	B6p	"	830/40.2	"	"	A	KK asm sp	1-601 2-600	$T=66^{\circ}\text{F}$ $F=507$ fine

Spectr. Temp. 73°f.....

Dome Temp./Hum. +70°f/86%

Transparency Conditions S/light + semi cloud 218

Focus ... 503.58 / 506.612 ..

Spectr. Temp. 70°f.....

Dome Temp./Hum. +68°f/96%

Comparison Filter	Exp. Mtr	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	Blue 4/14g											
	40155	2-3"	5.19	B3IV	BC	1200/50.7	BS	IIIa-ecy	A	SBBlm	#1 #2 #3 602 1210 617	Fed/wk Exp/wk VL
			5.19	B3IV	BC	1200/50.7	BS	IIIa-ecy				
	10,200	2-4"	5.97	06V	BC	830/40.2	BS	IIaD-E	A	Blm 0*	#1 #2 #3 T=70% 300 347 303 30t 508	Fed/wk fine v/v
			5.97	06V	BC	830/40.2	BS	IIc0-E				
	6,504	3"	4.6A	F7V	BC	830/40.2	BS	IIaD-E	A	std/vel	#1 #2 End cloud coming 448 455	fine

Spectr. Temp. 73.°f.../70.°f

Dome Temp./Hum. 70.°f./93%

Transparency Conditions S/hazy..... 220

Focus ... 50A... 68/50.6. 6.12

Spectr. Temp. .. 60.°f.....

Dome Temp./Hum. 56.°f./97%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
21400 + 20125 +	2"	5.19	B3IV	BC	1200/50.7	BS	IIIaJ-efy	A	SB Bln	#1 800 #2 812 #3 801 (Col'n #47757)	Feslwk slwk
10,200	2"-3"	5.97	06V	BC	830/40.2	BS	IIa0-E	A	Bln 0*	#1 315 #2 280 #3 300	fine
		5.11	F8V	BC	830/40.2		IIa0-E			#1 #2	vv
2584 + 2429	3"	5.11	F8V	BC	830/40.2	BS	IIa0-E	A	RJ Sta? Bln 0*	#1 301 #2 300 #3 300	fine
4500 3500+	2"-3"	7.59	09J6	BC	830/40.2	BS	IIa0-E	A	Bln 0*	#1 300 #2 300 #3 303	vs lwt
7000	4"	5.15	06ep	BC	830/40.2	BS	IIa0-E*	H	Bln 0*	#1 530 End Set 508 460 T=61°f	fine
							IIa0-E*				vv

Spectr. Temp. 62°F.....

Dome Temp./Hum. 62°F./52%

Transparency Conditions .. *Some cloud..... gusty winds*

Focus 506.....

* seeing sometimes out regions

Spectr. Temp. 57°F.....

Dome Temp./Hum. 50°F.../60%

222

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
140 6/1400										Exp. under Fe cuts **	
7,400	* 3" 5.19		B3W	BC	1200/50.7	BS	IIIaJ-efg	A	SB-Bln	#1 #2 #3 some 907 852 890 cloud	
							IIIaJ-efg				VV
13,000 18,000	* 4.6 368		FO IV	BC	1200/50.7	BS	IIIaJ-efg	A	Asm Sp KK	#1 #2 #3 856 870 800 T=60%	
3,200 840	3" ~6		40	BC	1200/50.7	BS	IIaD-E	A	Kub ppgm	#1 #2 #3 374 495 400 cloud	
							IIaD-E				VV

223

Thurs-Fri
Date Aug 28-29/86 Observers Van-Ri

Emulsion Batches:

FFC 215-15086
HCOE 205-20086

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49786	HD 164852	17 58.1	+20 50	19 34	22:19	2 ^h 28 ^m W	+20°55'	Fe/clear *	42198
49787	HD 206267	21 35.9	+57°02'	22:36	23:44	00 ^h 16 ^m W	+57°30'	Fe/clear *	1000
49787T	SPOT CAL FOR PLATES 49786.			15MIN @ D4		3900	4300	4810	
49788	HD 207198	21 42.2	+61°59'	23:52	01:16	01 ^h 42 ^m W	+62°32'	Fe/clear *	1000
49788T	SPOT CALU' FOR PLATES 49787-90			15MIN @ 15VOLT		3900	4300	4810	
49789	HD 222368	23 34.8	+05 05	01:26	01:51	00 ^h 20 ^m W	+05°40'	Fe/clear *	200
49790	HD 14633	02 16.7	+41°02'	02:01	04:04	00 ^h 09 ^m E	+41°35'	Fe/clear	463
49790F	FOCUS TEST							Fe/clear	1200 c. 1200 c.

Spectr. Temp. ... 56°F

Dome Temp./Hum. ... 10°C 54%

Transparency Conditions ... good 224

Focus ... 508

Spectr. Temp.

Dome Temp./Hum. ... 7°C 19.0%

Comparison
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
42198		5.19	B3IV	B.C.	120/50.7	B.S.	IIIa-f	A	SB-Bln	F# 1601 F3 602 F2 602 F4 604 T=53°F F=511	result Exp OK
10,000	PAIR	5.83	06.5V	B.C.	830/40.2	B.S.	IIa0-E	A	Bln-OK	#333 #2 333 #3 333	fine V
							IIIa-f				
10,000		6.27	09.56-II	B.C.	830/40.2	B.S.	IIa0-E	A	Bln-OK	(1) 333 (2) 333 (3) 333	fine VV
							IIa0-E				
3000		4.64	F7V	B.C.	830/40.2	B.S.	IIa0-E	A	STD VEL	T=50°F F=512 #1 333 #2 334 #3 334	fine
6463		7.26	09BZ	B.C.	830/40.2	B.S.	IIa0-E	A	Bln-OK	#1 #2 333 333 333	OK
				B.C.	830/40.2	B.S.	IIa0-E	A		CLOUDED IN T=47°F F=512	OK

Spectr. Temp. ... 60°F

Dome Temp./Hum. ... 13°C / 70%

Transparency Conditions ... *Good* 226

Focus 507

Spectr. Temp.

Dome Temp./Hum. ... 11°C / 80%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
6048 6000 5012 5000		6.0	A0e	B.C.	1200/50.7	B.S.	IIa0-E	A	Kub Prog	#1400 #2400 #500	fine
		6.21	K0IV	B.C.	1200/50.7	B.S.	IIa0-E	A.	Percy/KK	#1451 #2450 #504	fine
											✓✓
5000 5002		5.84	K0IV-IV	BC	1200/50.7	B.S.	IIa0-E	A	STD. VEL	#1451 #2450 #3451	fine
20005 20004		V = 3.78	F5IV	B.C.	1200/50.7	B.S.	IIIa0-E	A	ASH-Spec/KK	#1650 #2651 651	fine
				B.C.	1200/50.7	B.S.	IIa0-E	A		T=57°F F=507	right on

227

Date SUN-MON AUG 31, SEPT 1/86 Observers Ly - Ri

Emulsion Batches:

8^m 6^o Ilia-E 315-290865^m 6^o Ilia-E 275-15086

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49795F	Focus test			19:00	19:20			Fe/ CLEAR	1800 1800
49795	HD 157482	17 18.5	+40 04	19:30	21:01	2 02W	+40 07	Fe/ CLEAR	450 450
49796	HD 170200	18 23.1	+06 08	21:07	00:14	4 08W	+06 16'	"	660 660
49796T	SPOT CALU FOR	PLATE 49795,			15MIN @ 1500TS	3900	4300	400	

Spectr. Temp. ... 68°F

Dome Temp./Hum.

Transparency Conditions ... *easy* 230

Focus 505

Spectr. Temp. ... 65°F

Dome Temp./Hum. ... 60°F / 98%

Comparison

Filter

600
600
500
400

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
10012 10004 10000		5.7	BBW	B.C.	1200/50.7	B.S.	Ilford	A	SB-Ly		ok
							"				v
5000 2400		6.0	A0e	BC	1200/50.7	B.S.	Ilford	A	KuB *		slow

231

Date SEPT 5-6/86. Fri. SAT. Observers MLA-R.

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	COMPARISON			19:09				Cofe/De A 5D	2sec
	FLAT FIELD	3X		19:15	19:24			C2 Tungsten A 5D	30sec
	HD 172167	18 33.5	+38° 41	19:44	19:45	00° 09E	38° 53		
	HD 172167	18 33.5	+38° 41	19:49	19:52				
	HD 172167	18 33.5	+38° 41	20:01	20:04	00° 10W			
	NGC 6543	17:58.6	+66° 38	20:21	20:31		+66° 47		
	NGC 6543	17 58.6	+66° 38	20:35	21:05	01° 48W	+66° 47		
	NGC 6543	17 58.6	+66° 38	21:08	21:23	02° 06W	+66° 47		
	NGC 6826	19 43.5	+50 24	21:39	23:39	02° 37W	+50° 37		
	HD 172167	18 33.5	+38° 41	23:41	23:49	03° 55W			
	NGC 7027	21 05.2	+42 02	23:59	00:38	02° 14W	+42° 19'		
	NGC 7027	21 05.2	+42° 02	00:45	01:12	02° 47W			
	HU-1-1	00 25.5	+55 41	02:25	03:55	00° 10W	+55° 59		
	COMPARISON			03:58				Cofe/De A 8sec	
	FLAT FIELD	3X		04:00	04:12			C2 Tungsten A 3D	30sec

Spectr. Temp.

Dome Temp./Hum. 19°C/64%

Transparency Conditions

232

Focus

42.2 = 4290 STEPS
40.5 = 4310 STEPS
50.7 = 5440 STEPS

Spectr. Temp.

Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	TEMP [REDACTED]	Program	Remarks	Quality
				B.C.	1800/56.1 6049	250 1.0	RETICON	-150.2			AND
76627 B FILTER		0.04	AOI	B.C.	1800/56.1 6049	250 1.0	RETICON	-150.3			3309
76627 B FILTER		0.04	AOI	B.C.	1800/56.1 6049	250 1.0	RETICON	-150.3			12942
127040		0.04	AOI	B.C.	1800/56.1 6049	250 1.0	RETICON	-150.3			9550
Ø B FILTER		15		B.C.	1800/56.1 6049	250 1.0	RETICON	-149.3		CLOUDS	803
11 B FILTER		15		B.C.	1800/56.1 6049	250 1.0	RETICON	-149.2		"	4021
27 B FILTER		15		B.C.	1800/56.1 6049	250 1.0	RETICON	-149.2		CLEAR	4447
Ø B FILTER				B.C.	1800/56.1 6049	250 1.0	RETICON	-149.2			11783
131297		0.04	AOI	B.C.	1800/56.1 6049	250 1.0	RETICON	-149.4		TOPPED DEWAR @ 2355	9934
Ø B FILTER				B.C.	1800/56.1 6049	250 1.0	RETICON	-149.6			10295
3 B FILTER				B.C.	1800/56.1 6049	250 1.0	RETICON	-149.6		CLOUDS - FOCUS TEST	5574
Ø B FILTER				B.C.	1800/55.2 5959	250 .3	RETICON	-149.6			516
				B.C.	1800/55.2 5959	250 .3	RETICON	149.5			11031
±420s ±520s				B.C.	1800/55.2 5959	250 .3	RETICON	-149.5			

233

COURT.

Date SEPT 5/86. Fri-Sat. Observers M.H. - R.

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	HD 22928	03 35.8	+47 28	04:18	04:30	00°28E	+47°51		
	DARK			04:37	05:07				
	1986 Sept 9	New plateholders							
49798F1	Focus							FeNe A5	20/20
F2	"							"	"
	1986 Sep 10								
F3								FeNe A5	30/30
F4								"	"
F5								"	"
F6								"	"
F7								"	"

Spectr.

Focus

Spectr.

Exp. Mtr.

3 F77E

60, 07

Spectr. Temp. Dome Temp./Hum. Transparency Conditions 234

Focus

Spectr. Temp. Dome Temp./Hum. ... 12°C ... / 88%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H. Temp	Program	Remarks	Quality
3 FILTER 60,877		2.95	BS IV	B.C.	1800/55.2 595A	250/.3	RETICON	-14.6			3.87
				BC	1800/41.2	BS	III F	3		T=61° F=375	
				u	u	u	u	3		F=400	
				BC	1800/41.2	BS	IV 2F	1		T=60° F=388	
				u	u	u	u	3			
				u	u	u	u	4			
				u	u	u	u	2		copper slide	
				u	u	u	u	5			

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions 236

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
				BC	¹²⁰⁰ 41.2	BS	III 2F	1		$\bar{T} = 64^\circ$ $F = 385$	
				u	u	u	u	1		$T = 68^\circ$ $F = 384$	dk dk red red red
								2			sl blue sl blue
								3			sl blue v sl red 0.1
								4			v sl red 0.1
								5			v sl red 0.1 u

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions 238

Focus

Spectr. Temp. ... 56°F

Dome Temp./Hum. ... 10°C / 96%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				B.C.	1200/50.7 5440	B.S.	II ₁₀₀ -E	4		T=64°F F=382	
				B.C.	1200/50.7 5440	B.S.	II ₁₀₀ -E	5		mid area OK ends (cent. sl. red)	
				B.C.	1200/40.5 4310	B.S.	098-02-E	4		T=61°F F=384	OK
				B.C.	1200/40.5 4310	B.S.	098-02-E	5			cent. sl. red
				B.C.	830/40.2 4290	B.S.	II ₁₀₀ -E	4		T=61°F F=385½	sl. red
				B.C.	830/40.2 4290	B.S.	II ₁₀₀ -E	5			sl. red
8000		5.84	KOIII 12	B.C.	830/40.2 4290	B.S.	II ₁₀₀ -E	4	STD. VEL.	T=59°F F=386	OK
5027 1000		5.84	KOIII II	B.C.	1200/50.7 5440	B.S.	II ₁₀₀ -E	4	STD. VEL.	T=57°F F=385	OK
										TOWET DOME DRIPPING	

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Ilao's developed Sept 18 ^{*} 4 min @ 68°F

Emulsion Batches:

Tue-Wed
Date .. Sept. 16-17. 1886...

Observers ... Tn

* An error 4 min instead of 7 min
spot plate Ilao got 7 min
unfortunatelyIlao: e. S. y. ... 2.15. ... - 11096
Ilao: E. ... 3.15. ... - 29086
Ilao: F.

Plate No.	Object	R. A. 1900	Declination 1900	Starting Time E. S. T.	Ending Time E. S. T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49801	HD 182640	19 20.5	+2 55	19 46	20 23	0 23 W	+3 11	Fel/clear	890 985 866 640 524-700
49802	HD 164852	17 58.1	+20 50	20 33	22 45	4 09 W	+20 57	"	524-700
49802T	Spot Calc for	49801-02		15 min @ D4		17.5V 3900	15V 4300	15V 4810	
49803	HD 183656	19 25.6	+3 14	22 55	00 07	4 03 W	+3 31	Fel/clear	420 400 450
49803T	Spot Calc for	49803-04		15 min @		D4 15V 3900	D3 4300	D2 4810	
49804	HD 222368	23 34.8	+5 05	00 25	00 43	0 33 W	+5 40	Fel/clear	650 674
49804F1	Focus test					"	"	Fel/clear	750/130
49804F2	"					"	"	FeNe clear	60/60
49804F3	"					"	"	"	60/60
49804F4	Focus Tests	Sept 18 1886	Dome Temp = 58°F	H = 100% + inside		01 00 W	+21 06	FeNe/clear	10 sec 2: 10 sec 3: 10 22 10 34 10 23 10 34 10 23 10 34 10 23 10 35 01 00 W 1200 122
F5	Note all Lids of PHS put on with #s upright when Dork slide top is on the right							"	10 22 10 34
F6								"	10 23 10 34
F7								"	10 23 10 34
F8								"	10 23 10 35
F9								Fel/clear	01 00 W 1200 122
F10						01 00 W	+21 06	"	1200/122

Spectr. Temp. 51.9Dome Temp./Hum. 50.9 / 54.0Transparency Conditions part cloudy 290Focus 385

Spectr. Temp.

Dome Temp./Hum. 42.9 / 95.0 dome too wet any way by 2 AM

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
19,140 J=											
19,100 36240		3.68	F010	BC	1200/50.7	BS	IIIaJ-efg	4	Asm Sp		OK
3,200 T				"	"	BS	IIIaJ-efg	5	SB Bln	Some cloud	OK
4,000 40800	poor	5.19	B3.4	"	"		IIIaJ-efg				vw
4,000 T=											
2,500 6,500	S080	6.5	A0	BC	1200/50.7	BS	IIaO-E	4	Kub pgm	4 min dev. * T=48° cloud again To limit	sl wk
							IIaO-E				v
9,700	OK	4.64	F7V	BC	1200/50.7	BS	IIaO-E	4	std vel	T=48°	fine
				"	"	"	IIaO-E	4		T=48° set 385	center sl blue
				BC	1200/40.5	"	IIaF	4		T=47.5° set 387	center vs blue
				"	"	"	"	1		T=47.5° set 382	center blue
				BC	G4310 1200/40.5	BS	098	1		T=59.5° set 382	center blue
					"	"	"	2		" "	center Red
					"	"	"	3		" "	center std
					"	"	"	4		" "	center std
					"	"	"	5		" "	OK
					G4290 830/40.2	"	IIaO-E	4		T=59.5° set 384	OK
					"	"	"	5		T=59° " "	5080 center ref. blue

241

dew pt 7 min e 68°f

Emulsion Batches:

... II.0-E 315 -29086

Tues

Date Sept. 23 Observers J.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.
49805 T1	Full aperture exp test. With new semidiffuser, "Out" pos'n					0 0	-25°	FeNe clear	180 sec
T2	" " " "					" "	" "	" "	220 sec
Note	At least at -25° Dec s with this high humidity, Hartmann mask doesn't work, so no focus tests can be done.								
49805 T3	Repeat of Full aperture exp tests					0 0	-25	FeNe clear	40 sec
T4	" " " "					" "	" "	" "	50 sec

Spectr. Temp. ... 63°F

Dome Temp./Hum. 63°F / 100%+

Transparency Conditions ... semi clear ... but 242

Focus ... 384

much too humid didn't open but
did tests at -25°C Dec

Spectr. Temp.

Dome Temp./Hum.

Comparison (Filter) Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	B Filter					64290						
	2900				BC	830/402	BS	II ₀ -E	5			
	3816				"	"	"	"	4			
	Note - Everything in dome was wet, optical surfaces may also have had condensation on them											
	660				BC	830/402	BS	II ₀ -E	5		I realized that I was getting more	
	1366				"	"	"	"	4		than 400 cuts/min that I got.	

243

Wed-Thurs

Sept 25 Plates Dev 5 min @ 68°F T_n

Emulsion Batches:

... 11096 - c.f.g. 205 11096

Date Sept. 24-25/86..... 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.
49805	HD 170200	18 23.1	+6 08	19 09	21 35	3 05 W	+6 21	FeNe clear	757 2406 102A
49805T	Spot Calc for 49805-06				15 min @ D4	17.5V 15V 15V 3900 4300 4810			
49806	HD 182640	19 20.5	+2 55	21 41	22 27	3 00 W	+3 13	FeNe clear	1038 1050 1081
49806F1	Focus test (mask had been repaired earlier today)					3 00 W	"	"	4261 4245
49806F2	Repeat in the same of F1 to look for consistency					3 00 W	"	"	1672 862
	<i>Note</i> F2 is not a focus test due to forgetting to move decker to "stellar" for the stellar mask in place.								
49806F3	Proper repeat of F1					3 00 W	+3 13	FeNe clear	1690 2052

Spectr. Temp. 66°FDome Temp./Hum. $163^{\circ}\text{F}/52\%$ Transparency Conditions *Some cloud* \rightarrow *cloudy*.....Focus 382FoNe with new semi-diffuser "Out" pos'nSpectr. Temp. 64°FDome Temp./Hum. $160^{\circ}\text{F}/95\%$

244

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20,000 18,900	poor?	5.7	B8 IV-IV	BC	65440 1200/50.7	BS	III a-d-efg	4	Ly pgm	* comp exp 757 cnts/30 secs 2406 190 secs 140 secs	Faded/wk slant ✓✓
19000 9,500	OK \rightarrow poor	3.68 5.7	B3 IV	BC	1200/50.7	BS	III a-d-efg	5	Asm Sp KK	40 secs 40 secs cloud	Faded/wk slant
				"	"	"	II a 0	4		150/60 secs	OK
				"	"	"	"	4		60/30 secs	OK
A good test of something maybe at least the diff light through to exp motor										discarded	
				BC	1200/50.7	BS	II a 0	4		60/30 secs Set 382 slit T=64°F	OK

Spectr. Temp. 62.0°

Dome Temp./Hum. 60°/60%

Transparency Conditions. Cloudy in evening... 246

Focus 382

Spectr. Temp. 60

Dome Temp./Hum. 55°/80%

note - This problem for 49807E TF
 due to slit fld diaphragm
 being in place

Companso /Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		filter				BC	G4310X 1200/402	BS	IIaO-E	4		*Comp made exp meter rate very slow trials a/cel/slit	
	34-2	7,400	poor	5.94	G8II	"	"	"	"	4	std vel	Comp slow 200secs = 187 cts 400secs x 2 for Comp.	
	324	4,700	SSSO	"	"	"	"	150/10	"	4	"	cloud	
	65					"	"	"	098E	4	T=60.5°	comp = stellar 20sec 3168 20sec 3812	
	26					"	"	"	098 E	5	"	20sec 2,488 20sec 3798	
	1531	20 sec comp made = 509 cts				"	"	BS	"	4	" Set 383	Moved fld down diaphragm out.	
	3975	20 sec stellar = 1738 cts				"	"	BS	"	5	" Set 383		
	1008	20 sec comp = 540 cts				"	"	BS	"	5	" Set 383		
	365	20 sec stellar = 1760 cts											
Well, I goofed, I should have had G5440 for 50.7° tilt													
												T _n	
Note the difference in Exp meter rates between BS & 150u slit													
More than 2x as fast for slit stellar mode than for BS & 75x for Comp made													

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Thurs-Fri

Date Oct. 9-10. 186..... Observers J.A. f. some Stefan

Emulsion Batches:
8^m 69° P. H.A.O. E. 10.5 - 18096

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49812	HD 191026	20 02.6	+35 42	18 38	20 50	1 40 W	+36 06	Foke clear	528 540
49813	HD 207198	21 42.2	+61 59	20 58	22 35	1 44 W	+62 34	"	462 450 466
49814	HD 209975	22 02.1	+61 48	22 38	23 09	2 01 W	+62 19	Foke clear	700 638
49815	HD 277368	23 34.8	+5 05	23 15	23 33	0 49 W	+5 41	"	658 700
49815 F	Focus test					0 52 W	"	"	7254 1300

Stefan & me searched Fld of the Perseus "Fletcher" & T. draw. field of Region.
Experimented with TV CCD sensitivity; was able to see faintest stars on Polaris field.

Fri-Sat

Emulsion Batches:
8^m 69°P ~~IIAOT~~ 105-18096

Date Oct. 10-11/86..... Observers T.V.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49816	HD18365G	19 25.6	+3 14	18 36	20 01	1 31 W	+3 33	F212 C164-	449 144 157
49816T	Spot Calc for 49816					15 min @ 15V	09 03 3900 4300	02 4810	
	HD20115G	not done		no separation seen			+34 14		

Spectr.
Focu.
Spectr.

Exp. Mir.
S K
4/200

F.

Spectr. Temp. $+43^{\circ}\text{F}$Dome Temp./Hum. $38^{\circ}\text{F}/62\%$ Transparency Conditions S/hozy 252

Focus 390

Spectr. Temp. $+41^{\circ}\text{C}$Dome Temp./Hum. $34^{\circ}\text{F}/75\%$

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality	
		5 K 4600	OK	6	AO	BC	G 4290 830/40.2	BS	IIaO-E	4	Kub p94m	2022 x3 for comp	fine	
									IIaO-E				vr	
		Flc drawn on back of card							BS	IIaO-E	5	KK	Too faint to seeing best	

Wed. Thurs
Date Oct 15-16/86 Observers Bt-Tu.....

Emulsion Batches:

*I.A.O.F. 105... - 18096

I.A.O.F. 105... - 10106

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49817	HD 191026	20 026	+35 42	20:50	21 55	3 09W	+36 03	FeNe clear	647 650 629
49818	HD 221264	23 25.5	+30 18	22 00	00:55	2 39W	+30 52	"	625 630 652
49818F1	Focus test					00	0° approx	"	1920 1880
49818T	Spot cal'n for 49818				15 mins	15V 3400	D4 D3 4300	D2 4310	
	@ 0° EST Oct 17 additional focus tests only								
49818F2	Focus tests					00	-7° 30	FeNe clear	1790 2170 1370 2117
F3									
F4									
F5									
F6									

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Sat-Sun

Emulsion Batches:

...I.C.O.E... 1D5..... ~ 10106

Date Oct 18-19/56..... Observers ..K.K. 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.
49819	HD 201156 B	21 02.7	+33 44	18 58	22 04	2 28 W	+34 14	Feuc clear	297 313 287
49819T	Spot Calc	for 49819-20 + next night (21-24)			15 min @ 15V	D4 3980	D3 4300	D2 4840	
49820	HD 201156 A	21 02.7	+33 44	22 16	23 45	4 09 W	+34 14	Feuc clear	232 301 200

Spectr. Temp. 48°FDome Temp./Hum. $45^{\circ}\text{F}/70\%$ Transparency Conditions *Fine*..... 256Focus 389Spectr. Temp. 45°FDome Temp./Hum. $40^{\circ}\text{F}/80\%$ Comparison
/Filtered Exp

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Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Blue filter 1243	2"	8.1	A2	BE	G4290 830/40.2	150/3 BS	IIc0-E	4	Asm Sp tk	The tinted NE comp	fine *
1210	2"	8.1	A2	BE	G4290 830/40.2	150/3 BS	IIc0-E	4	Asm Sp tk	The tinted NE comp	fine *
Note -	Comp	"Iris" in								Slit mode for remaining Comps is ^{Spol hole} mass	
1200	2"	7.3	A	BC	G4290 830/40.2	150/3	IIc0-E	4	Asm sp KK		v-v *
1225	2"	7.3	A	BC	G4290 830/40.2	150/3	IIc0-E	4	Asm sp KK		fine *
										* ie number on left upper comp interrupted (ie Jordon slit)	

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Mon. Tues

Date Oct. 20.21.186. Observers Bl. Tr.....

Emulsion Batches:

IIad.E. 10.5 - 10.10.6
 * IIad.E. 12. - 20.10.6

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49821	HD 191026	20 02.6	+35 42	18 15	19 12	0 45W	+30 03	FeNe clear	500 25 580 " 576 "
49822	HD 195987	20 29.4	+41 32	19 19	22 49	3 56 W	+41 58	"	591-20 540 25 620-25 444-20
49823	✓ Vesta	¹⁹⁸⁶⁸ 00 39.1	¹⁹⁸⁶⁸ -8 26	23 15	02 02	3 03W	-8 21	"	470-20 475 20 465 "
49824	✓ HD 22484	3 31.8	+00 05	02 11	03 07	1 10 W	+0 30	"	462-0 1500
49824F	Focus test					1 20W	±10°		1500
49825	HD 8890	1 22.6	+88 46	03 34	03 51	3 32 W	+89 08	FeNe clear	35 35
49826	"	"	"	04 03	04 14	3 55W	"	"	35 35
49826T	Spot Calc for	49825-26			15 min @ 15V	04 3900	03 A300	03 AgCl FeNe	
49826F	Focus test					0 0			70 24?

Spectr. Temp. 5.40°

Dome Temp./Hum. 12°C / 66%

Transparency Conditions Sl. hazy... - some cloud

Focus ... 3.83

258

Spectr. Temp. 4.85°

Dome Temp./Hum. 7°C / 90%

Comparison Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		4004					1200						
		4039	good	6.2	KOTV	BC	50.7	135	TTaOE	4	P, KK Pgm		Fine slant
		3260	OK	7.8	G9V	"	"	"	"	4	KK Hsm Sp	broken - 2 pieces like Ferrite	
		3025											
		1615	so so	7	G	"	830/402	"	"	4	Std Vel	T=52°C set 387 Some cloud	slant
		362											
		2715											
		3314	poor	4.2	F8V	"				4	Std Vel		
									"	4		T=49°C set 387	com top slant
		2509	poor	2	F	BC	1200/50.7	135	TTaOE*	4	KK Hsm Sp	T=49°C set 384 Reversal	Fine
		3354		"	"	"	"	"	"	"	"		Fine
									"				vr
		1689											
		2587				BC	1200/50.7	135	TTaOE	4		T=48.5°C	OK

All plates show (dust?) in stellar image. Slit plates right before show similar effect in same area but in upper comp.

Emulsion Batches:

D^m 67°

III as of 215-11096

Date Oct. 22-23..... 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.
49827	NGC 7662	¹⁹⁸⁰ 23 25.0	+42 25	18 55	19 29	2 03E	+42 34		
49828	"	"	"	19 46	20 19	1 15E	+42 24		
Note, I found early in exp 49828, that Exp meter drastically slowed upon turning off even low lights									
49829	NGC 7662	23 25.0	+42 25	20 28	20 49	0 45E	+42 24		
49830	"	"	"	21 01	21 22	0 11 E	+42 33		
49830T	Spot Calc for 49827	-30			Using D4	17.5V 3400	15V 4300	15V 4800	

Spectr. Temp. ... 54°F

Dome Temp./Hum. ... 48°F/80%

Transparency Conditions ... fine - cloudy ... 260

Focus ... 3.85

Spectr. Temp. ... 50°F

Dome Temp./Hum. ... 45°F/95%

Comp. Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		no filter				BC							
		4,850				slitless	1800/46°	—	III safety	4	Rt planetary	Normal unreversed side	
		6,400				"	"	"	"	4	"	Reversed some cloud	
		Scales still in & outside dark lamp. Now I have cut all light possible & may repeat previous exps.											
		3,600				BC	1800/46°	slitless	III safety	4	Rt Planetary	Reverse side T=53°F at end some cloud	
		3,680				"	"	"	"	4	"	unreversed some cloud T=51°F at end	
									III safety				✓

Emulsion Batches:

Tues - Wed
 Date Oct. 28-29/86..... Observers K.S. - T.M. / Pt - 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.	
	Focus tests							FeNe clear	30/30	
RC00955	Vega							"	20	
956	Vega				19 07	2 44W		"	20	
959	HD183912 Alberio	¹⁹⁸⁰ 19 29.9	¹⁹⁸⁰ +27 55	19 15		W		"	20/20	
	Dark (with TV on) x2									
	Dark (without TV) x2									
	F11 Fields							CA AS	40	
	HD 202109	¹⁹⁸⁰ 21 12.1	¹⁹⁸⁰ +30 08	21 32	23 36		W	"	20/20	
	HD 215182	¹⁹⁵⁰ 22 42	¹⁹⁵⁰ +30 07	23 48	00 57	4 35W		"	20/20	
	HD 18925	¹⁹⁰⁰ 02 57.6	¹⁹⁰⁰ +53 07	01 16	02 25		W	"	20/20	
Oct 29	Tests after tour - Generator off for both darks only stair lights on									
	5 S commands before 1st dark on Tests #1 file Tn									
	Dark	60 sec, 10x, 4 fixed patterns	(Spec controller on)	stair lights on -						
	"	" " "	"	no lights on						
	"	60 sec, 3x, 4	"	Spec cont off						
#2 file	"	600, 2x, 4	"	" " "						

Spectr. Temp.

Dome Temp./Hum. 52.9 / 74.0

Transparency Conditions buzzy - cloudy 262

Focus

Spectr. Temp.

Dome Temp./Hum. 195.7

Comp. Filter	Exp.	Exp. Mtr. *	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		Blue filter				BC	G5110 12001	25d15	Reticon			Disc #13 * Blue filter in Tel beam	
	30	20,400				"	"	"	"			with	High NOISES
	20	10,000				"	"	"	"			OK	"
	20	20,000		4.2	K517 +B	BC	"	"	"		maybe some of Blue comp star	about 200 counts T = -152.7°C	"
note - TV CCD seems to cause noise on Reticon readout													
	46					BC	G5110 12001	25d15	Reticon		std		
	20	80,000				"	"	"	"		std for 2 leg	some cloud = TV off -152.2°C for readout	
	20	76,000		3.8	G8	"	"	"	"			T = -152.1	
	20	79,000		3.63	G8+ ABV	"	"	"	"			T = -151.8 cloud	
at ground level													
		slit uncovered				BC	G5110 12001	25d15	Reticon		(starting at 0 957	T = -163.2	
		slit covered								"	0 9723	T = -163.2	
		start at 1 19 50 (not real time)								"	1 19 50	T = -163.2	
		1 49 03								"	1 49 03	T = -163.2	

Thurs - Fri

Date Oct. 30-31/1966 Observers KK-T.M./XBT-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 Sol. Corr.	Declination	Comparison Type/Filter	Exp.
	Vega			18 13	18 21			FENE CLEAR	20
	"			18 22	18 28			"	30
5	HD 202109	21 12.1	+30 08	18 42	20 21	-19.58		"	20-30
	4 Ducks							H5 C2	40
12	HD 215182	¹⁹⁰⁰ 22 383	¹⁹⁰⁰ +29 42	20 42	22 01	-16.72	+30 14	FENE CLEAR	20-30
15	8 Per	2 57.6	+53 07	22 15	23 22	9.17		"	20-30
18	0 Tau	^{1986.5} 3 24.1	^{1986.5} +8 59	23 36	01 27	7.14		"	20-30
	Comp for NGC 2392							FENE A4	30
	" " "	"						"	30
	NGC 2392	¹⁹⁸⁰ 7 28.0	¹⁹⁸⁰ +20 57	02 04	02 49			"	25
	"	"	"	03 01	05 50			"	2 1/2
	Flat Fields	x2						C2A1 Targets	30

Spectr. Temp. Dome Temp./Hum. 40°F / 54%

Transparency Conditions Fair 264

Focus

Note CCD turned off for all 1- and 2-

Spectr. Temp. Dome Temp./Hum. 30°F / 85%

* Blue filter before slit

Comparison Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	PA 7	Program	Remarks	Quality
2x	2K5,000	bed		AOV	BC	G5110 1200 gratings	200/15	Photocopy			Forget to turn off CCD on readout	quite OK
1x	200,000	"		"	"	"	"	"			no CCD on readout	
2x	100,000	"		G8II	"	"	"	"	-151.3			
2x				"	"	"	"	"			1st has spikes, rest OK,	
2x	120,000	near	3.8	G804F	"	"	"	"	-151.2			1868
2x	140,048		3.63	G8II	"	"	"	"	-151.4			
2x	100,200 110-5.1 for	near	4.49	G8111	"	"	"	"	-151.6			
2x					BC	G6049 1800L/mm	"	"	-151.5	Blue filter removed	Topping up at 01 35 (2F)	
2x					"	"	"	"				
2x	1,240				"	"	"	"	-151.5	going for Hox	On central star	657/400
2x	8,688				"	"	200/10	"	-151.6		On central star again note longer slit nice	
2x					"	"	"	"	-151.6			

o T...

265

Sun - 11.20.11

Date Nov 2-3. 18.6 Observers T. L. J.

Emulsion Batches:

5^m 68° 098-02E 0985-10106
 7° 68° T_n D. 40-E LON C

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49831	CH Cyg HD 182917	19 21.9	+50 02	18 09	19 51	2 56 W	+50 20	FeNe clear	6-6
49831T	Spot Coll. for	49831-	34.		15 min @	15V03 4810	7V D1 17.2	7V D2 5450	
49832	HD 207076	21 11.4	-2 40	20 03	21 09	2 0 W	-2 08	FeNe clear	3-3
49832	HD 192640	20 10.8	+36 30	21 18	22 18	W	+36 56	FeNe clear	3-3
49833	"	"	"	22 22	23 03	5 20 W	"	"	3-3
49834	HD 22484	3 31.8	+0 05	23 24	23 42	1 22 E	+0 29	"	3-3
49834F1	Focus test					1 10 E	"	"	1/8
F2	" "					"	"	"	1/8
49835	HD 22484	3 31.8	+0 05	00 13	00 40	0 22 E	"	"	2-2-20
49835F1	Focus test					"	"	"	30
						"	"	"	

Spectr. Temp. $+5^{\circ}\text{F}$ Dome Temp./Hum. $+40^{\circ}\text{F}/58\%$ Transparency Conditions *S. haze - thin cloud - thicker*Focus 3.88 Spectr. Temp. 37.5°F Dome Temp./Hum. $+31^{\circ}\text{F}/90\%$

266

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
390	OK	29	M ₁₂	BC	G4310 1200/40.5	BS	098-02E	4	Obs pgm	RA oscillate at end 6 sec comp = 37 cuts	
3002	OK	28	M7III	BC	1200/40.5	BS	"	4	Obs pgm std	Dark slide in getting cloudy lost exp	v
20050	OK	5.11	AJ V	BC	1200/40.5	BS	098-02E	4	Grp pgm		
0660	3050	"	"	"	"	"	"	4	"		
5540								4			
7570	OK	25	F8V	"	"	"	"	4	std vel	Hopefully everything set ok now 3 sec = 2,760 cuts T=397	
7200				"	"	"	"	4		T=385 F set 398	OK
				"	"	"	"	4		" "	OK
Blue filter				"	"	"	"	2			OK
6840	OK	25	F8V	"	G+290 830/40.2	BS	Ti60E	4	std vel	T=385 set 390	
603 cuts				"	"	"	"	4		T=37.5 set 390	sl blue
759				"	"	"	"	2		FeNo lamp failed	

Note Exps 49231-232 had faulty Compas due to Incorrect diaphragm and half diffuser slide not fully up. Small hole noticed that Exp meter was counting too slow. Well, I finally did realize that.

T₁₉

Emulsion Batches:

D.A.E. 105 - 20106

Date 1986 Nov. 4/5..... Observers Blm-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.
49836	Focus test					0 10W	+10 30	60 sec 25 sec	1503 2042
49836	HD 187691	19 46.2	+10 10	17 54	18 42	1 29 W	+10 33	Rc Ne Clear	30-30
49837	HD 193322	20 14.8	+40 25	18 48	20 01	2 20 W	+40 52	Rc Ne Clear	20-20-20
49838	HD 218915	23 06.7	+52 31	20 07	23 26	2 57 W	+53 09	Rc Ne Clear	20-20-20
49838T	Spot Calc for	49836-38			15 min	D4 15V 3900	D3 4300	D2 4810	
49838F1	Focus test.					0 0	+30°	Rc Ne Clear	50 35
49838F2	" "					"	"	"	55 27

269

Thurs - Fri

Dev 8 min @ 68°F T_n

Emulsion Batches:

..II.C.E..105...-03116

Date 1986 Nov. 6-7..... 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.
49839	HD 188001	19 47.9	+18 25	17 47	18 31	1 29 W	+18 44	FoNe Uvar	20 43 20 40 20 40
49840	HD 187691	19 46.2	+10 10	18 34	18 55	1 50 W	+10 28	"	30 30
49841	HD 207538	21 44.6	+59 14	19 01	21 37	2 36 W	+59 45	"	20 22 20 20
49841T	Spot Calc for 49839-43				15 min @ 15V		D4 D3 3900 4300	D2 48/10	
49842	HD 220057	23 15.7	+60 37	21 44	23 33	3 01 W	+61 10	FoNe Uvar	20 20 20
49843	HD 34656	05 14.0	+37 20	23 42	01 41	0 55 E	+37 31	"	20 20

Spectr. Temp. $+47^{\circ}\text{F}$Dome Temp./Hum. $47^{\circ}/75\%$ Transparency Conditions $5/192\gamma$ 270

Focus... 388.....

Spectr. Temp. $+44^{\circ}\text{F}$Dome Temp./Hum. $44^{\circ}/95\%$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
5060	fine	6.24	075V	BC	830/40.2	BS	II ₀ -E	4	B _h O*		Fine
4980	1-2?										
5460))	5.7	F8V	"	"	"	"	4	std vel		Fine
5570	"	7.64	09V	"	"	"	"	4	B _h O*		v. slow
4700											
3600	3850										
3224	2-3	6.94	B2V	BC	830/40.2	BS	"	4	runaway	RH oscillate 3 hr W	Fine
3300										some cloud	
4690	2.4	6.81	07V	"	"	"	"	4	B _h O*	T = 46 ^o F set 388	Fine

271

Dev Nov 11 Time 689 T_n

Emulsion Batches:

Mon-Tues
Date Nov. 10-11. 1946... Observers ... J. B. ... Dubinski...

II. a. 0. - E. 105 20106
* II. a. 0. - E. 105. 0.3.116

Plate No.	Object	R. A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49844	HD 191026	20 02.6	+35 42	17 56	19 38	2 37W	+36 06	Fe No Clear	85 25 25
49844T	Spot Calc for 49844		-45			15 min @ 15V	D4 D3 D2 3900 4300 4810		
49845	HD 6582	20 01.6 01 01.6	+54 26	19 55	20 50*	1 13 E	+55 04	Fe No Clear	25 25 25
49845F1	Focus test					0	+20°	"	100 50
F2	" "					⊖	"	"	50 100 50

Spectr. Temp. $+40^{\circ}\text{F}$Dome Temp./Hum. $34^{\circ}\text{F}/60\%$ Transparency Conditions *Some cloud*..... 272Focus 388Spectr. Temp. $+36^{\circ}\text{F}$Dome Temp./Hum. 180% Comparison
Filter ExpNo. 95
at 25
P2
43
55
60
80
100
50

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
4900 3533	2"	6.21	KOIV	BC	5110 1200/50.7	BS	IIa0-E	4	P _g -kk p _{gm}		Comp slit is re fine
				H	4	"	IIa0-E				✓
2,173 463	2"	5.81	65Vp	BC	5110 1200/50.7	BS	IIa0-E	4	Asun Sp tk	* real end @ 21 11 but too cloud slow for last 20 min	Comp slit is re wk
2561 894				✓	"	"	IIa0-E	2			✓ slit blue
				✓	"	"	"	4		very close to each other visually	✓ slit blue

273

Thurs - Fri

Date Nov. 13-14/86..... Observers Bl. - T_n.....

Emulsion Batches:

..II.0.E..105.....03116

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49846 ✓	HD 197691	19 46.2	+10 10	17 41	18 30	1 55 W	+10 33	FoNe 0 clear 5	30-30
49847	HD 108	00 00.9	+63 07	18 47	23 36	02 43 W	+63 47	"	200-20
49847 T	Spot Calc for	49846 -	47		15 min @ 150	D4 3900	D3 D2 4300 4510		
49847 F1	Focus test					0 0	+0 02	12N Chimp	800x 300x
49847 F2	"					"	"	"	"
49847 F3	"					"	"	"	1100x "

Spectr.

Focus

Spectr.

Exp. Mtr.

1572

1572

1572

1572

1572

1572

1572

1572

1572

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1572

1572

1572

1572

1572

Spectr. Temp. $+27.0^{\circ}\text{F}$Dome Temp./Hum. $+70^{\circ}\text{F} / 60\%$ Transparency Conditions *Fine - Cloud by 23 hrs*.....Focus 394

274

Spectr. Temp. $+27.5^{\circ}\text{F}$Dome Temp./Hum. $+18^{\circ}\text{F} / 60\%$

Comparison Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		Blue filter											
		036	OK	5.7	FBI	BC	G4290 830/40.2	BS	T ₆₀ E	4	Std Vel	Oscillation @ end	* fine
		522 + 2850	* OK	7.55 66x	06F? p ₂	"	"	"	T ₆₀ E	4	Bln 0*	* seeing going bad T=25 ⁺ Set 395	fine
									T ₆₀ E			RA oscillation @ 250W	✓
		1852 837				BC	830/40.2	BS	"	4	X }	T=225 ⁺ Set 395	* center/blue
						"	"	"	"	2	X }	Hartmann mask not	* center/blue
						"	"	"	098	5		too trustworthy	

Again - Can we really count on Mask stopping at exact same position each time? [It fell out when attempting F3]

* Note - All spectra starting with 49846 Thru 49848 F3 are displaced to one edge much more than previous spectra

275

Mon-Tues

Date Nov. 17. 18. 186. Observers B. L. Tr.....

Emulsion Batches:

...D. O. - E... 1D5 - 03116
* D. O. - E... 1D5 - 13116

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49848	HD 191026	20 02.6	+35 42	17: 36	18: 36	2 00W	+36 09	Fe Ne clear	20 20 20
49848T	Spot Cal'n for	49848.			15 min 15V 3900	D4 03 4300	D2 4810		
49848 F1	Focus test			Note - I always return to "H" home after		0 0	+30 approx	Fe 110 clear	110 sec 30 sec
F2	"			#2 - "stellar" prsn before going to #1 for		0 0	"	"	100 sec 25 sec
F3	"			succeeding focus tests, - old habit when		0 0	"	"	90 sec 25 sec
				it was once necessary I think.					

Spectr.

Focus

Spectr.

Exp. Mtr.

4534

4123

2655

252

2461

3071

256

247

Spectr. Temp. *40°F*.....Dome Temp./Hum. *38°F / 65%*..Transparency Conditions *Ok at 1st - then cloud*.....Focus *387*.....

276

Spectr. Temp. *40°F*.....Dome Temp./Hum. *37°F / 85%*.....

Comparison Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	4034					1200						*
	4123		6.21	KoTV	BC	507	BS	II ₄₀ -E	4	Ry/IKK	maybe labelled "47"?	Fine
								II ₄₀ -E				✓
	2685							II ₄₀ -E*				✓*
	2372				BC	1200/507	BS	II ₄₀ -E	4		T = 40°F Set 387	OK
	2461				"	"	"	"	2		"	center blue
	2071				"	"	"	"			"	center red
	2156				"	"	"	"	5		"	center red -0.1 (slope)
	1977				"	"	"	"			"	
											* Note, previous page	

3116
Spectr. Temp. ... 40°f

Dome Temp./Hum. 40°f / 74%

Transparency Conditions ... hazy 278

Focus ... 387

Spectr. Temp. ... 40°f

Dome Temp./Hum. 43.5°f / 95%

Comparison Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
+ 35-50	Blue Filter not functioning	poor	6.21	KClO ₄	BC	1200/50.7	BS	II ₄ B-E	4	Asm Sp KK	Done manually	Comp stuck fine
*	Some unknowns as to full Comp exp. I do know I put 50 secs on with "clear" aperture 1.5 hrs into exposure.											

Spectr. Temp. 41.0°f.....

Dome Temp./Hum. 43.8°f / 76%

Transparency Conditions some cloud → lots of cloud

Focus 390.....

280

Spectr. Temp. 37.5°f.....

Dome Temp./Hum. 43.2°f / 97%

Comparison Filter Exp.	Exp. Mtr.	Seeing	Pig. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Blue Filter	6295	OK	4.64	FTV	BC	830/40.2	BS	IIa0-E	4	Std Vel	Fe Ne comp #1 #2 807-812 cts	Fine
3,500	4,500	fine	7.54	095V	"	"	"	"	4	Bk 0*	#1 #2 #3 RA oscillation 702 685 711 cts 215hrW	Fine
	570											
	2,650	So So	7.85	065V	BC	830/40.2	BS	IIa0-E	4	Bk 0*	#1 #2 #3 cloud 698 700 714	WK
	counts										Note, There is a companion star that may contribute to spectrum ↑	
	2159				BC	830/40.2	BS	IIa0-E	4			center sl blue
	2169				"	"	BS	IIa0-E	4		#1 #2 #3 955 967 973	
	blue filter											
	1/46				BC	64510 1200/40.5	BS	09802e	4		T = 23°F set 395	center vs blue
					"	"	"	"	5			center sl blue

283

Fri - Sat

Emulsion Batches:
8^m 680 ..IIa0-E..105..131.6

Date Dec. 5-6/86..... Observers ..TJ - KK.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49854	HD 188041	19 53.3	-3 07	17 28	18 22	3 09 W	-2 57	FeNe clear	*
49855	HD 203156	21 15.4	+37 49	18 42	19 28	2 50 W	+38 23	FeNe clear	30- 3030
49855T	Spot Colls	for	49854-55	15 min @	15V	D4 3900	D3 4300	D2 4800	
49856	NGC 7662	23	-42	19 59	20 11				
Dec 10/86		Focus tests		27 ⁿ EST Dome T = 22 °F					
49856 F1	Focus test	}	Note: detector coupler a bit stiff. Normal for cold weather.			0 0	+1 00	FeNe clear	90 30
F2	" "			0 0	"	"	90 30		
F3	" "			"	"	"	90 30		
F4	" "			"	"	"	90 30		

Spectr. Temp. 32°f Dome Temp./Hum. $42.5^{\circ}\text{f}/48\%$ Transparency Conditions \dots getting cloudy \dots 284.Focus 3.92 Spectr. Temp. 32°f Dome Temp./Hum. $42.6^{\circ}\text{f}/50\%$

New D19

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Blue filter 5287 4178	poor	5.85	A5p	BC	G5440 1200/50.7	BS	IIa0-E	4	A5p Sp Kk	* 1st comp 9th comp (1320 or 2nd) OK oustrandle (718 end) comp broad?	OK
<p>note problems with decker & Aperture - BS may have been bumped (not ideal) ←</p>											
4165 2815	ot	36.5	2G	BC	G4290 830/40.2	BS	IIa0-E	4	Ceph-Rm	oscillation at start 2.2 hrs West	fine vr
					54270 1200/40.5	slitless	IIIa0-E	4	clouded out		BLANK
<p>↓ Note at Far right of Exp Box (IIa0)</p>											
Spect Temp = 26°f											
no exp meter				BC	G5440 1200/50.7	BS	IIa0-E	5	T = 26°f Set 392		central e Blason signal in eye
" " "				"	"	"	"	4	" "		central in eye
"				"	G4290 830/40.2	"	IIa0-E	4	T = 26°f Set 395		central in eye
"				"	G4290 830/40.2	"	"	5	" "		central in eye
<p>Note I made sure of the convention of having PH Tops show PH₁ in same sense as PH₂ on bottom of PH.</p>											
<p>Note I also made sure Hartman mask has in fact reached each intended posn.</p>											
<p>→ I take Mask back home before going to next "Comp" Posn, is not "Still" → "comp" directly.</p>											

285

098s 4.5 min @ 66°F

Emulsion Batches:

Dec 11/86

...C.98-02E.....Q5116

Date Dec 11-12/86..... Observers 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.
49857 F1	Focus tests (after this afternoon's rotah adjs)			19 35		0 0	+5° 03	FeNe clear	70 25
F2	"	"			19 45	"	"	"	"
F3	"			Repeat of F1 to look for consistency		"	"	"	"
1986 Dec 17		KK							
49857 T1	Test exposure				Comparison	beam	F/6	W 1/116	2 ^s
T2	"						F/18	W 1/116	1 ^s
	Performed another plate holder mount rotation						— raised blue	by	
F4	Focus							FeNe clear	45 45
1986 Dec 17	Tm			Dome temp = 33°F	17 40	18 30			
49857 F5	Focus tests					0 0	+4 44	FeNe clear	110 45
F6						"	"	"	40 45
F7	Repeat of F5					"	"	"	"
F8	G 17 focus tests					"	"	"	110 45
F9						"	"	"	110 45
F10						"	"	"	"

287

Emulsion Batches:

Date Dec 18 1986 Observers KIC

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49857 T3	Illumination test - RS							Tungsten FeNe	5 ^s 10 ^s
T4	"	"	"			"	"	"	10 ^s 10 ^s
F11	Focus test (after ph rotation)					no diffuser		FeNe	10 ^s comp 5 ^s stella
cont F12	"	"	"	"	"	w diffuser	01 ⁰ 05 ¹	FeNe clear	12 ^s 4 ^s
F12	More focus tests Tn					0 0	01 05	FeNe clear	30 ^s 15 ^s 10 ^s 15 ^s
F13						"	"	"	45 ^s 15 ^s
F14	G12 focus test - (same set as for 1200/40.5 grating)					"	"	"	60 20

Spect

Focus

Spect

Exp. M

180

250

332

352

37

353

293

Emulsion Batches:

8^m68^o .. Del. E. 3 D.S. - 05126

Date Jan. 4-5 / 1947..... Observers .. Tr..... (Bln. checking on me)

wash water at 48^oF (No hot water)

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp
49861	HD 37022 C	05 30.4	-5 27	21 21	22 01	0 53 E	^{minus} + 5 09	FeNe clear	30-30-30
49862	HD 22484	03 31.8	+0 05	22 12	22 32	1 35 W	+0 24	"	30-30-30
49862 T	Spot Calc for 49861-67			15 min @ 15V	3900	4300	4810		
49863	HD 37043	05 30.5	-5 59	22 39	22 44	0 12 E	-5 43	FeNe clear	45-45
49864	HD 37742	05 35.7	-2 00	22 48	22 55	0 5 E	-1 45	"	45-45
49865	HD 46150	06 26.6	+5 00	23 01	00 37	0 55 W	+5 08	"	30-30-30
49866	HD 47432	06 33.5	+1 42	00 41	02 24	2 25 W	+1 49	"	30-30-30
49867	HD 47839	06 35.5	+9 59	02 29	02 46	2 47 W	+10 07	"	50-50
49867 F	Focus test					"	"	"	90-45

8/26
100

Spectr. Temp. 30°f
 Focus 39.4
 Spectr. Temp 29.5°f

Dome Temp./Hum. 72.6°f / 78%
 Dome Temp./Hum 72.4°f / 95%

Transparency Conditions S. hazy - cloudy

294

Companso Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	4700										41 42 43 Fe Fe exp	
	4545	OK	5.15	06ep	BC	G 4290 830/402	BS	II40-E	5	Bh 0*	687 692 689	fine
	3386 3500	so so	4.28	F8V	"	"	"	"	5	std Vel		fine
								"				
	9,200	poor	2.53	09.111	BC	830/402	BS	II40-E	5	Bh-0*		fine
	9,374	"	1.57	09.516	"	"	"	"	5	"		fine
	4500 4520	so so	6.86	05V	"	"	"	"	5	"		fine
	4500 4500	poor	6.36	09.716	"	"	"	"	5	"	RH oscilator @ 2 20W some cloud	fine
	9060	OK	4.40	07V	"	"	"	"	5	"	cloud	fine
					"	"	"	098	5		Set 394 T=29.5°f Blueens Red Redend Blue	
											Big tilt	

295

Mon - Tues

Emulsion Batches:

8^m 68°F II.G.O.E..3.D.S....0.51.26

Date 1987 January 5/6 Observers Blk - 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.
49868	HD 37022c	05 ^h 30 ^m .4	-05° 27'	19:52	20:21	02:31 E	-5° 12'	Fe Ne Clear	30-30
49869	HD 22494	03 ^h 31 ^m .8	+00° 05'	20:31	20:48	00 06 E	+00° 34'	Fe Ne Clear	45-45
49870	HD 47839	06 ^h 35 ^m .5	+09° 59'	20:54	21:06	02:52 E	+10° 07'	Fe Ne Clear	45-45
49871	HD 48099	06 ^h 36 ^m .6	+06° 27'	21:12	22:14	01:44 E	+06 34'	Fe Ne Clear	30-30
49871 T	Spot Calc for 49868-71			15 min @ 15V		D4 D3 3900 4300	D2 4810		
49871 F1	Focus test (PH clamped in, deliberately to the left in mount)					0 0	-5 50	Fe Ne clear	70-75
49871 F2	" " (PH " " " to the Right in mount)					0 0	"	"	70-75
EST 22 hrs Jan 8/87									Tests to verify effects seen in F1, F2
49871 F3	Micro focus tests (PH clamped @ far right in PH mount)					0 0	+5 05	Fe Ne clear	150/50
F4	" (PH clamped @ Far Left in PH mount)					"	"	"	130/40
F5	" (PH clamped in normally, hopefully, between extreme R & L)					"	"	"	"
F6	Repeat of F3					0 0	"	"	70/25
	Dev F3- F6 @ 5 min 65°F -								<u>all appear OK</u> Tn

Spectr. Temp. 32°F Dome Temp./Hum $30^{\circ}\text{F}/85\%$ Transparency Conditions $\text{Slight Haze w/ scattered cloud.}$ Focus 394

296

Spectr. Temp. 32.5°F Dome Temp./Hum $28^{\circ}\text{F}/90\%$

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
4670	ok	5.15	06ep	BC	G 4290 830/40.2	BS	IIa-OE	5	Blu O*		fine
4512	"	4.28	FSV	BC	4290 830/40.2	BS	IIa-OE	5	Std. Vel.		fine
7000	"	4.40	07V((F))	BC	4290 530/40.2	BS	IIa-OE	5	Blu O*		fine
9172	"	6.33	07V	BC	4290 830/40.2	BS	IIa-OE	5	Blu O*	Hazy \rightarrow Cloud	fine
4506							IIa-OE				
3207				BC	830/40.2	BS	098	5		Set 394 T=32.5 $^{\circ}$	OK sl:lt Res:sh,H
				"	"	"	098	5		" "	extreme Red in Blue
Tilt of Grating set manually, mirror on "disabled" Dome Temp = 0°F											
3567				BC	830/40.2	BS	IIIaJ-E	5		Set 394 T=31 $^{\circ}\text{F}$	Had shift in Blue
3911				"	"	"	"	5		"	sl:lt OK
3156				"	"	"	"	5		"	"
3123				"	"	"	098	5		"	"
Note: This is also a "fog level" test of the dome IIIaJs is IIIaJ-E -20105											

297

Date Jan 13/14 1987 Observers Rm-Tn

Emulsion Batches:

8m 680 IIaO-E 3D5-01057

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49872F	Focus test			17 40	0 0	0 0	0 0	FoNe Clear	70-75
49872	HD 203156	21 15.4	+37 49	17 51	18 32	4 ^m 28W	+38 21	"	30-30-30
49872T	Spot Calc for	49872-7A				13 min @ 15V	3900 4300	DZ 4810	
49873	HD 22484	3 ^h 31.8	+0° 05	18 47	19 13	1 ^m 08E	+0 34	FoN Clear	40-40
49874	HD 37022 2C	5 ^h 30.4	-05° 27	19 41	21 00	1 ^m 18E	-5 13	"	40-40
	HD 44990 = T Mon	6^h 19.8	+07° 08	21^h 09				"	30
49874F	Focus test					0 0		FoNe Clear	70-75

Spectr. Temp. +36°F.....

Dome Temp./Hum. 32°F/56%

Transparency Conditions . some cloud..... 298

Focus ... 39.3.....

Spectr. Temp. +32°F.....

Dome Temp./Hum. 32°F/90%

Comparison
Filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Blue Filter				BC	830/40.2	BS	098	5			OK but some tilt
3333 1866	OK	6	GO	"	"	"	IIa0-E	5	Ceph-Rm	S set 38°21'	OK think slight
		4.3	F8I	8	8	8	IIa0-E				missing 79810 spots
6,267	5050	4.3V	F8I	"	"	"	IIa0-E	5	Std. Vel	cloud	fine
9,000 ²	OK	5.15	Ocep	"	"	"	"	5	131n O*	thin cloud	OK but uneven exp
		2.7	GOI			"	"	5	Ceph-Rm	thicker cloud	
				BC	1200/50.7	BS	IIa0-E	5		T=329 set 391	Center 5 red in blue 5 Blue at mid 25

301

Sat-Sun

Date Jan. 24-25/87. Observers K.K.-T.H.....

Emulsion Batches:

R.Fe..... 05126

O.98E..... 01126

Ila. 0..... 3P5-01057

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49876	NGC 2392	¹⁹⁸⁰ 7 28.0	¹⁹⁹⁰ +20 57	18:48	19:08	4 19E	+		
49877	"	"	"	19 10	19 31	3 58E	"		
49878	"	"	"	19 33	19 54	3 35E	"		
49879	HD 29316	4 32.0	+53 17	20:15	21:30	0 41W		FeNe clear	30-30- 30
49878T	Spot Calc	for 49878			15 min @ 7V	Hα, D1			
49877T	" "	" 49876-77			15 min @ 7V	Hα,			
49880	HD 47105	08 31.9	+16 29	21 43	21 50	0 49E	+16 37	FeNe clear	40-40
49881	HD 66751	8 08.3	+69 47	22:26	00:20		+69 54	"	30-30
49881T	Spot Calc	for 49879-81 + (82 → 84)			15 min @ 15V	D4 3900	D3 4300	D2 4810	
F	Focus test							FeNe clear	60 49

Spectr. Temp. ... +11.0° F

Dome Temp./Hum. +8.0° F / 60%

Transparency Conditions ... Fine ... 302

Focus ... 399

gusty from WSW

Spectr. Temp. ... +8.5° F

Dome Temp./Hum. +1.0° F / 70%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
no filter											
4500	poor			BC	1800/5900	skylight filter	III ₂ Fe	5	Pl nob / KK		
5500	"			"	"	"	"	4	"		
4300	"			"	"	"	098-e	4	"		OK
3314 3610	4-5"			BC	1200/5440	BS	II ₂ 0e	5	Asm spec / KK	Camp? - 619-157 Set 397	OK
							098-e				vv
							III ₄ Fe				vv
7000	poor	109	A0II	BC	1200/50.7	BS	II ₂ 0e	5	Asm Sp KK	T = +19° F Set 397	Five out Take out guides
2,300		7	dfg	"	"	"	"	5	"	detector may have not been fully out for 1st half of exposure	vs/ok
3,100	poor						II ₂ 0e				center blue center blue
				BC	1200/50.7	BS	"	5		T = 8.5° F	broken off end while labelling
										note no dust effect on BS as observed new night.	

Sun - 1 Mon

Date Jan. 25-26/47. Observers Tn.....

Emulsion Batches:

8^m 68° *West-Edg.* 20106..
Had-E. 305-01057
 **Had-E.* - 012387

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49882F1	Focus test					0 0	+10°	FeNe clear	100-40
49882F2	" "					0 0	"	"	"
49882	HD 203156	21 15.4	+37 49	18 08	18 38	5 20 W	+38 22	"	40-40
49883	HD 22484	03 31.8	+0 05	18 45	18 55	0 39 E	+0 30	"	40-40
49884	HD 30282	04 41.1	+36 33	19 07	20 44	0 01 W	+36 49	"	30-3030
49885	HD 44990	06 19.8	+7 08	21 01	23 17	0 55 W	+7 16	"	30-20-20
49885T	Spot Calc for 49885 - 87				19 min @ 15V	^{D4} 3906	^{D3} 4300	^{D2} 4810	
49886	HD 76095	08 49.0	+26 36	23 33	01 02	0 09 W	+26 25	FeNe clear	30-30-30
49887	HD 76151	08 49.4	-5 04	01 12	02 54	2 05 W	-5 14	"	30-21-30

Spectr. Temp. $+17^{\circ}\text{F}$Dome Temp./Hum $+15^{\circ}\text{F}/52\%$ Transparency Conditions *Fine - no wind either...*Focus 399*Seeing must be good, though can't tell from*Spectr. Temp. $+14^{\circ}\text{F}$Dome Temp./Hum $+8^{\circ}\text{F}/52\%$?

TV image 309

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2236 <i>blue filter</i>											
2818				BC	830/40.2	BS	$\text{TiO}_2\text{-E}$	5		T= $+17^{\circ}\text{F}$ Set 399	OK <i>at far right of</i>
2258 2815				"	"	"	"	4		" "	OK <i>in TiO₂ box</i>
5331	OK	26	2G	"	"	"	$\text{TiO}_2\text{-E}$	5	Ceph-Rm	" "	dust? Fine
113	Fine	428	F8V	"	"	"	"	5	Std Vel	" "	dust Fine
2500* 3900	"	28	2G	"	"	"	"	5	Ceph-Rm	* Exp meter inaccurate Cord Dec corrected	dust? Fine
* 5050 poor	poor	27.5	2G	"	"	"	$\text{TiO}_2\text{-E}$ *	5	"	* Exp meter problem	dust? Fine
5050		27	60				$\text{TiO}_2\text{-E}$ *	5	Asm SpkK		VV dust
3000? 3600	5050	27.5	60	BC	830/40.2	BS	$\text{TiO}_2\text{-E}$ *	5	Asm SpkK	$+17^{\circ}\text{F}$ still	Fine
2500* 2300	poor	6.67	DG3	"	"	"	"	5	"	oscillate 2 ⁿ 05 VV	Fine dust sica?
										Exp meter count unreliable in some cases	" Noise from focus switch "

305

Mon - Tues

Date Jan 26-27, 1977... Observers J.H.

Emulsion Batches:

..IAC-E 3D5 012387
 ..098C 01126

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49888	HD 203156	21 15.4	+37 49	18 01	18 47	5 33 W	+38 19	FeNe Clear	40-40
49889	HD 32147	04 55.9	-5 52	18 57	20 44	0 9 E	-5 37	1	30-30-30
49889T	Spot Calc for 49888-89 + 49893-95					(next night) 15 min @ 15V		D4 D3 D2 3900 4300 4810	
49890	NGC 2392	7 26.0	+20 57	21 24	21 54	1 29 E	+21 05		
49891	"	"	"	22 26	22 58	0 25 E	+20 51*		
49892	"	"	"	23 11	23 42	0 19 W	"		
49892T	Spot Calc for 49890-92					15 min @ 11.5V			
49892F	Focus test for G1800 grating					0 0	+10	FeNe clear	100 30

Spectr. Temp. $+17.0^{\circ}\text{f}$Dome Temp./Hum. $+12^{\circ}\text{f}/52.7$ Transparency Conditions Fine.....

306

Focus 399

no wind

Spectr. Temp. $+13.0^{\circ}\text{f}$Dome Temp./Hum. $+4^{\circ}\text{f}/52.2$ prob frozen

Good TV image of slicer for 1st time.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Blue filter											
2130	OK	26	2G	BC	830/40.2	BS	II ₀ -E	5	Ceph-Rm		Fine
2542											*
2540	SOSO	7.27	K3V	"	"	"	"	5	Asm Sp KK		Fine
							"				✓✓
no filter											
4800	OK			BC	1800/55°	Slitless slight filter	098-e	5	Planetary Prog	Focus on slit 1st Set 399 + 14°f	Fine
4826	poor			"	"	"	"	5	"	* focus too narrow reversed 136 1st one	Fine
4800	OK			"	"	"	"	5	"	refocused on slit for this exp	Fine
							"		Lost spot plate, foggel		
				BC	1800/55°	BS	"	5			center Sl Red

367

Tues - Wed

Emulsion Batches:

Iac. E 305 012387

Wals. E. 20106

Date Jan 27-28, 187. Observers J. n

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
49893	HD 11188	01 449	+46 58	18 18	19 31	1 50 W	+47 29	FelNe clear	30-30-30
49894	HD 23862 ^{28 Tan}	03 432	+23 50	19 36	19 53	0 13 W	+24 14	"	45-45
49895	HD 23850 ^{27 Tan}	03 432	+23 45	19 55	20 01	0 21 W	+24 09	"	45-45
49896	"	"	"	20 06	20 20	0 41 W	"	"	100-100
49897	HD 23862 ^{26 Tan}	"	+23 50	20 24	21 24	1 45 W	+24 14	"	70-70-70
49897T	Spot Calc for 49896-97				15 min @ 04	175V 3900	15V 4300	15V 4810	

Spectr. Temp. +20°f

Dome Temp./Hum. +15°f/52% ??

Transparency Conditions .. getting fuzzy - cloudy... 308

Focus 394

frozen humidity meter I think

Spectr. Temp. /

Dome Temp./Hum. /

Comp. Filter	Exp. Mtr	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	Blue filter											
	4000	Fine	7.1	B8	BC	1200/507	B5	IIab-E	5	Lg Prog	some cloud no RH esolator	* Slut
	4000	"	5.0	B8p	"	"	"	"	5	Rg Prog		* fine
	11,776	"	3.6	B8D	"	"	"	"	5	"		* fine
	36775	"	"	"	"	"	"	IIIab-eg	5	"		* fine
	20650	"	5.0	B8p	"	"	"	"	5	"	cloud again end exp	* Slut
	1600							"				✓✓
											* Dust on Slit??	

315

Mon-Tues
Cont ~~Fog~~

Emulsion Batches:

Date Feb 9/10 Observers

Plate No.	Object	R.A.	Declination	Starting Time	Ending Time	Hour Angle	Declination	Comparison	
		1900/1950	1900/1950	E.S.T.	E.S.T.	End		Type/Filter	Exp.
29	Fe-Ar								
30	Dark		3600 sec						
SP000032	Comp					0 0		A 1/2 FeA	200
SP000031	Sky Ratio	near 5900λ		04	04 30	0 0	-18°		
32	Sky Ratio	near 4300λ		04 35		0 0	"		
33	Comp							A 1/4 FeA	200
35	Sky Ratio	near	5700λ						
36	Comp for	#35	5700λ					A 1/4 FeA	200
37	Sky Ratio	near	4000λ	06 05	600 sec				
38	Comp for		4000λ					A 1/4 FeH	200
39	1501608	7^h24^m43^s	+5°22'7"	20:16					

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions

316

Focus

Spectr. Temp.

Dome Temp./Hum. 18^oF./90.7%

Exp. Mtr.	Seeing	Obj. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				DC	1800/40°	RS					
				"	"	"					
				BC	1800/52	RS					
				BC	1800/52°	RS				2x 600secs	
				BC	1800/42°	RS				600sec	
				"	"	"					
				"	1800/50.7	RS					
				"	"	"					
600sec				"	1800/40.5	RS				One emission line	
				"	"	"					
				982 HAS							

317

Tues-Wed

Shatograph

Emulsion Batches:

Date Feb 10-11/87 Observers MKS-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.
SP000039	MKI Dark								
40	Comp 41 V 471 Tau			19 34	19 53 27			Fe A A V4	200
42	V 471 Tau 41+42 ie	12004	1200	19 54 28	20 14 28		#43	Fe A A 1/4	200
44	V 471 Tau			20 22 55	20 42 58				
45	" 44+45			20 46 20	21 06 20		#46	Fe A A V4	
47	V 471 Tau 1st of 2.			21 15 35	21 35 35				
48	" " 2nd	12004	1200	21 36 46	21 45 14	3 00V	extreme RA oxidation		
SP000049	MKI Problem	nothing in	49. 20.50	is Comp + V 471 Tau			#49	Fe A A 1/4	200
SP000052	HD 75935	8 47.9	+27 18	22 06 49			#51 853	"	200
55	" "	"	"	22 46 34			#54+56		200
58	HD 849 37	9 48.2	+13 49	23 17 36			57 59	Fe A A V4	"
61	" "	"	"	23 51 09			60 62	"	"
64	HD AN UMa B	11 24.8	+30 31	00 35 19			63 64	"	"
65	" "	"	"	01 05 26			66 67	"	"
68	Tungsten Flat Fld			02 23		0 0		Tung A=V8	3600
67	Dark		20 UMa B						

Spectr. Temp. Dome Temp./Hum. 18.5/70 Transparency Conditions Fine - sl. cloudy 318

Focus

Spectr. Temp. Dome Temp./Hum. 20°F / 90%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B filter				BC	^{G4500} 1200/42.0°	AS	with - UV filter above slicer				
				"	"	"				1200 + 1200	
				"	"	"				1200 + 1200 = 1054 cuts ^{Rev. Exp. Meter}	
				"	"	"			460 cuts	1200 separate	
				"	"	"			390 cuts	1200 + 1200	
				"	"	"			540	1200 sec	
				"	"	"				cut short by oscillator	
				"	"	"					
765 cuts	OK	8.63	G8V	"	"	"			std vel	1.5 hrs from full moon	
		8.13		"	"	"			"	Refocused before	
				"	"	"				1497 cuts	
1500				"	^{~42.0°} 1500/42.0°	"				move grating to 42.0°	
500				"	"	"				faint comp of AW ultra	
100 cuts				"	"	"				cloud	
B channel signal				"	"	"	using ND 2.3 in holder			ND 1.2 on top of slicer	

319

Sat - Sun

Spectrograph

Emulsion Batches:

Date Feb 14-15 187..... Observers Mki - Tu.....

Plate No.	Object	R.A.	Declination	Starting Time	Ending Time	Hour Angle End	Declination	Comparison	
		1900	1900	E.S.T.	E.S.T.			Type/Filter	Exp.
SP0000 73	BM Cas	^{1986.3} 00 5355	+64° 00 36				73,	FeA A-1/4	200
74 75	BM Cas			19: 32:00	19				
75	BM Cas			19 32	19 52		76 comp	FeA A 1/4	200
78	"						77 comp	FeA A 1/4	200
79	"	1200 1200 + 1200	id (78+79)	20 30	20 50		80 comp		
82	"	1200		21 03	21 23		81 Comp	FeA A 1/4	200
83	"	1200 + 1208	(82+83)	21 24	21 44				
84	"	3x 1200	82+83+84	21 45	22 05		85 comp	FeA A 1/4	200
	V 471 Tau	03 49 41		22 42			comp	FeA A 1/4	200
	"			23 15	23 35		Comp	"	200
94	HD 75935	08 47.9	+27 18						
95	HD 75935	11	"	01 20:48	00 23		93 comp	FeA A 1/4	200
99	HD 132737	14 59.3	+27 13	01 08	01 28		98 Comp	"	200
100	"	"	"	01 29			101 Comp	"	"
	-AW 4670 B	11 54 46	+30 31				Comp	"	"

Spectr. Temp. Dome Temp./Hum. $+8^{\circ}\text{F} / .697$ Transparency Conditions F&D 320

Focus Dark @ beginning $\approx 30/\text{sec}$

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
B Filter											
				BC	G4460 1200/42°	RS	H ₂ centered	42°	Reversed	1200 s ⁻¹	
				"				42°			
				"	G3720 1200/35.2	RS	5160	47°		Added to	
				"	G3860 1200/36.5	RS	5160	36.5°			
				"	"	"	"	"		Dome Temp = +1°F	
				"	G3720 1200/35.2	"	4860	35.2°			
				"	"	"	"	"			
				"	"	"	"	"		Dome Temp = -2°F Dark = $\approx 25/\text{sec}$	
				"	"	"	"	"			
				"	G4460 1200/42°		H ₂	42°		Dome T = -3°F Dark = 18/sec	
				"	"	"	"	"			
98 Comp				"	"	"	"	#96	H075935	Spilled due to oscillations.	
1200 sec				"	"	"	"	"		Unreversed	
1700 + 1200				"	"	"	"	"		Dome T = -6°F	
				"	"	"	"	"			

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Pg 2

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.
	with Ma B	11 24 46	+30 31	03 01			+30 13	FeA A 1/4	200
	HD 132737						#112 Comp		
	TZ Boo	15 7.7	+40 02		04 46	11 min exp	#113 Comp	FeA A 1/4	200
	Nova Her	18 ¹⁹⁸⁷ 43 08	¹⁹⁵⁷ +15 18.5	05 44	06 04				
121	"	"	"	05 44	06 04	122	Comp	FeA	200
	Cyg X1						Comp		
	SKy			06 43	06 50				
	Dark	(no CB)	SKy + Dark						
	Tungston Flat Fld								Tung
	Nova Her						Comps	FeA A 1/4	200

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

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
	hst Exp				BC	G 3860 1200/36.5	RS				Durk = 14 s ⁻¹ . T _{durk} = -8f	
	1000 s ⁻¹				"	"	"				200	
	150 s ⁻¹				"	"	"	2nd			Durk = 11 s ⁻¹ , T _{durk} = -8f	
	1400 s ⁻¹				"	G4460 1200/42	"	Comp on Stellar. 1st comp on good			Durk ~ 10 s ⁻¹ T = -9f good HZ	
					"	G3720 1200/35.2	"				good HB	
	600 s ⁻¹				"	G4460 1200/42	"	Sky got too brt on slicer slot			Durk ~ 9.5/sec T = -9f	
	750 cts/sec @ start)		(Channel A 80/sec, Chan B 1000/sec)?				
	7350 cts/sec				BC	G4460 1200/42	RS	(Filters 0.9 + 2.3 + 0.6)			A 1/4 Contaminant = 10 cts/sec (A+B) Total B = 2500 s ⁻¹ Durk = 9 s ⁻¹ ; T _{durk} = -40f = -20f	

323

Spectrograph work

San Man

Emulsion Batches:

Date Feb. 15-16 1917..... Observers Kk-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	E ₂
130	Tungsten Flat Fld	* 2400 sec (intended)		17 24		0 0	Zenith	Tung A 1/16	
SP000132	V 471 Tau	¹⁹⁸⁷ 03 49.7	^{set} +17 20	19 03	19 23		Comp #131	Felt A=1/4	200
133	"	"	"	19 24					
134	Comparison								
135	Comp.							Felt A=1/4	200
136	+5° 1668	¹⁹⁸⁰ 7 ^h 24 ^m 43 ^s	¹⁹⁸⁰ +5° 22.7	20:09	20:29			"	200
-138	"	"	"	20:34	20:54			"	200
144	Vy 518 *	¹⁹⁵⁰ 8 16.4	-15 03				#145 Comp	"	"
146	Vy 518 **						-1457		
?	HD 75935	¹⁹⁰⁰ 8 47.9	+27 18				#147 & 148	Comp	20
149	"	"	"				#150 & #151	comps	"
152	+8° 2131	¹⁹⁵⁰ 8 46.3	+8 14				#153	Comp	"
154	"	"	"	0 08	0:28		(#155 Comp)		"
156	Tungsten Flat			00 44	01 44	0 0	Zenith		
157	Dark	3 hrs		01 46		"	"		
	Sky	1 hr							

Spectr. Temp. Dome Temp./Hum. $+7^{\circ}\text{F}/60\%$ Transparency Conditions *Fine* 324

Focus

Spectr. Temp. Dome Temp./Hum. $-1^{\circ}\text{F}/60\%$ mean counts

Channel B Exp. Mtr. Sheet meter	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
average 1690 cts	* actual exp		2360 BC		G4460 1200/42	RS	PCS			In dome T = +7 ^o Channel A = 400 cts/sec	
600 cts	sky	47 cts								1st comp with Dark Header	
900 cts	"	74			1200+1200						
250/18 comp			dMS	BC	G4910 1800/46.3	RS					75, 14
250/51			u	u	u	u					69, 15
	V=	9.87		u	u	u		same label header as previous.		* uncertain - fld drawn on card	69, 10
				u	u	u				** West of previous exp	105, 10
750 cts/sec (37 sky cts/sec)			u	u	u	u				Dark = 18/sec Dome T = -2 ^o	
			u	u	u	u					178, 12
			MOp	u	u	u					86, 9
			u	u	u	u					120, 11
1750 cts/sec			u	u	u	u				Channel A 300 cts/sec	
17 cts/sec			u	u	u	u				In IB buffer 17	
			G=2V	u	u	u					

325

Mon-Tues

Emulsion Batches:

Date Feb. 16-17/57... Observers *X 34-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
SP000160	Flat Field					0 0	Zenith	Tungsten	1800
161	Flat Field	1800+1800	"160+161						1800
163	BD 10° 1032	¹⁹⁸⁷ 06 10.2	+10 20	20 46				Comp 162c/164 FeH A 1/4	200
166	BD+5 1668	07 26.3	+5 19	22 12				Comp 165s 167 "	200
169	BD+69° 1681	¹⁹⁸⁷ 12 58.3	+68 52					Comps 168e 170 "	4
173	NGC 4151	12 09.9	+39 29		21 41	1200secs 30min exp	172s 174	Comps	
175	"	"	"	02 01	02 20	1200sec	176 Comp	"	
177	Flat Field (cops - labelled "Dark")			02 35	03 35	0 0	Zenith		
178	Dark	1200sec		03 41		0 0			
	Nova Her	18 43.1	+15 19	04 18				Comps FeH A 1/4	200
	"	"	"	04 24					
	"	"	"	04 33		300+600secs then		Comp	

Spectr. Temp. Dome Temp./Hum. $+10^{\circ}\text{F}/54\%$ Transparency Conditions *Fine - Cloudy* 326

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
	B A				BC	G4910 1800/46.3	RS					
											Dark $\approx 30/\text{sec}$	
											Sky signal no integration done	
												120, 27
					BC	G4910 1800/46.3	RS			2400sec		
					"	"	RS			2400sec*	maybe only 1700sec Starcircled on the field	
					"	"	"			2400sec	600sec exp	
						1800 156°					Quite cloudy, barely visible in slicer view.	
					BC	G6000 1800/56°	RS				(1A, Last (exp) 1B)	thin cloud check fld notes
					"	"	"				Note forgot to change header for 1800/56° for previous exps.	
					BC		RS				Dome T = +8° F	
											Note SP000171 delete (It was nothing)	
					BC	G6000 1800/56	RS				clear	
					"	"	"				clear	
					"	"	"				Then cloud	

327

py # 2

Emulsion Batches:

Date Observers Bt-Tn

Plate No.	Object	R.A. 1900 1987	Declination 1987 1900-	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
S000 185	Nova Her	18 43.1	+15 19	05 18		10 min		Comp 184 H 1/4	200
187	"	"	"	05 34	05 54	20 min		188	
189	"	"	"	06 05		20 min		Comps 190	
Feb 17/18									
192	Flat fld	2 hrs	Feb 17 & 18 EST			0 0	Zenith		Tung
	Dark	1 hr	"	"		"	"		
Feb.									
VLT Jan									

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

Focus

Spectr. Temp. Dome Temp./Hum.

Comp. Filter Exp	Exp. Mtr. Cuts	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
4	310, 65				BC	G 4900 1800/45°	RS				HB centered	
1/4	1300, 90				"	"	"					
	100, 100				"	G 5000 1800/45°	"				centered to red of HB ≈ 100 Å	
					BC	G 4450 1200/42°					Dome Temp Feb 17 dark cuts ≈ 73/sec @ BEST dark cuts ≈ 70/sec @ 1835 @ 0° EST Feb 18 Dark = 80/sec Dome T = 20 °F	
				@ 21"	Focus looks v good @ GX 2900, 31ns, ≈			4-5 pixels				

(Try G 4950 next time)

329

Emulsion Batches:

Date WEDNESDAY FEB 18-19/87 Observers H.H. Ri

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	196 DARK 10 MIN								10 MIN
SPO00197	V471 TAU	03 ^h 44	+16 57.1	20:20:0	20:30:1				120
198	COMP			20:44	20:47			FoA A $\frac{1}{2}$	200
199	V471 TAU			20:49	21:09				1200
200				21:11	21:31				+1200
201	COMP			21:33				FoA A $\frac{1}{2}$	200
202	V471 TAU			21:38	21:57				120
203	V471 TAU			21:59	22:19				+120
204	COMP			22:20	22:23			FoA A $\frac{1}{2}$	200
205	V471 TAU	03 ^h 44	+16 57.1	22:32	22:52				
206	COMP			22:53	22:56			FoA A $\frac{1}{2}$	200
207	SKY			22:58	23:03			SKY	300
208	DARK							Low	300
209	COMP			23:23	23:26			FoA A $\frac{1}{2}$	200
210	BM CAS	00 ^h 54 ¹⁹⁸⁶	+69°00'	23:27	23:47				120

Spectr. Temp. Dome Temp./Hum. Transparency Conditions 330

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
10m	W.P. CYS CHB											
120			9.6	K2	P.C.S.	1700 4460	420 RS				East of pier.	
A 20					"	"	RS					
1200	5000A		9.4	K2	P.C.S.	1700 4460	42.0°			EOPTIME 1200 SEC 5000 +1200 SEC		
1200	"				"	"	"					
A 100	364				"	"	"			Exp 205 SEC		
100					"	"	"			1200 SEC		
70					"	"	"					
120					"	"	"					
120	8000											
A 200	37500											
200	150/sec										Lines well aligned.	
300	120/sec											
200					"	"	"					
20			V ₂ 8.8	A71A	"	"	"					

331 PS #2

Emulsion Batches:

Date WED. THURS FEB 5-13/87 Observers MAJ - R

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
210	BM CAS	00 45.4	+64 00	23:50	00:10				500
212	COMP	"	"	00:11	00:15			Fe A A 1/2	200
213	COMP	"	"	00:16	00:20			Fe A A 1/2	200
214	BM CAS	"	"	00:21	00:51				1800
215	COMP	"	"	00:53	00:56				200
216	COMP	"	"	01:02	01:07			Fe A A 1/2	200
217	B.M. CAS	"	"	01:08	01:38				1800
218	COMP	"	"	01:40	01:41			Fe A A 1/2	40
219	COMP			01:42	01:46			Fe A A 1/2	200
220	COMP			01:58	02:01			Fe A A 1/2	200
221	HD 75935	8 47.9	+27 18	02:14	02:19				300
222	COMP			02:20	02:24			Fe A A 1/2	200
223	COMP			02:26	02:29			Fe A A 1/2	200
224	HD 75935			02:33	02:43				600
225	COMP			02:44	02:48				200

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

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		V 8.8	ATIA	P.C.S.	1200/47.8 4460	RS	Hd				
		"	"	"	"	"	Hd				
375ct		"	"	"	120/36.5 3860	RS	5160 Å				
					"	"	"				
					"	"	"			Dark limit ~ 105/sec.	
1000ct					1200/47.4 4994	RS	7770 Å				
800ct					"	"	"				
					"	"	"				
					"	"	"				
					1200/42.0 4460	RS	Hd				
		86	GSD		1200/42.0 4460	RS	Hd				
		"	"		"	"	"				
					1200/36.5 3860	RS	5160 Å				
					"	"	"				
					"	"	"			Dark = 100/sec.	

333

PS #3

Date FEB 19/87 T400S Observers M.H. - R.

Emulsion Batches:

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.....
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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
SP000226	TH COMP			02:54	02:57			FeA A 1/4	200
227	AWB UMa	11 2446	+30° 31	02:59	03:09				600
228	COMP			03:10	03:13			FeA A 1/4	200
229	COMP			03:14	03:17			FeA A 1/4	200
230	AWB UMa	11 2446	+30° 31	03:18	03:28				600
231	COMP			03:29	03:33			FeA A 1/4	200
232	COMP STAR		1950	03:44	03:47			FeA A 1/4	200
233	NGC 4151	12 080	+35° 41	03:49	03:53				1200
234	NGC 4151	"	"	03:57	04:16				1200
235	COMP			04:17	04:21			FeA A 1/4	200
236	COMP	"	"	04:21	04:24			"	"
	NGC 4151	"	"	04:26	04:27				
237	COMP			04:41	04:44			FeA A 1/4	200
238	HD 132737	14 55.6	+22° 33	04:46	04:51				300
239	"	"	"	04:59	04:04				300

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions

336

Focus

Spectr. Temp.

Dome Temp./Hum. ...-11°C... 90%

Comparison
Filter Ev.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
200				P.C.S.	1200/42.0 4460	R.S.	Hd				
				P.C.S.	1200/42.0 4460	R.S.	Hd				
950	2700			"	"	"	"				
				"	"	"	"				
				"	1200/357 3750	"	4900A				
	900			"	"	"	"				
										Dark = 80/sec.	
					1200/42.0 4460	"	Hd				
					"	"	"			~ 73/sec.	
					"	"	"				

337 Eye #1

Emulsion Batches:

Date Feb. 19/20, 1987. Observers Mki - Ri

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
SP00250	Flat Field				17:32				3600
SP000251	DARK								300
SP000252	COMP			19 44	19 47			Fe A A 1/2	200
SP000253	V471 TAU	03 44.8	+16° 57'	19 49	20:09				1200
254	COMP			20:12	20:15			Fe A A 1/2	200
255	COMP			20:25	20:28			Fe A A 1/2	200
256	M42	05 35	-05 23	20:30	20:35				300
257	COMP	'		20:44	20:48			Fe A A 1/2	200
258	V471 TAU	03 44.8	+16° 57'	20:49	21:09				1200
259	V471 TAU	"		21:11	21:31				+1200
260	COMP			21:32	21:35			Fe A A 1/2	200
266	V471 TAU	03 44.8	+16° 57'	21:37	21:57				1200
262	V471 TAU	"	"	22:00	22:20				+1200
263	COMP			22:21	22:24			Fe A A 1/2	200
264	V471 TAU	03 44.8	+16° 57'	22:25	22:45				300

Spectr. Temp. Dome Temp./Hum. *-0.4°C 9%* Transparency Conditions *338* ..

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>COUNTS</i>				<i>P.C.S.</i>	<i>1200/420</i> <i>4460</i>	<i>R.S.</i>	<i>Hx</i>				
				<i>^</i>	<i>^</i>	<i>^</i>	<i>^</i>				
<i>350</i>				<i>-</i>	<i>-</i>	<i>-</i>	<i>^</i>				
<i>1500</i>		<i>97</i> <i>94</i>	<i>KOD-100</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>^</i>				
				<i>"</i>	<i>"</i>	<i>-</i>	<i>^</i>				
				<i>"</i>	<i>"</i>	<i>-</i>	<i>^</i>				
				<i>"</i>	<i>"</i>	<i>-</i>	<i>^</i>			<i>30° W D'ORI C</i>	
				<i>"</i>	<i>"</i>	<i>-</i>	<i>^</i>				
<i>1500</i>		<i>9.7-</i> <i>9.4</i>	<i>KOD-100</i>	<i>"</i>	<i>"</i>	<i>-</i>	<i>^</i>				
<i>1500</i>		<i>"</i>	<i>-</i>	<i>-</i>	<i>"</i>	<i>-</i>	<i>^</i>				
				<i>"</i>	<i>"</i>	<i>-</i>	<i>^</i>				
<i>1500</i>		<i>"</i>	<i>"</i>	<i>-</i>	<i>"</i>	<i>-</i>	<i>^</i>				
<i>1500</i>		<i>9.7-</i> <i>9.4</i>	<i>KOD-100</i>	<i>"</i>	<i>"</i>	<i>-</i>	<i>^</i>				
<i>450</i>				<i>-</i>	<i>"</i>	<i>-</i>	<i>^</i>				
<i>1500</i>		<i>9.7-</i> <i>9.5</i>	<i>KOD-100</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>				

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P#2

Emulsion Batches:

Date THURS. FEB 19-70 Observers MKI-R

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
SP000 265	V 471 TAN	03 44.8	+16 57	22:46	23:06				+1200
266	COMPARISON			23:07	23:10			F ₂ A A 1/2	200
267	V 471 TAN	03 44.8	+16 57	23:11	23:31				1200
268	COMP			23:32	23:35			F ₂ A A 1/2	200
269	SKY	03 44.8	+16 57'	23:36	23:41				300
270	DARK			23:44	23:49				300
271	COMP			00:05	00:09			F ₂ A A 1/2	200
272	BM CAS	00 53.9	+64° 00.5	00:10	00:30				1200
273	COMP			00:31	00:34			F ₂ A A 1/2	200
274	COMP			00:35	00:39			F ₂ A A 1/2	200
275	BM CAS	00 53.9	+64° 00.5	00:40	01:10				1800
276	COMP			01:11	01:15			F ₂ A A 1/2	200
277	DARK								300
278	COMP			01:25	01:29			F ₂ A A 1/2	200
279	HD 75935	8 42.9	+27° 18	01:42	01:52				600

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

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
1500 1 Sep		9.7- 9.4	Kouvald	P.C.S.	1200/42.0 4460	R.S.	Hd				
450			'	n	n	n	n				
1000		9.7- 9.4	Kouvald	P.C.S.	1200/42.0 4460	R.S.	Hd				
450				n	n	n	n				
				n	n	n	n				
				n	n	n	n				
420				n	n	n	n			DARK 135/sec	
2200		8.82 9.33	A7	P.C.S.	1200/42.0 4460	R.S.	Hd				
420				n	n	n	n				
420				P.C.S.	1200/36.5 3860	R.S.	5160 Å				
1000		8.82 9.33	A7	P.C.S.	1200/36.5 3860	R.S.	5160 Å				
				n	n	n	n			DARK 130/sec	
					n	n	n				
					n	n	n				
2500		8.63	G87	P.C.S.	1200/36.5 3860	R.S.	5160 Å				

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Pg 3

Emulsion Batches:

Date Feb. FEB 20/87 Observers M.H. - R.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
SP000 280	COMP			01:55	01:58			FeA A 1/4	200
281	COMP			02:13	02:16			FeA A 1/4	200
282	HD 25935	8 47.9	+27 18°	02:18	02:28				600
283	COMP			02:30	02:33			FeA A 1/4	200
284	COMP			02:39	02:43			FeA A 1/4	200
285	AW UMa "B"	11 24.9	+30° 31	02:44	02:54				600
286	COMP			02:55	02:58			FeA A 1/4	200
287	COMP			02:59	03:03			FeA A 1/4	200
288	AW UMa "B"	11 24.9	+30° 31	03:03	03:13				600
289	COMP			03:15	03:18			FeA A 1/4	200
290	COMP			03:24	03:27			FeA A 1/4	200
291	COMP			03:52	03:55			FeD A 1/4	200
292	BD+26° 2606	¹⁹⁵⁰ 14 46.8	+25° 54	03:56	04:16				1200
293	COMP			04:17	04:20			FeA A 1/4	200
294	COMP			04:27	04:31			FeA A 1/4	200

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions 342

Focus

Spectr. Temp.

Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
400				P.C.S.	1200/36.5 3860	RS.	5160A			SYSTEM CRASH	
470				P.C.S.	1200/42 4460	R.S.	Hd				
3000		B.6	G87	P.C.S.	1200/42.0 4460	R.S.	Hd				
				P.C.S.	1200/42.0 4460	R.S.	Hd				
350				P.C.S.	1200/42.0 4460	R.S.	Hd				
1400		9.0		P.C.S.	1200/42.0 4460	R.S.	Hd				
350				P.C.S.	1200/42.0 4460	R.S.	Hd				
400				P.C.S.	1200/36.5 3860	RS	5160A				
1000				P.C.S.	1200/36.5 3860	R.S.	5160A				
				P.C.S.	1200/36.5 3860	R.S.	5160A				
400				P.C.S.	1200/36.5 3860	RS.	5160A				
300				P.C.S.	1200/36.5 3860	RS	5160A				
1000		9.68	sdF	P.C.S.	1200/36.5 3860	RS	5160A				
300				P.C.S.	1200/36.5 3860	RS.	5160A				
300				P.C.S.	1200/36.5 3860	RS	5160A				

343 P₂ #4

Emulsion Batches:

Date FEB 20/87 Observers M.H. - R.

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison	
								Type/Filter	Exp.
SP000 295	HD 132737	14 55.6	+27 33	04:32	04:37				300
296	COMP			04:38	04:41			Fo A A $\frac{1}{4}$	200
297	COMP			04:43	04:46			Fo A A $\frac{1}{4}$	200
298	HD 132737	14 55.6	+27 33	04:48	04:53				300
298	COMP			04:54	04:57			Fo A A $\frac{1}{4}$	
300	COMP			05:04	05:07			Fo A A $\frac{1}{4}$	
301	NOVA HER	18 43.1	+15° 18	05:08	05:19				600
302	COMP			05:20	05:23			Fo A A $\frac{1}{4}$	200
303	COMP			05:24	05:28			Fo A A $\frac{1}{4}$	200
304	NOVA HER	18 43.1	+15° 18	05:29	05:49				1200
305	COMP			05:52	05:55			A $\frac{1}{4}$ Fo A	200
306	DARK								
307	COMP			06:02	06:05			Fo A A $\frac{1}{4}$	
308	PU VUL	20 20.2	+21 32	06:07	06:12				300
309	"	"	"	06:13	06:17				300

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

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
5000		8-02	KOII	P.C.S.	1200/36.5 3860	RS	5160A			LIGHT IN CH "A"	
330				P.C.S.	1200/36.5 3860	RS	5160A				
330				P.C.S.	1200/42.0 4460	RS	Hd				
8000		8-02	KOII	P.C.S.	1200/42.0 4460	RS	Hd			LIGHT IN CH "A" HIGH COUNT RATE	
				P.C.S.	1200/42.0 4460	RS	Hd				
380				P.C.S.	1200/42.0 4460	RS	Hd				
3000				P.C.S.	1200/42.0 4460	RS	Hd				
350				P.C.S.	1200/42.0 4460	RS	Hd				
550				P.C.S.	1200/35.7 3750	RS	4900A				
1000				P.C.S.	1200/35.7 3750	RS	4900A				
550				P.C.S.	1200/35.7 3750	RS	4900A			Dark ~ 1005 S-1	
550				P.C.S.	1200/35.7 3750	RS	4900A				
1100					1200/35.7 3750	RS	4900A				
1300					1200/42.0 4460	RS	Hd			SKY 180 CH BOTH CH AT END	

Spectr. Temp. Dome Temp./Hum. Transparency Conditions 346

Focus

Spectr. Temp. Dome Temp./Hum. -07°C 86%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
350				P.C.S.	1200/420 /4460	R.S.	Hd				
				P.C.S.	1200/420 /4460	R.S.	Hd				
				P.C.S.	1200/420 /4460	R.S.	Hd				

347

Fri - Sat

Emulsion Batches:

Date Feb. 20-21. 1987... Observers KK-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.
315	Flat Fid			17 20		0 0	Zenith	Tungsten A 1/8	2600
318	40 ERIC	04 10 42	-7 49	20 56	2 x 1200 sec exp. *		Comp # 316 Comp # 319	Fe A A 1/8 ?	200 200
322	Polaris B	02 27	+89°	22 26		1200 sec	Comp # 320 Comp # 323	" "	" "
324	Polaris B	02 27	+89	23 02		1200 sec	Comp 323 Comp 325	Fe A ? A 1/8 ?	200
327	AD 88801	¹⁹⁸⁷ 10 0.9	^{set} +28 45	23 59		900 sec 15 min	Comp 326 Comp	Fe A A 1/8 ?	200
328	"	"	"	00 15	00 30	"	Comp 329	"	200
330	Dark	Amins							
	Flat Field	0 Hr 2	f40			2 hrs long		Tung A 1/16	
		SAT	FEB 21/87	Ri					
334	FLAT FIELD	0 4 RL	+43°			2 HRS		Tung A 1/8	
335	DARK					1 HR			

Spectr. Temp. Dome Temp./Hum. $+29^{\circ}F / 48\%$ Transparency Conditions *Fine* 348

Focus
 Spectr. Temp. Dome Temp./Hum. $123^{\circ}F / 70\%$ dark 190 - 200 @ midnight

Comparison Filter	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	PCS cuts				PCS BC	G4460 1200/420	RS	H α			4000 sec intended, but it stopped @ 2600 sec	
			V 11.0		"	G4910 1800/46	1500 slit	5200			Aperture on low, uncertain due to controller problems	
					"	"	"	"				
					* Note 2nd copy of 40 ERIC was written later. It's this 328 ³²¹							
					BC	G4910 1800/46	slit	5200			Star in "B" instead of "A"	
			V= 8.88		BC	G4910 1800/46	slit	5200			std vel North of pair	
			"		"	"	"	"			Star in "B" instead of "A"	
					BC	G4910 1800/46	slit	5200				
						G4910 1800/46	slit	5200				

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Mon. Tues

Date Feb. 23-24/87. Observers B. R.

Emulsion Batches:

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FILE Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
SP000-340 Flat				17:48	18:55	0 ^h 0 ^m	zenith	strengthen A 1/8	4200
341	COMP			19:36	19:39			A 1/8	200
342	HD 23169	3 37.9	+25 25	19:42	20:02	2446850	537		1200
343	COMP			20:04	20:07			Fc A A 1/8	200
344	HD 23169	3 37.9	+25 25	20:11	20:31		557		1200
345	COMP			20:33	20:36			Fc A A 1/8	200
346	COMP			20:53	20:56			Fc A A 1/8	200
347	HD 8890B	1:22.6	+88 46	21:00	21:20		591		1200
348	COMP			21:21	21:25			Fc A A 1/8	200
349	HD 8890B	1:22.6	+88 46	21:29	21:49		611		1300
350	COMP			21:52	21:56			Fc A A 1/8	200
351	HD 8890B	1:22.6	+88 46	22:25	22:48		651		1200
352	COMP			22:46	22:50			Fc A A 1/8	200
353	HD 8890B	1:22.6	+88 46	22:52	23:12		669		1200
354				23:14	23:18			Fc A A 1/8	200

Spectr. Temp. Dome Temp./Hum. -03° 64% Transparency Conditions 350

Focus

Spectr. Temp. Dome Temp./Hum.

S.C.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
COUNTS					1800/4900 46	150u slit	HP			SYSTEM CRASH	
525											
2500		V= 8.75	G2I	P.C.S.	1800/4900	150u slit	HP	CHANNEL A			-30.02
550				P.C.S.	1800/4900 46	150u slit	HP				
2700		V= 8.75	G2I	P.C.S.	1800/4900 46	150u slit	HP	CH B			-30.05
550				P.C.S.	1800/4900 46	150u slit	HP				
450, 480				P.C.S.	1800/4900 46	150u slit	HP				
3000, 577		V= 8.6	F	P.C.S.	1800/4900 46	150u slit	HP	CH A			-11.19
					1800/4900 46	150u	HP				
375, 3500		V= 8.6	F	P.C.S.	1800/4900 46	150u	HP	CH B		1/4 WAY MOVED TO RIGHT OF SLIT	-11.18
				P.C.S.	1800/4900 46	150u	HP				
3000, 530		V= 8.6	F	P.C.S.	1800/4900 46	150u	HP	CH A		SYSTEM CRASH	-11.14
				P.C.S.	1800/4900 46	150u	HP				
103, 3200		V= 8.6	F	P.C.S.	1800/4900 46	150u	HP	CH B			-11.14
					1800/6400 46	150u	HP				

351 PG II 2

Date FEB 23-24/87 Observers B+C-Ri

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
SPORD 355	COMP			23:19	23:24			FeA A $\frac{1}{2}$	200
354	HD 8890 B	01:22.6	+88° 46	23:30	23:50	2446850.	695		1200
357	COMP			23:52	23:55			FeA A $\frac{1}{2}$	200
358	HD 8890 B	01 22.6	+88° 46	23:57	00:17		.714		1200
359	COMP			00:23	00:26			FeA A $\frac{1}{2}$	200
360	DARK			00:27	00:37				600
361	COMP			00:51	00:54			FeA A $\frac{1}{2}$	200
362	HD 86801	9 55.8	+29° 02	00:56	01:16				1200
363	COMP			01:19	01:22			FeA A $\frac{1}{2}$	200
364	HD 86801	9 55.8	+29° 02	01:23	01:43				1200
365	COMP			01:44	01:48			FeA A $\frac{1}{2}$	200
366	COMP			01:49	01:52			FeA A $\frac{1}{2}$	200
367	HD 86801	9 55.8	+29° 02	01:53	02:09				1200
368	HD 86801	"	"	02:04	02:44				1200
369	COMP			02:46	02:49				

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions

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Focus

Spectr. Temp.

Dome Temp./Hum. 73%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30, 370		V= 8.8	G02	P.C.S.	1800/4900 46	150 SLIT	H β	C4 B		SYSTEM CRASH	
				P.C.S.	1800/4900 46	150 SLIT	H β				
				P.C.S.	1800/6000 56	150 SLIT	H α				
100, 200				"	-	-	-				
				-	-	-	-				
				-	-	-	-				
1000, 450				P.C.S.	1800/6000 56	150 SLIT	H α	C4 A			
				"	"	"	"				
2500, 250				"	"	"	"	C4 B			
1000, 233				P.C.S.	1800/4900 46		H β	C4 A			
				"	-	-	-				
				P.C.S.	1800/4900 46	150 SLIT	H β				
										1 crash after ~ 150°	

Comparison
pe/Filter
Est

Dad 531-7959

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