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Spectr. Te

Focus . . .

Spectr. Te

Exp. Mtr.

Transparency Conditions 9

pectr. Temp.

Dome Temp./Hum.

Transparency Conditions 9

[illegible]

Date SAT-SUN Oct 24-27 '85 Observers Kub-Ri

Emulsion Batches:
5ⁿ 69° Mar 29 14-17105

[illegible]

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

1

Sun-Mon

Date Oct 27-28/85 Observers BT-Ri

Emulsion Batches:

098-02 09085-18105

Doc-E 105-25105

[illegible]

seeing (and to a lesser extent transparency) have worsened to the ^{to the}

Spectr

Focus

Spect

Exp. M

NO FILE

1000

NO FILE

LOW FILTER

1000

GLUE F

9.34

Blue:

2000

POIN

BLUE F

1000

BLUE

100

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

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
8-8				BC	1200/405	150M/1.0	098-02E A			T = 57°F F = 508	OK
2-7	NO FILTER	6.86	F111	"	"	"	"	A	FelvG Pgm		fine
	10002						098-02E				✓
3	NO FILTER				1200/405	150M/1.0	"	A	FelvG Pgm	to compare w. plate 44454	strong
4-1	18002	5" + 5.31	F2111	BC						T = 52°F F = 510	
2-2	NO FILTER							A	FelrG Pgm	to compare w. plate 44467	fine
	10006	"	"	"	"	"	"			T = 50° F = 510	
8-2										T = 49° F = 510	OK
4-8	BLUE FILTER				1200/50.7	BS	Tl ₂ O-E	A	Archive	T = 49° F = 509	wk
4-1	939	6.77	F5V	BC							
4-1	BLUE FILTER	6+	2.5	K211a	"	"	"	A	Std Vel	T = 47° F = 510	Str
4-1	point where getting a bright std vel star is a struggle										
4-1	BLUE FILTER				1200/50.7	BS	Tl ₂ O-E	A	Std Vel		str
4-1	10007	2.2	K211ab	BC							
4-1	BLUE FILTER				"	"	"	A	Std Vel		str
	10001	2.8	M1511	"	"	"	"				OK
10-3										closed up because of poor observing conditions	

9

Mon-Tues

Date Oct 28-29/85 Observers Bl-Ri/Ri

Emulsion Batches:

098-02, 09085-18105....

8^h 69^m 11.00-E 205-25105....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filler	Exp.
49474F	Focus Test							FeNe ^{#3} diffuser	8-8
49474	HD190390	19 59.6	-11 53	17 46	20 46	2 54W	-11 30	"	2-2.2
49474	SPOT CAL'N FOR PLATES 49474-75				15 MIN 4810	DISV 03 @ 7V D1 HD 4810	@ 7V D2 4810		
49475	HD13174	2 03.7	+25 28	20 53	21 31	2 25E	+26 04	FeNe ^{#3} diffuser	2-2.2
49475F	Focus Test								
49476	HD212943	22 22.8	+4 12	21 45	23 17	3 02W	+4 45	FeNe ^{#1} diffuser	4-4.5
	Pocket SPECTROGRAPH			23:30	24:00	(tests)			
49477	HD29316	4 32.0	+53 17	00 12	01 06	01 ^h 20E	+53 37	FeNe ^{#1} diffuser	4.44
49477F	SPOT CALIBRATION FOR PLATES 49476-78				15 MIN 15V. 3900	00 D4 @ 23 4300	@ D2 4810		
49478	HD 6582	1 01.6	+54 26	01 15	02: 23	3 ^h 20 W	+55° 02	FeNe ^{#1} NO DIFFUSER	4.44
49478F	Focus Test							FeNe ^{#1} NO DIFFUSER	20-20

Spectr. Temp. 460°F Dome Temp./Hum. 6°C/61% Transparency Conditions good 10

Focus 5.11

Spectr. Temp. Dome Temp./Hum. +1°C/81%

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						BC	1200/40.5	150.11/10	098-02E A			MAYBE LIGHT STRUCK	
	2-2	NO FILTER 11002	4.5	6.86	F ₂ III	"	"	"	"	A	Fe/r6 Pgm		fine
									098-02E				✓✓
	2-2	NO FILTER 11000		5.31	F ₂ III	BC	1200/40.5	150.11/10	098-02E A		Fe/r6 Pgm		fine
													sl. blue
	4-4	BLUE FILTER 4002		5.9	K ₀ III	BC	1200/50.7	BS	TaO-E A		Std Vel	T=430°F F=5.11	fine
	4-4	BLUE FILTER 4008	4.5	V _{AB} 5.36	A5 _n	BC	1200/50.7	BS	TaO-E A		KK A5 _n Sp	T=400°F F=5.11	fine
									TaO-E				✓
	4-4	4000		5.81	G5V _p	BC	1200/50.7	BS	IIco-E	A	KK A5 _n -Sp		fine
	20-20					BC	1200/50.7	BS	IIco	A		9= F=5.11	OK

Wed-Thurs

Emulsion Batches:
8⁴ 680 .Π.Ο.Ε... 105... - 25105

Emulsion Batches:

*Spectr.
Focus.
Spectr
Exp. Mtu
★
BLUE FILM
364
BLUE FILM
114
-Log

05

Spectr. Temp. 43°F Dome Temp./Hum. 42°F/56%

Transparency Conditions much cloud in south 12
at start

Focus 511

Spectr. Temp. Dome Temp./Hum. 135°F/93%

Comparison
Filter Exp.

Filter	Exp.	Exp. Mir.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		BLUE FILTER		V			1200					* Exp. meter suspect	
1-2-22		364	2.3"	8.4	MB	BC	50.7	BS	1160E	A	Obs Pgm		weak
4-3		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. ... 45° F

Dome Temp./Hum. 43°/95%

Transparency Conditions . *partly cloudy* 14

* Exp meter normal again - See Dome Log

[illegible]

15

Thurs Fri

7 min @ 68°F Th
Nov 8

Emulsion Batches:

Д-О-Е -30105

Date Nov 7-8/85..... Observers Lg-Tn.....

[illegible]

Spectr. Temp. 48°F.....

Focus . . . 511

Spectr. Temp. 38°.....

Dome Temp./Hum. 40°F / 88%

Dome Temp./Hum. *73.5°/75.2*

Transparency Conditions .. *cleared off just after*

Small cloudy all day. 16
Halley just visible in my Dome Binoculars T₄

[illegible]

Mon-Tues

Date Nov. 11-12/55..... Observers BH-Tn.....

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.
Pocket Spectrograph - 17:15 - 17:55									
located Comet Hartley-Good; too diffuse to get a spectrum on plate									
49489	HD 182917	19 21.9	+50 02	18:18	19 38	3 22 W	+50 19	FeNe ^{#3} d. filter	3 3 3
49489T	Spot Cal'n for 49489.				15 min Q	15V D3 4810	7V D1 H α	7V D2 5450	
49490	HD 11188	1 44.9	+46 58	20:00	20 55	1 48 E	+47 27	FeNe ^{#1} d. filter	(2-3)
49490T	Slit test for rotation							Fe A dilt	480-48

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. $-4^{\circ}\text{C}/80\%$ Comparison
filter Exp.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
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before telescope limit reached

NO FILTER
25043 3" 8.4 M6 BC $\frac{1200}{40.5}$ BS 09802E A 0.5 Pgm
09802E

BLUE FILTER
1671 3" 7.1 B8 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 $\frac{2M}{out}$ wk

Note KK There are only 4 100 strips 14×5 in dome. + 1 full box
I took fresh 098 box over tonight.

pectr. Temp. Dome Temp./Hum.

Transparency Conditions 20

ocus

pectr. Temp. Dome Temp./Hum.

Comp Type/Filter	son Ex	xp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
FeAPL W	OS					RETICON	1800/43°	300μ		-155.3			
"						"	1800/44°	300μ		-155.3°C			
FeAPL W	S					RETICON	1800/45°	300μ					
FeAPL W	S					RETICON	1800/49°	300μ					
FeAPL W	S					RETICON	1800/50°	300μ					
FeAPL W	OS					RETICON	1800/51°	300μ				WITHOUT GOING INTO EN4 MODE	
FeAPL W	OS					RETICON	1800/51°	300μ					
FeAPL W	OS					RETICON	1800/44°	300μ					
FeAPL W	OS					RETICON	1800/45°	300μ		-155.3°C			
FeAPL W	FE					RETICON	1200/42°	300μ					
FeAPL W	FE					RETICON	1200/43°	300μ					
FeAPL W	FE					RETICON	1200/44°	300μ					
FeAPL W	FE					RETICON	1200/45°	300μ					
FeAPL W	FE					RETICON	1200/46°	300μ					
FeAPL W	FE					RETICON	1250/47°	300μ					
FeAPL W	FE					RETICON	1200/48°	300μ					

Date WED.-THURS. NOV 13/14/95 Observers 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.
	COMPARISON							FeNe #3 W DIFFUSER	15s
	COMPARISON							FeNe #3 W DIFFUSER	15s
	COMPARISON							FeNe #3 W DIFFUSER	15s
	COMPARISON							FeNe #3 W DIFFUSER	15s
	COMPARISON							FeNe #3 W DIFFUSER	15s
	COMPARISON							FeNe #3 W DIFFUSER	15s
	COMPARISON							FeNe #3 W DIFFUSER	15s
	COMPARISON							FeNe #3 W DIFFUSER	10s
	COMPARISON							FeNe #3 W DIFFUSER	26s
	COMPARISON							FeNe #3 W DIFFUSER	10s
	DARK	2	1 MIN EXP	20:51	21:24				
	DARK	2	2 MIN EXP	21:25	21:30				
	DARK	2	4 MIN EXP	21:30	21:39				
	DARK	2	8 MIN EXP	21:40	21:56				
	DARK	2	15 MIN EXP	21:57	22:28				
	DARK	2	30 MIN EXP	22:34	23:35				
	DARK	2	1 HR EXP	00:01	02:01				

Spectr.

Focus.

Spectr.

Exp. Mtr.

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions 22

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
15/1					RETICON	1200/49°	300μ	✓				
15/2					RETICON	1200/50°	300μ	✓				
15/3					RETICON	1200/51°	300μ	✓				
15/4					RETICON	1200/52°	300μ	✓				
15/5					RETICON	1200/53°	300μ	✓			DATA DISK #1	
15/6					RETICON	1200/53°	300μ	✓				
15/7					RETICON	1200/53°	300μ	✓				
15/8					RETICON	1200/47°	300μ					
15/9					RETICON	1200/48°	300μ					
15/10					RETICON						DATA DISK #2	58/71
15/11					RETICON			TE-155.2°			from PLOT DAT	90/62
15/12					RETICON							68/70
15/13					RETICON							87/71
15/14					RETICON							79/71
15/15					RETICON			-154.9°				80/72

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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.
	LIGHT TEST								
	" " I ₂								
	DARK 2x 30 MIN EXP			18:27	19 28				
	DARK 1 100 MIN EXP			22:16	22, 57				
	DARK 1 2 HRS EXP			00:12	02; 12				
	FRI 15								
	DARK 1 4 HR EXP			17 59	22 00				
	12 DARKS 2 10 SEC EXP WITH 4 FIXED			22 16	22:26				

Transparency Conditions 29

Spectr. Temp. Dome Temp./Hum.

24

[illegible]

25

Date *Nov. 20-21/85* Observers *BT-Tn*.....

Emulsion Batches:

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.....

[illegible]

Spectr. Temp.

Dome Temp./Hum.

Data Disc #

[illegible]

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 ^{#1} w d ff	80
742	Halley	~ 10 min exposure						FeAr ^{#2} w d ff	80
	Dark	2x 600secs		01 23					
Core Easily visible in visual slit eyepiece (Nothing on TV)									
Also Easily visible with my binoculars.									
49490F	Focus test (Nov 23)	New G12				0 0		FeNe ^{#3} w d ff	10-20
49490T ₂	Comparison							FeAr ^{#2} FeNe ^{#1}	300 10

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
80		no filter (blunk in)					1800/14.5	320u		-153.9			
80		* 92				Retican	n	300u (moda ker)		-154.0		cloud within 10 mins.	43/400
							covered	<u>cover in</u>		-154.0		Dome lights off	
		* Exp meter voltage unchanged. It would count one count in 12 secs on sky only & ≈ 1 count in 4 secs when on comet.											
		Didn't do Flat Fields since there doesn't seem to be any worthwhile debris there.											
		Note - Sat morning ≈ 2:10 AM Nov 23 I saw a brt green, fragmented meteor/fireball 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											
						BC	830/325	250m	098	A	T-37	Set 514	ck but str
						BQ	1200/50.7	250u	II 20	A		"	

29

Date Dec 14 2005 Tues/Wed Observers Ly-15

Emulsion Batches:

.....H.O.F. 06115.....

.....

• • • • •

[illegible]

Spectr.

Focus.

Spectr.

Exp. Mit.

100

Spectr. Temp. 24°F.....

Dome Temp./Hum. /

Halley looked OK at beginning of night.
Some difficulty seeing it on 5 lit though.

5-5

Spectr. Temp.

Dome Temp./Hum. 27°F.....

Transparency Conditions .. bright sky .. 32
light haze — relatively heavy cloud

[illegible]

33

Sat-Sun

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

Emulsion Batches:

Bla group Sea H. Hcg. = 1/2 hr

[illegible]

33

35

Thurs Fri

D17 8^h 68⁰

Emulsion Batches:

II.O.E.....0611.5 181

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	15
	"			18 32	18 40				
	"			18 53	19 06				
49493	HD 27742	4 17.6	+20 45	21:02	21:21	1 24 E		FeNe #1 diffuser	4
49494	HD 27524	4 15.6	+20 49	21:27	23:55	1 12 W	+21 09	"	4
49499T	Spot Coln for 49493-96				15 min 15V	D4 3900	D3 4300	D2 4900	
49495	HD 46223	6 27.0	+4 53	00 18	13 54	2 59 W	+4 56	FeNe #1 diffuser	4A
49496	HD 107328	12 15.3	+3 53	04 05	05 08	1 31 E	+3 33	"	6
49496F	Focus					0 0	"	"	12

6115

Spectr. Temp. Dome Temp./Hum. $+17^{\circ}\text{F}/70\%$ Transparency Conditions *Some cloud* 36

Focus

Spectr. Temp. ... 15.5°F Dome Temp./Hum. $+9^{\circ}\text{F}/97\%$

Compars Type/Filter	Exp. Mtr.	Seeing	Pig. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
					Packet	100Å/mm 4.0	60μ no detector	IlaoE			cloud	F=4.25
											more cloud	
											more cloud	
BLUE FILTER	3347	3"	5.92	B4V	BL	1200 50.7	B5	IlaoE	A	Wrong star	T=18°F Set 517	slut comp wk
BLUE FILTER	10015	3"	6.77	F5V	"	"	"	"	A	Archive		comp wk LL
BLUE FILTER	7416	2"	7.47	B2	BL	1200 50.7	B5	IlaoE	A	Archive	check field T=16°F	Some comp in ste 41 comp wk
BLUE FILTER	6502	2"	6.1	K1III	"	"	"	"	A	Std Vel		comp wk
				"	"	"	"	Ilao	H		T=15.5°F Set 517	OK

37

Fr. Sat

Date Dec 27-28/85 Observers BJ-R

Emulsion Batches:

HaO 105 - 06115 16182

[illegible]

Spectr. Temp. 23°F.....Dome Temp./Hum. $-9^{\circ}\text{C}/77\%$

Transparency Conditions *Cloud at beginning of night and far end* 28

Focus 516

Spectr. Temp. 160°F.....

Dome Temp./Hum. = 13°C/75%

38

[illegible]

Fat-Sun

Emulsion Batches:

.....

.....

.....

[illegible]

Dome Temp./Hum. *-12°C/75%*

Transparency Conditions *door - passing cloud*

Focus

Spectr. Temp.

Dome Temp./Hum.

40

[illegible]

5

+ Snow

[illegible]

Spectr. Temp. $\dots 76^{\circ} \text{f} \dots$

Dome Temp./Hum.-19°C/93%

44

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				Pocket Spectrograph	100/4.0	20 μ / no dekker	IIaOC		Obs Pgm		
BLUE FILTER 9225	3-5"	7.45	F7V 53V	BC	1200 /50.7	BS	* IIaOE A		Archive		Fine ✓
BLUE FILTER 9995	3-5"	7.39	M5 III	BC	1200 /50.7	BS	* IIaOE A		Archive	T=139° F=518	Fine
BLUE FILTER 2859	4"	5.0	M2 Ia	"	"	"	* " A		Std Vel	T=60° F=520	slwk
			"	"	"	"	IIaO A			T=60° F=520	comp slwk
										All comps slwk	

Tues/Wed

Emulsion Batches: 10^m MWP-2 69° II-60-E ~~IDS-0000~~ 07 016

[illegible]

07/016

Spectr. Temp. $+12^{\circ}\text{F}$ Dome Temp./Hum. $-15^{\circ}\text{C}/70\%$ Transparency Conditions *Hazy* 46Focus 5.24 Spectr. Temp. $+5^{\circ}\text{F}$ 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
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		no filter*				BC	830/40.2	(250)	IIa-E	A	dr pyro.	Reversed- broken 1pc saved	wrong comp. as far
--	--	------------	--	--	--	----	----------	-------	-------	---	----------	----------------------------	--------------------

Note, without exp meter filter, Cometon slit counts $\approx 1/\text{sec}$ - Sky counts / count in 7secs

stopped when count behind trans.

B. filter

		1750	4.8	7.1	B8	BC	1200/50.7	BS	IIa-E	H	SB-Ly	* Ice crystal scattering (trans slow) I think.	strong sky weak +
--	--	------	-----	-----	----	----	-----------	----	-------	---	-------	--	-------------------

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

finger prints + flexure

Too cold, Telescope, motors & dome turning getting stiff. Mo too!

KK Note - I think I took a couple of pictures (2); but advanced film about 4 times. Camera left on mount.

P.S. I turned off exp meter refrigerator 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.

Dome Temp./Hum. 0°C / 70%

Dome Temp./Hum.

Transparency Conditions *OK - cloudy snow*

48

[illegible]

49

Sat-Sun

MWP-2 10th 68th

Emulsion Batches:

..II-0-E..105-08016

Date Jan 11-12/86..... Observers Ly-Tn.....

[illegible]

6

30° / 82°

18. clear - sl. haze
windy - SW 50

519.

39.4

.....+33°C / 90.8

Comparison	
Filter	Exp

51

Mon. Tues

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

Emulsion Batches:

Emulsion Batches:
10m MVP2 6r $\Pi 40-E$ for pocket
 $\Pi 40-E$ 1D5 - 08016

[illegible]

Spectr. Temp. $\pm 15^\circ \text{F}$Dome Temp./Hum. $-13^\circ \text{C}/66\%$ Transparency Conditions *fine - cloud - 22 hr.*Focus *517.5*.....

Spectr. Temp.

Dome Temp./Hum. $-16.2^\circ \text{C}/80\%$

52

Comparison
pe/Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				<i>Packet Spectrograph</i>	<i>100/4.0</i>	<i>60/19</i>	<i>* IIaO-E</i> <i>* IIaO-E</i>		<i>Obs Pgm</i>	<i>telescope reversed</i>	
<i>BLUE FILTER</i> 4,500	<i>3"-8"</i>	<i>5.2</i>	<i>KO III</i>	<i>BC</i>	<i>1200/50.7</i>	<i>150/10</i>	<i>IIaO-E</i>	<i>A</i>	<i>Std Vel</i>	<i>*230 counts added during middle comp. - detector all good the way up i "in"?</i>	
<i>Red counts = 4270</i>											
<i>Red counts = 4270</i>											
<i>B Filter</i> 2811	<i>5"-8"</i>	<i>5.2</i>	<i>KO III</i>	<i>BC</i>	<i>1200/50.7</i>	<i>BS</i>	<i>IIaO-E</i>	<i>A</i>	<i>Std Vel</i>	<i>Exp meter counted during comp - reset</i>	
										<i>(Exp meter rate $\approx$ 2 volts) or better $\approx$ faster than slit</i>	

53

Tues - Wed

Date Jan 14-15/86..... Observers Tn.....

Emulsion Batches:

10^m MWD 6^m D40-E 105-08016 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 w. Diffuser	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 Caln for 49511-15					15 min @ 15V	D4 D3 3900 4300	D2 4810	
49511F	Focus test					± 4 W	± 148°	FeNe no diffuser	15-15
49512	HD 217675	22 57.3	+41 47	19 54	20 02	4 20 W	+42 11	FeNe no diffuser	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	"	8-8-8
49515	HD 76095	08 49.0	+26 36	22 50	00 09	1 25 E	+	FeNe no diffuser	8-8-8

Spectr. Temp. $+5^{\circ}\text{F}$

Dome Temp./Hum. $-15^{\circ}\text{C}/59\%$

Dome Temp./Hum. *-19°C/80%*

Transparency Conditions *Five* 54

[illegible]

55

Mon-Tues

Date Jan. 20-21/86. Observers Bt-Ri

Emulsion Batches:

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	Starlight-1 Photometer tests - #1								
	5 Ori A	(1980) 5 31.0	(1980) -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					

Transparency Conditions *cloud* 56

Spectr. Temp.

Dome Temp./Hum.

[illegible]

57

Thurs - Fri

Date 1986 JAN 23/29 Observers TS

Emulsion Batches:

9th MWP-2 68° II-0-E 105-08016

[illegible]

Spectr

Focus

Spect

Exp. M

B. 31

781

Ver.

RCM

12

63/

Spectr. Temp.

Dome Temp./Hum. *41.8°/80%*

Transparency Conditions *semi cloudy* 58

very cloudy at 1st - Jim optimistic
+ No Exp meter at 1st (cap problem)

Comp. Filter	Exp.	Exp. Mir.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		*	2"	3.6	B6p	BC	1200/50.7	BS	II ₀ -E	A	Asm Sp	Exp meter 1836-1841 gives 5 K cpts	sl str
		7800	"	5.81	G5Vp	"	"	"	"	A	"	clear now	sl str
		very B filter	4x5 - too big at 1st till I bit off 2 corners										✓
		6316	2-3'	6.7	B2Vp	BC	830/40.2	BS	II ₀ -E	A	He Rich-Pln	T=22°F some cloud Set 5-21	comp sl str
									II ₀ -E				✓
		KK - Did an extra Spot since strips were all to be used. You once asked for an extra one for dev tests or something I believe. developed Spectroden DC 9 1/2" 66°F											

59

Ned Thurs

D-19 $8^m 69^o$

Emulsion Batches:

1120

Date Jan. 29-30/86 Observers Tn

[illegible]

Spectr. Temp. Dome Temp./Hum. /

[illegible]

Mon - Tues

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

Emulsion Batches:

HAB-7D5-22015
not 6" MY MAT 12.5

Plate No.	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	FeNe #1	8-8-8
49520T	SPOT PLATE CAL FOR 49520-21			15 MIN @ 8VOLTS	3900	430 4810			
49521	HD 115521	13 12.6	+6 00	02 43	03 50	0 16E	+5 40	FeNe #1	8-

Transparency Conditions *OK... - closed at end*

Dome Temp./Hum. -130/93%Dome Temp./Hum. -130/93%

Transparency Conditions *OK... - closed at end*

62

Comparison Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
91	BLUE FILTER					1200						
3142	4"	8.63	M ₁₂ I ₁ I ₁ BC		50.7	BS	TLDE A	Archive				Wk
							TLDE					✓?
91	BLUE FILTER					1200						
2281	5"	5.0	M ₁₂ TL ₁ BC		50.7	BS	TLDE A	Std Vc / F=517 T=160F				Wk

Tues-Wed

Date Feb 11-12, 186 Observers B. R.

Emulsion Batches:

D'9 8th 6th IT-0 105-22015 you mean
5th 6th IT-0 215-21015 6? not
YES Ri!

Emulsion Batches:

[illegible]

64

Dome Temp./Hum. $-15^{\circ}\text{C}/94\%$

Comparison Filter	Exp.
#1	
2-27	
2-28	
2-29	
2-30	
2-31	
2-32	
2-33	
2-34	
2-35	
2-36	
2-37	
2-38	
2-39	
2-40	
2-41	
2-42	
2-43	
2-44	
2-45	
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2-83	
2-84	
2-85	
2-86	
2-87	
2-88	
2-89	
2-90	
2-91	
2-92	
2-93	
2-94	
2-95	
2-96	
2-97	
2-98	
2-99	
2-100	

Wed - Thurs

Emulsion Batches:
 8m 600 II.O.E. 105 - 22016

[illegible]

216

Transparency Conditions . *Part C* 66

Snow blowing in off Domo
due to very recent snowfall

Dome Temp./Hum. 110° / 66%

[illegible]

6 67

Sat-Sun

Date Feb 15-16/86..... Observers Tn.....

D-1D 5^m 68°

Emulsion Batches:

...THAJ-efg 2J5-21016

[illegible]

Spectr. Temp. $24^{\circ}\text{F} - 5^{\circ}\text{C}$ Dome Temp./Hum. $-8^{\circ}\text{C} / 60\%$ Transparency Conditions Semi-clear $\rightarrow$ more cloudyFocus 51.5 Spectr. Temp. 20°C Dome Temp./Hum. $12^{\circ}\text{C} / 70\%$

68

Expt. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
≈ 22000	$2''-5''$	5.28	B8	BC	1200/50.7	BS	Dial-efg	A	Shell-Bln	* Exp meter timer @ 20 sec but $\approx$ time = 27 secs	OK
										$\uparrow$ the brightest of pair: the south star	
							Trial-efg				
6,200	$3''-4''$	5.22	B9IV	BC	1200/50.7	BS	"	A	SB-Bln	T = 21°F Set 516 Cloud	OK

Fri-Sat

Emulsion Batches:

TAOE 105-22016

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

5m 680 III of 2.15 - 2016

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Type/Filter	Comparison
49530	HD 6582	01 01.6	+54 26	18 49	20 27	5 11W [*]	+54 45 [*]	FelNo #1 no d. filter	7-97 54
49530T	Spot Cal'n for 49530	-31		15 min @ 15V	D4 3900	D3 4300	D2 4810		
49531	HD 6961	01 05.0	+54 37	20 32	20 51	5 31W	+54 58	FelNo #1 no d. filter	12- 58
49532	HD 29316	04 32.0	+53 17	21 01	23 48	5 59W ^x	+53 20	n 27-	13- 21
49532T	Spot Cal'n for 49532	-33.		15 min @ D4	17.5V D4 3900	15V 4300	15V 4810		
49533	HD 86360	9 52.9	+12 55	23 57	01 57	1 50W	+12 38'	FelNo #1 no d. filter	1742 30

Spectr. Temp. 27°F -3°C Dome Temp./Hum. -8°C / 66%Transparency Conditions *Fine* 70Focus $5/14$ Spectr. Temp. 17°F Dome Temp./Hum. -19°C / 86%*seeing v bad at 1st*

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
450	<i>v bad</i> 10-5	5.81	G5V	BC	1200/50.7	BS	IT-0-E	A	Asm Sp Kk	Reversal	fine
							"			poor pencil label	✓
5800	6-3	4.50	A7V	BC	1200/50.7	BS	"	A	Asm Sp Kk	Reversal	fine
21 000	3-10	5.15	AS _n	"	"	"	IT-0-efg	A	"	Reversal $T=22^{\circ}\text{F}$ Set 516	Fine
							IT-0-efg				r
32,000	5-3	5.22	B9IV	BC	1200/50.7	BS	IT-0-efg	A	SB Bl _n	Unreversal $T=17^{\circ}\text{F}$ Set 517	Fine

Date Feb 24-25/86 Observers Bt-Tn

Emulsion Batches:

Emulsion Batches:
..II-0-E 105-14026

..LIT-1-efg.2.15....-22016

21 YOU MEAN

[illegible]

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 midnightComparison
Filter Exp.

2

11-1

11-1

11-1

11-1

11-1

11-1

11-1

11-1

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
							TL ₀ E				✓
BLUE FILTER					1200						
7075	2-3"	5.81	G5V _p	BC	50.7	B5	TL ₀ E	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	"	"	"	TL ₀ Jelg	A	KK Asm Sp	" cloud	fine
BLUE FILTER											
7035	2"	6.48	ΔF8	"	"	"	TL ₀ -E	A	KK Asm Sp	" but oscil @ 1 ^h W	fine
							TL ₀ Jelg				✓
BLUE FILTER					1200					✓ Reversed still oscil. @ 1 ^h W	
5186	3"	7.2	G8V _l	BC	50.7	B5	TL ₀ -E	A	KK Asm Sp	T = 20°F F = 516	fine
BLUE FILTER											fine
25557	2-3"	3.93	F0p	"	"	"	TL ₀ Jelg	A	KK Asm Sp	telescope unreversed	

Tues-Wed

Date Feb 25-26/86 Observers Tn... + some MLL + Shenton

Emulsion Batches:

Emulsion Batches:
...Was-efg 215-22016

21000 MB

..... } NO

[illegible]

2100 m
200

Comparison	
Re/Filter	Ex

Ne#1
J. CC 1945

7	272
---	-----

12 12/14

h 22-7

Spectr. Temp. $+21^{\circ}\text{f}$

Focus 517

Spectr. Temp. $\pm 14^{\circ}f$

Dome Temp./Hum. *-11°C / 60%*

Dome Temp./Hum. -14°C / 95%

Transparency Conditions *Fine - hazy* ⁷⁴ *gusty*

Saw Mercury till 19:10 approaching horizon S / south
of due west. Greatest elongate 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
Blue G/Ho											
25050	2-3"	75.4	A5n	BC	1200/50.7	BS	Duo-Jetg	H	Asm Sp-KK	TUOK	Fmp
28,440	"	1.9	A0IV	n	"	"	"	"	"	TUOK	"
39,773	2-4"	5.22	B9IV	"	"	"	"	"	SBB-BLk	TUOK	"
24,159	3-5"	3.93	FOP	"	"	"	"	"	Asm Sp KK	TUOK getting cloudy so BLk wants to go red.	fimo
KK - A reminder about plates = Only 4 / spot IIa's is done, - cuts, in frig. only 4 / spot IIIa's is done, - in vacuum not really											
Also - Develop these IIa's with last night's IIIa's of course to include that spot plate for these exps.											
Note BS lens frosty											

wed-Thurs

Date FEB 26 / 86 - Feb 27 / 86 Observ

Date 7/26/86 Observers 82-Ki

Emulsion Batches:
5m 680 058-02 07016
8m 680 IVE 105-14026

Emulsion Batches:

[illegible]

Spectr. Temp. ... 2104

Focus 520

Spectr. Temp.

Dome Temp./Hum. 11°C/60%

Dome Temp./Hum. $-16^{\circ}\text{C}/65\%$

Transparency Conditions Line 76

wind speed increasing during night

[illegible]

Thurs. Fri.

8^m 68^o

PLA-O-E-105-26026

5th 68

098-02F.....-07016

Spectr.
Focus
Spectr.

Exp. M

BLUE FR

4/6 FILTE

50004

NO PICTURE.

444

Spectr. Temp. $+17^{\circ}\text{F}$Dome Temp./Hum. $-12^{\circ}\text{C}/58\%$ Transparency Conditions *cloud and light snow...
at end* 78Focus 51.7Spectr. Temp. $+16^{\circ}\text{F}$Dome Temp./Hum. $-12^{\circ}\text{C}/75\%$

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
Blue Filter	10000	4"-5"	5.92	FOTI	BC	1200/50.7	BS	IIaD-E	A	Fe/rG Pgm	TELE REVERSED T = 17°F - E = 51.7	fine
								IIaD-E				✓
NO FILTER	50004		5.92	FOTI	BC	1200/40.5	BS	098-02E	A	Fe/rG Pgm	T = 16°F F = 51.8	sl str
NO FILTER	27290	4"-5"	5.2	gMi	"	"	"	"	A	SH Vel	telescope unreversed T = 16°F F = 51.8	sl str
								098-02E				✓
						1200/40.5	BS	098-02E	A		T = $+16^{\circ}\text{F}$ F = 51.8	OK

Date Mar 3-4/86..... Observers BT-Ri.....

Emulsion Batches:

III J. c. g. 255-21016

1474

Spectr. Temp. *35°F*.....

Dome Temp./Hum.-1.°C./83%

Transparency Conditions *✓ poor* 80

Focus . . . 5/3

Spectr. Temp.

Dome Temp./Hum. : 1.04 / 89.9%

[illegible]

Fri-Sat

Date Mar 7-8/86 Observers Tn

Emulsion Batches:

Thal-efg. 2J5...21026

Tool-E 1 D5-26026

[illegible]

1026
5026

m. -13°C / 70%

51 busy..... 82

Spectr. Temp. $+8^{\circ}\text{f}$

m. 17C/85%

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1/4"	1/12"	7754	3	25.4	A5n	BC	1200/507	BS	IIIa-Jetg	A	Asm Sp		s/wk
1/4"	1/12"	13769	2-3	5.22	B9V	"	"	"	"	H	SB-Bln		s/sth/as desired)
1/4"	1/12"	3256	3"	6.8	G8V	BC	1200/507	BS	IIa0-E	A	Asm Sp		s/wk
									IIc0-E				✓

83

Tues - Wed

Emulsion Batches:

Date Mar. 11-12, 1986 Observers M.H. - T.J.

Plate 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 16 38	W			
	" " " "			21 10 16	21 40 19	W			
	NGC 2392 $\approx$ 8 sec S of central star			22 03 47	22 36	W			
	Dark Sky	¹⁹⁵⁰ 10 36.7	¹⁹⁵⁰ +43 22'	23 03 08	00 03	W			
	Flat Fld		with diffuser		2 secs				
	" "		" "		5 secs	(10 secs saturate)			
	" 4 Ma	¹⁹⁵⁰ 13 47.5	¹⁹⁵⁰ 49 19	00 57	00 58				
	"	"	"	04 15	04 16	(1 min exp)			
	NGC 6543					(35 min)			

84

[illegible]

[illegible]

Emulsion Batches:

4 1/2 70°	III JEF 215-28026
	II DFE 1D5-28026
4 1/2 70°	09802E 07016

[illegible]

Spectr. Temp. $+40^{\circ}\text{C}$ Dome Temp./Hum. $+1^{\circ}\text{C}/55\%$.. ^{? prob much more} Transparency Conditions *hazy - 5/c cloudy* 88

Focus 511 51.3

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	IIIa-Jelly	A	KK Asm Sp		fine
BLUE FILTER											
2670	2.3"	5.2	gH1	"	"	"	IIa-E	"	std vel		sl w k
BLUE FILTER											
6185	2"	6.48	LF8	"	"	"	IIa-E	A	KK Asm Sp		good
BLUE FILTER											
7072	1.2"	6.67	GO	"	"	"	IIa-E	A	KK Asm Sp	T = $+3^{\circ}\text{C}$ cloud a bit	good
BLUE FILTER											
35279	7"	3.93	Fop	BC	50.7	BS	IIIa-Jelly	A	KK Asm Sp	T = $+2^{\circ}\text{C}$	fine but sl. uneven
NO FILTER					1200						
6530	3"	8.4	M6	BC	40.5	BS	098-CRE	A	Obs Tgm	Very hazy F = 513 T = $+35^{\circ}\text{F}$	cont w k Hk v str
							IIIa-Jelly	*		* maybe a IIa-E but a spot prob not really required in this case?	
							* No, It is a IIIa-Jelly				
							098				

Emulsion Batches:
 2nd 1,80 *Lab-E 1 DS-17036*
 5th 680 *09802-E 07016*

Spectr. Temp. 112°FDome Temp./Hum. $-13^{\circ}\text{C}/67\%$Transparency Conditions *fine*.....90Focus *5.17*.....

Spectr. Temp.

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

Compansor Filter Exp	Exp. Mir.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
								<i>TL-0</i>	<i>A</i>			<i>vsl. 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>30.7</i>	<i>B5</i>	<i>TL-0-E</i>	<i>A</i>	<i>Fe/rG Pgm</i>	<i>telescope oscillation at 3rd</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>"</i>	<i>TL-0-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>TL-0-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>30.7</i>	<i>B5</i>	<i>TL-0-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>30.7</i>	<i>B5</i>	<i>TL-0-E</i>	<i>A</i>	<i>Fe/rG Pgm</i>	<i>T=110°F F=519</i>	<i>*comp on stellar</i>
<i>10 FILTER</i>						<i>1200</i>						
<i>40009</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=110°F F=519</i>	<i>fine</i>
<i>10 FILTER</i>												
<i>3007</i>		<i>8.4</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=10°F F=519</i>	<i>fine</i>
											<i>*comp slstr TOO</i>	

Fri-Sat.

Date Mar 21-22/86 Observers BT-Ri

8th 68^o Emulsion Batches:
H2O-E 1.D5-17036....
5th 68^o 098-02-E 9085 -07016....

[illegible]

Spectr. Temp. *+23°F.*.....

Dome Temp./Hum.-5.0C/59%

Transparency Conditions *page 92 cloud* 92

Focus ..5.16.....

Spectr. Temp.

Dome Temp./Hum. ... 7°C / 90%

[illegible]

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

5th 68th 112 Jf

Plate No.	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 #1 ^{no} diffuser	23-23
49580	HD 56986	7 14.1	+22 10	19:13	19:49	x 0 22E	+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 ^{Sec}
T2	"			Slicer rotated away from stop				"	"

Spectr. Temp. *37°F*.....Dome Temp./Hum. *+28/36%*

Transparency Conditions *vs. poor and getting worse..*

Focus . 512

Spectr. Temp. 36°F.....Dome Temp./Hum. 0°C / 81%

94

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
30-3									<u>TlaO-E</u>				cont. sl/red
23-22		BLUE FILTER 40371	2-3"	1.9	AoIV	BC	1200 30.7	135	<u>TlaT-ely</u>	A	KK Asm Sp		fine
23-21		BLUE FILTER 40006		3.9	FoIV	"	15"	"	<u>TlaT-ely</u>	A	KK Asm Sp		"
23-		BLUE FILTER 24000		2.2	K3II-III	"	"	"	<u>TlaT-ely</u>	A	Std Vel	cloud T=370°F F=512	"
e 13"									A A			F=509 T=500°F	"

Sat-Sun

Emulsion Batches:

IIaO-E 105 - 17036

[illegible]

Spectr. Temp. ... $+61^{\circ}\text{F}$... 16°C

Dome Temp./Hum. +58°f/52%

Transparency Conditions *5/10/20* *96*

Focus506.....

Spectr. Temp. $+60^{\circ} \dots 15^{\circ} \text{C}$

Dome Temp./Hum. 45.5°/65%

Comparison Filter	Exp	Exp. Mtr. <i>Blue G/Hor</i>	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
10-21	5-10	7,100	1-2"	27	LF8	BC	1200/507	BS	IIoD-E	A	Asm Sp-AK	* Reversed both w/d 83 -19.80	
11-1		7,170	2-5"	3.93	Fop	"	"	"	"	"	"		fine
11-1		3,500	3-8"	5.0	M2	"	"	"	"	"	std vel	seeing getting v bad	slwk

Observers

B4-7₁₇

developing rack clips

failed plates in bottom of

Emulsion Batches:

III aJ-cf. 2J5 - 28026

7440-E 105-17036

[illegible]

Date Mar. 31 - Apr. 1/86 Observers Bl-Tn

Emulsion Batches:

PROD 105 - 31036

[illegible]

Spectr. Temp. $+50.0^{\circ}\text{F}$Dome Temp./Hum. $+8.0^{\circ}\text{C}/57\%$ Transparency Conditions *hazy*..... - *Cloudy / Dark*Focus... 50.9Spectr. Temp. 42.1°CDome Temp./Hum. $+4.2^{\circ}\text{C}/80\%$ * Tilt increased sl from what KK tried
set to bring HB on for sure.
Tilt Prob $50.8 - 50.9$ now 100

Comparison pe/Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>BLUE FILTER</i>	<i>3655</i>	<i>4"</i>	<i>5.81</i>	<i>G5</i>	<i>BC</i>	<i>1200</i> <i>50.7</i>	<i>BS</i>	<i>TaO-E</i>	<i>A</i>	<i>KK Asm Sp</i>	<i>telescope reversed</i>	<i>Comp wk</i> <i>slut</i>
<i>BLUE FILTER</i>	<i>6650</i>	<i>4"</i>	<i>6.48</i>	<i>DF8</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>TaO-E</i>	<i>A</i>	<i>KK Asm Sp</i>	<i>"</i>	<i>Comp wk</i> <i>slut</i>
<i>NO FILTER</i>	<i>44573</i>	<i>3-4"</i>	<i>8.4</i>	<i>M6</i>	<i>BC</i>	<i>830</i> <i>40.2</i>	<i>BS</i>	<i>TaO-E</i>	<i>A</i>	<i>Obs Pgm</i>	<i>T=43°F F=514</i> <i>telescope unreversed</i> <i>cloud</i>	<i>Comp OK</i> <i>slut</i>

Wed-Thurs

Date Apr 2-3 186..... Observers Tn.....

Emulsion Batches:

6m	68	III. e-fg	2J5	-25036
		II. o-f	105	-31036

[illegible]

Spectr. Temp. $44^{\circ}\text{F.} + 6^{\circ}\text{C}$ Dome Temp./Hum. *+44°/52%*Dome Temp./Hum. $+91^{\circ}\text{F}/70\%$ Transparency Conditions File 102

Problems with Comp-Exp mirror systems
(very manual tonight)

[illegible]

Fri-Sat

Date Apr 4-5/86 Observers Tn

5m 680 No spots

Emulsion Batches:

Trail-Ex. 215-25036

Πα.Ο.Ε. 105 31036

[illegible]

104

* Spectra displaced from center is by source that

105

Sun-Mon

KK Tour before

Date Apr. 6-7/86 Observers Tn

Emulsion Batches:

Emulsion Batches.
...D90-E 105- 31036

[illegible]

Spectr. Temp. 51°f.....Dome Temp./Hum. *1952/80%*.....

Transparency Conditions *getting hazier & closer*.....

Focus509.....

Spectr. Temp.

Dome Temp./Hum. / 852

106

[illegible]

Date Apr 12-13/86 Observers Bt-Tn

Emulsion Batches:
..ΠαΟ-Ε 105...-31036

Date Apr 12-13/86 Observers Dt-7n

[illegible]

31036

Dome Temp./Hum. $+2^{\circ}\text{C}/54\%$

Transparency Conditions *Clear by 02 EST*

Focus... 512.....

Spectr. Temp. $+3.7^{\circ}$

Dome Temp./Hum. 02/88%

108

[illegible]

Sun - mon

Flm tour

Date Apr. 13-14/86.... Observers K.K. Tr. / Tr.

Emulsion Batches:

8^m 68° II-0-E 105 - 31036
II-0-E 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.
Flm Tour	looked at moon		10 persons.						
	K.K. Tr. did sky brightness measurements after moonset - Tabulated by K.K.								
	NGC 2392								
49605	HD 66751	7 59.9	+70 00	00 36	02 56	08 00 W	+69 38	FeNe ²¹ Temp	13-13
49606	HD 137909	15 23.7	+29 27	03 06	03 27	01 11 W	+29 18	"	30-30
49607	HD 165908	18 03.2	+30 33	03 33	03 52	01 02 E	+30 41	"	17-17
49608	HD 161096	17 38.5	+4 37	03 58	04 03	0 30 E	+	"	17-17
	May 2/86							Fe Tung	15-15 5
49608T	Comparison Test								

[illegible]

111

NEW COMPARISON SYSTEM + MICROW RACK CONTROL SYSTEM

Emulsion Batches:

100-F 105-31036

Date Fri-Sat May 2-3/86 Observers KK-R:

[illegible]

Spectr. Temp. 4605.....

Dome Temp./Hum.

Transparency Conditions *CIRROS*

Focus 510

Spectr. Temp.

Dome Temp./Hum.

112

Mar 15-15

[illegible]

Sat-Sun

Date May 3-4, 1866 Observers BT-R.

Emulsion Batches:

Emulsion Batches:
 III-2c + 2J5-07046
 IIV-E 1D5-31036

Пав.Е 105-31036.....

[illegible]

Spectr. Temp. 45°F.....

Dome Temp./Hum. 40°/60%

Transparency Conditions *OK*.....

Focus . . . 510

Spectr. Temp. 43°F.....Dome Temp./Hum. 22 / 73%

114

[illegible]

Spectr. Temp. ... 6.505 ...

Dome Temp./Hum. 12°C 76%

Transparency Conditions ... Good 116

Focus 505

Spectr. Temp.

Dome Temp./Hum. ... 11°C ... 80%

[illegible]

Date FRI-SAT MAY 9-10/86 Observers R. (Dr. Toon WORKING IN P.P.S. Room) 5th Fl. Wt. 4 255-31036

Emulsion Batches:
8th 680 Two-E 1D5-06046
5th 1949 Two-E 2J5-31036

[illegible]

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%

Companso Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	7500		6.67	GO	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	Fop	B.C.	1200/50.7	B.S.	IIA0-E	A	Asm Sp-KK	T=53°F F=508	fine
	8000		5.9	GOI	B.C.	1200/50.7	B.S.	IIA0-E	A	STD VEL	T=53°F F=508	fine
								IIA0-E		III		✓
	40000		2.2	ASIII	B.C.	1200/50.7	B.S.	IIA0-E	A	Asm-sp-KK	T=52°F F=508	fine
	40000		3.68	FOII	B.C.	1200/50.7	B.S.	IIA0-E	A	Asm-sp-KK		fine

Date SAT SUN MAY 10-11/86 Observers Ri (Mk1, PHOTOP. 14)

Emulsion Batches:
8m 68 Two-E 105-06046

[illegible]

Spectr. Temp. ... 620° F

Dome Temp./Hum. . . 13°C . . . 58%

Transparency Conditions ... Good 120

Focus 506

Spectr. Temp.

Dome Temp./Hum. . 12°C . . . 65%

[illegible]

124

Date *Sun - Mon*
May 11-12/86 Observers *BH-Ri*.....

8^m 680

Emulsion Batches:

Emulsion Batches:
Hao-E 105-06046.....

[illegible]

Spectr.

Focus.

Spectr

Exp. Mt

BLUE FID

8008

BLUE FIL

800

2504

10

Spectr. Temp. 640F.....Dome Temp./Hum. 15°C / 52%Transparency Conditions 122.....Focus 506.....CLEAN 120W ARC NEW VERY DIRTYSpectr. 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
<u>BLUE FILTER</u> <u>8008</u>	<u>3"</u>	<u>3.3</u>	<u>F6IV</u>	<u>BC</u>	<u>1200</u> <u>50.7</u>	<u>BS</u>	<u>TI-O-E</u>	<u>A</u>	<u>5th Vel</u>		<u>fine</u>
							<u>TI-O-E</u>				<u>✓</u>
<u>CCD viewing, VCR recording, still photography.</u>											
<u>BLUE FILTER</u> <u>8000</u>		<u>6.8</u>	<u>G8V</u>	<u>BC</u>	<u>1200</u> <u>50.7</u>	<u>BS</u>	<u>TI-O-E</u>	<u>A</u>	<u>KK Am Sp</u>	<u>T=61°F F=506</u>	<u>fine</u>
<u>BLUE FILTER</u> <u>2505</u>	<u>4"</u>	<u>8.4</u>	<u>M6</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>Obs Pgm</u>	<u>E584 F=507</u>	<u>cloudy</u>
							<u>TI-O-E</u>				<u>✓</u>

123

Mon-Tues

Date May 12-13/86 Observers BT-Ri

Emulsion Batches:

Enlistment Batch: TRD-E 1D5-10056

5^m 68° 098.02E 09085 - 05056

[illegible]

Spectr. Temp. 61.0°F.....

Dome Temp./Hum. 14°C / 47%

Transparency Conditions high cloud.....

124

Focus... 50.6.....

APERTURE WHEEL TROUBLE
ON ALL 098-02 EXPOSURE

Spectr. Temp. 54.0°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/					cloud	
1/ear 75-25	3872	3"	6.48	LF8	BC	30.7	BS	Tlao-E	A	KK Asm Sp	telescope reversed	unk
	BLUE FILTER										T=56°F F=508	
25-25	5292		6.56	M6III	"	"	"	Tlao-E	A	Obs Pgm	CH Cyg std	fine
								Tlao-E				✓
1/ear 5-5	10 FILTER		6.56	M6III	BC	1200/						fine
	40053					40.5	BS	098-02E	A	Obs Pgm	T=55°F E=509	comp str
8-8	10 FILTER		"	"	"	"	"	098-02E	A	Obs Pgm		sl weak
	10025		"	"	"	"	"	098-02E	A	Obs Pgm		comp sl. str.
8-8	10 FILTER		✓									fine
		8.4	M6	"	"	"	"	098-02E	A	Obs Pgm	no exposure	comp. sl. str.
								098-02E				✓
1/ear 8-8	10 FILTER		✓			1200/						
		8.4	M6	BC		40.5	BS	098-02E	A	Obs Pgm	no exposure	
	10 FILTER		✓			1200/						
	10006	8.4	M6	BC		40.5	BS	098-02E	A	Obs Pgm	T=54°F F=509	Ha ok cont weak comp. sl. str.

Tues-Wed

Date May 13-19, 1986... Observers ... Ri-Ta.....

Emulsion Batches:

II-O-E...105...10056

.....

.....

[illegible]

056

...5.5%

126

506

Dome Temp./Hum. *+9°C / 90%*Dome Temp./Hum. *+9°C / 90%*

Comparison	
Filter	Exp.

clear 15-25

25-25

42 5-25

[illegible]

127

Sat. Sun

Date May 24-25/86 Observers BT-Ri

Emulsion Batches:

Паб-Е 1D5-10056

[illegible]

Spectr. Temp. ...62°F.....

Dome Temp./Hum. 14°C/93%₂

Transparency Conditions thin, high cloud at times...

Focus506.....

Spectr. Temp. ...58°F.....

Dome Temp./Hum. 12°C/97%₀

128

Comparison
Filter Exp.

Comparison Filter Exp.	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/ 50.7	135	TlaOE	A	Std Vel	testing comparison control system - 15"	fine
BLUE FILTER	10620		3.93	Fop	"	"	"	TlaOE	A	KK Asm Sp		fine
BLUE FILTER	10125		"	"	"	"	"	TlaOE	A	KK Asm Sp	Fe arc had to be cleaned at 1st comp	fine
BLUE FILTER	10016		2	F	"	"	"	TlaOE	A	KK Asm Sp	Fe arc had to be cleaned at 1st; last comp	fine
BLUE FILTER	10076		"	"	"	"	"	TlaOE	A	KK Asm Sp	Fe arc had to be cleaned at mid-comp.	"
BLUE FILTER	10066		2.2	A5III	"	"	"	TlaOE	A	KK Asm Sp	Fe arc had to be cleaned at 1st comp	"
BLUE FILTER	10006		"	"	"	"	"	TlaOE	A	KK Asm Sp	Fe arc had to be cleaned at end comp	fine
BLUE FILTER	10001	5"	5.5	F7V	"	"	"	TlaOE	A	KK Asm Sp	Fe arc had to be cleaned at mid comp T=60°F S=506	fine
								TlaOE				✓
BLUE FILTER	39387		3.68	FOIV	BC	1200/ 50.7	135	TlaTely	A	KK Asm Sp	Fe arc had to be, last cleaned at mid-comp	s/fog fine

Emulsion Batches: 07046
 5^m 68 H.T.-I 2J5-~~07046~~.....
 8^m 68 H.T.-I 1P5-10056.....
 5^m 68 098-02 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.
49643	HD107328	12 15.3	3 53	20 25	21 58	1 34W	+3 30	Fe/clear	60-120
49643F	Focus Test					0 00		Fe/ CLEAR	90sec 90
49643T	SPOT CALD PLATE FOR PLATES 49642-				15MIN @ D4	① 17.5V 3900	② 15V 4300	③ 15V 4810	
49644	HD137909	15 23.7	+29 27	22 06	22 34	0 56E	+29 17	Fe/clear	60-60
49645	HD140538	15 39.1	+2 50	22 43	00 07	0 20W	+2 40	"	25-25-25
49646	HD148783	16 25.1	+42 06	00 13	00 40	0 08W	+42 03	"	25-25-25
49647	"	"	"	00 49	00 58	0 27W	"	FeNo/ clear	6-6-6
49648	"	"	"	01 02	01 04	0 32W	"	"	9-9
49649	HD182917	19 21.9	+50 02	01 11	01 35	1 52E	+50 22	"	6-6-6
49649T	SPOT CAL FOR PLATES 49645-				15MIN @ 15VOLTS	① D4 3900	② D3 4300	③ D2 4810	
49650	HD182917	19 21.9	+50 02	01 41	03:21	0 06E	+50 22	FeNo/ clear	6-6-6
49650F	Focus Test							Fe/Ne CLEAR	25-25
49650T	SPOT CAL FOR PLATES 49642-50				15MIN	① 15V D3 4810	② 7VDI Hx	③ D2 7V 5450	
49651	HD196524	20 32.9	+14 15	03 35	04 04	0 37E	+14 43	Fe/ clear	60-60
	KARL								NO MORE FILM IN DONE VACUUM TANKS

Spectr. Temp. *70°F*.....Dome Temp./Hum. *19°C/63%*

Transparency Conditions *poor... high cloud*.....
130

Focus 504.....

Spectr. Temp.

Dome Temp./Hum. *14°C / 86%*

Comparison Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1 6-8-7	BUE FILTER 8019	3"	V 4.96	K-III	BC	1200 /50.7	BS	IIaJely	A	Std Vel	high cloud	* some fog slow
FAR 90x	:							IaO	A		T=70°F F=504	OK
10								IIaJely				"
1 6-10-	BUE FILTER 40016		3.93	Fop	BC	1200 /50.7	BS	IIaJely	A	KK Asm Sp	Fe arc had to be cleaned	* fine
5-6	BUE FILTER 8000		6.55	dG5	"	"	"	IaO-E	A	KK Asm Sp	Fe arc had to be cleaned	fine
5-3	BUE FILTER 3511		6.56	M6III	"	"	"	IaO-E	A	Ebs Pgm	Fe arc had to be cleaned T=66°F F=505	comp str slow
✓ 6-12-	NO FILTER 40026		"	"	"	1200 /40.5	"	O98-OZE	A	Obs Pgm	T=66°F F=507	comp str fine
9-7	NO FILTER 10077		"	"	"	"	"	O98-OZE	A	Obs Pgm		comp str ok
1-4	NO FILTER 10099		V 8.4	M6	"	"	"	O98-OZE	A	Ebs Pgm		
								IaO-E				✓
2 6-1-	NO FILTER 40002		V 8.4	M6	BC	1200 /40.5	BS	O98-OZE	A	Ebs Pgm		comp str fine
6-25-					"	"	"	O98-OZE	A		T=63°F F=507	OK
1								O98-OZE				✓
1 6-1-	BUE FILTER 12009		V 3.78	F5IV	BC	1200 /30.7	BS	IIaJely	A	KK Asm Sp	T=63°F F=505½	
								* These emulsions quite different in fog level! but should be same batch				

Date *Mon-Tues*
May. 26-27/86 Observers *BT-R*

Emulsion Batches:

8th 68th *H&O-E. 1.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	<i>Fe/clear</i>	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
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
49658	HD182917	19 21.9	+50 02	23 37	03 52	0 28E	+50 19	"	25-25
4965BT	SPOT CAL FOR PLATES 49652-58					15MIN @ 15VOLTS	① 04 ② 03 ③ 02 3900 4300 4810		

Spectr. T.

Focus...

Spectr. I.

Exp. Mr.

BLUE FILM

10003

BLUE FILM

10004

BLUE FILM

8000

BLUE FILM

10015

BLUE FILM

10259

BLUE FILM

4028

BLUE FILM

3502

Spectr. Temp. 70°F.....Dome Temp./Hum. 20°C/63%Transparency Conditions poor - high cloud and hazeFocus 504.....Spectr. Temp. 66°F.....Dome Temp./Hum. 16°C/68%Fe arc had to be cleaned frequently during night

132

Comparison Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
BLUE FILTER						1200						
10003	2'3"	3.93	Fop	13C	507	135	TlaO-E	A	KK Asm Sp			fine
BLUE FILTER												
10009	"	"	"	"	"	"	TlaO-E	A	KK Asm Sp			fine
BLUE FILTER												
8000	6.55	d65	"	"	"	"	TlaO-E	A	KK Asm Sp			fine
BLUE FILTER												
10015	2	F	"	"	"	"	TlaO-E	A	KK Asm Sp			fine
BLUE FILTER												
10259	"	"	"	"	"	"	TlaO-E	A	KK Asm Sp			fine
BLUE FILTER												
4078	6.56	M6	"	"	"	"	TlaO-E	A	Obs Pgm			slut
BLUE FILTER												
3502	8.4	M6	"	"	"	"	TlaO-E	A	Obs Pgm			u/kb OK
							TlaO-E					✓

133

F/n tour at sunset

Emulsion Batches:

Date May 28-29/86 Observers D. J. H.

8-68

П.О.Е 105-26056

5-68

Mem. of 215-07096

[illegible]

Spectr. Temp. 73°

Dome Temp./Hum. 22°C / 58%

Transparency Conditions ... 5/6/29 134

Focus 50.3

Frequent Fe arc problems again tonight

Spectr. Temp. 70°F

Dome Temp./Hum. 20°C / 65%

Comparison
pe/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	BS	Tl-O-E	A	KK Asm Sp	no exposure	
BLUE FILTER					1200						
8000	3"	6.55	d65	BC	50.7	BS	Tl-O-E	A	KK Asm Sp		good
BLUE FILTER											
8000	2"	7.09	AKI 69V	"	"	"	Tl-O-E	A	KK Asm Sp		good
BLUE FILTER											
40024	2"	378	FSTV	"	"	"	Tl-O-E Tl-O-E	A	KK Asm Sp		good

135

Thurs. - Fri.

Date May 29/30/86 Observers Lgt-Tn

Emulsion Batches:

5-68

8th 68

..Mal-efy 215-14056
 ..Tao-F 105-29056

[illegible]

90-6
29056

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

Comparison
Filter Exp.

40830
4393
37742
38000

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
40830	3'	3.93	Fop	B.C.	1200/50.7	BS	IIIaJ-fg	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 hazier - Set 506	good comp wh
37742		3.68	Fo IV	B.C.	1200/50.7	BS	IIIaJ-fg	A	KK asm-sp	T=72°F Set 504	good comp wh
38000		2.2	A5 III	B.C.	1200/50.7	BS	IIIaJ-fg	A	KK asm-sp		no comp

Note - comps for 1st 2 plates may not exist because Aperture was out of sync. I discovered & hopefully rectified for 45669 ->

Fri Sat

5th 68th

Emulsion Batches:

...IIIa-efg... 2J5-14056

[illegible]

Spectr.

Focus.

Spectr.

Exp. Mt.

10

562

Transparency Conditions *Hazy* 138

Focus 503

Spectr. Temp. ... 79°K

Dome Temp./Hum. 72°/75%

Comparison	
e/Filter	Exp

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		Blue Filter											
56260	1 st	4.10	BT _m	BC	1200/507	BS	III ₂ L-efg	A	Be-Bln			* rotated $\approx$ 2 min wrong gap - too large	no comp exp line dev. patchy

56
5056

Spectr. Temp. 56°F..... Dome Temp./Hum. 11°C/51% Transparency Conditions Fine..... 140

Focus 508.....

Spectr. Temp. Dome Temp./Hum. 6°C/55%

Companso /Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1	BLUE FILTER					1200						
1	8064		4.16	F9V	BC	50.7	BS	IIaOE	A	Std Vel		fine
1	BLUE FILTER											
1	8042		6.2	G2V	"	"	"	IIaOE	A	KK Asm Sp		fine
								IIaOE				✓
1	BLUE FILTER					830						
1	5240	Poor	7.62	G8V	BC	40.2	BS	IIaOE	A	KK Asm Sp		fine
1	NO FILTER		V			1200						comps/sth
1	40009		8.4	M6	"	405	"	098-02E	A	Obs Pgm	T=50°F F=510	OK
1	NO FILTER											comps/sth
1	0018		"	"	"	"	"	098-02E	A	Obs Pgm		OK
								098-02E				✓

* comp exp procedure for IIaO plates, except for 830/40.2 exps
 (i) 20^s for 1st exp, (ii) two slots of 20^s separated by ~45^s for mid exp.,
 (iii) 20^s for final exp.

Tues-Wed

Emulsion Batches:

8^m 68° II.0.D.-E. 105-29056
II.0.L.-E. 215-07046

[illegible]

Spectr. Temp. 53°f.....

Dome Temp./Hum. *+12°C / 52%*

Dome Temp./Hum. $+10^{\circ}\text{C.} / 55\%$

Transparency Conditions *high cloud getting worse*.....

142

[illegible]

4056
056

Spectr. Temp. ... 70°F
Focus ... 504
Spectr. Temp. ... 69°F
Dome Temp./Hum. 68°F / 50%

Dome Temp./Hum. 66°F / 70%

Transparency Conditions *sl/hazy* 144
5046
847

Comparison Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Time of exp	Remarks	Quality
		<i>Blue filter</i>												
		<i>39000</i>	<i>OK</i>	<i>3.93</i>	<i>F0p</i>	<i>BC</i>	<i>1200/50.7</i>	<i>BS</i>	<i>IIIaJ-efg</i>	<i>A</i>	<i>Asm Sp KK</i>	<i>40</i>	<i>574</i>	<i>* after</i>
												<i>30</i>	<i>360</i>	<i>sub. truth</i>
												<i>40</i>	<i>446</i>	<i>of comp. exps</i>
									<i>IIIaJ-efg</i>					
		<i>4,400</i>	<i>OK</i>	<i>7.09</i>	<i>dk1</i>	<i>BC</i>	<i>1200/50.7</i>	<i>BS</i>	<i>IIa0-E</i>	<i>A</i>	<i>Asm Sp KK</i>	<i>20</i>	<i>228</i>	<i>* comp in stellar</i>
												<i>20</i>	<i>183</i>	<i>5/ wk</i>
												<i>20</i>	<i>221</i>	
												<i>20</i>	<i>199</i>	

K.K. Ron will need at least *1.1* for Sunday
on other (open) nights I don't mind doing more work on
his star. I did this *IIa0* spot because there were
plenty of them in box anyway.

147 Sun / Mon.

Date June 8-9 1986 Observers Hy-Tn

Emulsion Batches:

Emulsion Batches:

Tellus Jctg.	215 - 14056
Pro-o-e	105 - 04066

Plate No.	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	Fe/clean	3/30
49681 T	Spot C ₆ /4	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	Fe/clean	18 18
49682 T	Spot C ₆ /6	for 49682, 84 +	next night		15 min @ 15V	3900	4300	4810	
49683	HD164852	17 58.1	+20 50	01 16	03 19	2 09 W	+20 59	Fe/clean	18 30-2
49684	HD187691	19 46.2	+10 10	03 26	03 55	0 57 W	+10 31	Fe/clean	20-20*

148

Kt all done ITal use up now

Spectr. Temp. ... 66°f

Focus 505-507

Spectr. Temp. 60°F.....

Dome Temp./Hum. 65°F./45%

Dome Temp./Hum. +55°F / 52%

Transparency Conditions *Fine* 150

Spot + Calm for these 124 Os is of previous night.

Comp. no.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Comp Time	Exp Chgs	Remarks	Quality
1000	7000	2"	FG2	1G2	BC	1200/507	BS	II ₀ -E	A	Asm Sp	20 = 257	20 = 283	OK but vslwk	
2202		"	"	"	"	"	—			3 min exp.				
5350		"	"	"	"	"	—			3 min				
1,600										3 min				
2,809										3 min				
6000	6000	2"	709	dk1	BC	1200/507	BS	II ₀ -E	A	Hsm Sp	20 = 263	20 = 255	OK but vslwk	
6000	6000	3"	6155	1G5	"	"	"	"	"	"	20 = 270	20 = 321	OK vslwk	
(20 = 150' midcomp) End comp 230 cnts														

151

Date Fri. Sat. June 13-14 1986 Observers Yewell - Ri.

8^m 680

Emulsion Batches:

Emulsion Batches:
Jao-12 1D5-04066

[illegible]

Spectr. Temp. ... 66° F

Dome Temp./Hum. 15°C 55%

Transparency Conditions .. CLOUDS .. AFTER .. ON LAD

Focus 508

152

Spectr. Temp.

Dome Temp./Hum.

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20-20 CAQ	8003		6.79	09V	B.C.	B ³⁰ / _{40.2}	B.S.	IIA0-E	A	Bl _n -O*		fine
20-20 / HR	8001		5.60	FBII-I	B.C.	B ³⁰ / _{40.2}	B.S.	IIA0-E	A	STD-VEL		fine
20-20 / PAR	5402		6.22	dFS+ G8	B.C.	400 / _{50.7}	B.S.	IIA0-E	A	SPB _n -Bl _n	9-62F F1506 CLOUDED IN	slut
02 010								IIA0-E				

Date June 16-17/86 Observers BT-Ri.....

Emulsion Batches:
 8 120-E-105-04066
 5 098-02-E-09085-05056

[illegible]

Spectr. Temp. 60°F.....Dome Temp./Hum. 12°C / 84%

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

154

Comparison Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
10-20-20	BLUE FILTER					1200						
10-20-20	6589		4.32	M05 III	BC	50.7	B5	TLO-E	A	Std Vel	exp. ended by cloud	Post v/k fine
10-20-20	10 FILTER					1200						
10-20-20	40015		6.56	M6 III	"	40.5	"	098-02E	A	Obs Pgm	T=630°F F=507	fine
10-20-20	10 FILTER											
10-20-20	29632		8.4	M6	"	"	"	098-02E	A	Obs Pgm	exp ended by cloud	fine
10-20-20								098-02E				✓
10-20-20						1200/40.5	B.5.	098-02E			T=590°F F=507	✓ OK

155

Date Tues - 4th June 17/8/86 Observers VENU - R

55

Emulsion Batches:

Tiao-E 105-04066

Wet 215-10066

[illegible]

Spectr. Temp. ... 509

Dome Temp./Hum. ... 12°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
20-20						B.C.	830/40.2	B.S.	II ₂₀	A		T = 61°F F = 509	✓ conts/red
20-20		BLUE FILTER				B.C.	830/40.2	B.S.	II ₂₀ -E	A	Bl _n -O*		1 st slwk
20-20		10000	6.79	09IV					II ₂₀ -E				vs/wk
20-20									II ₂₀ -E				✓
20-20		BLUE FILTER				B.C.	1200/50.7	B.S.	III ₂₀ Te 4	A	SB-Bl _n	T = 57°F F = 507	Si ₂₀
20-20		40000	5.19	B3IV					III ₂₀ Te 4				✓
20-20		BLUE FILTER				B.C.	830/40.2	B.S.	II ₂₀ -E	A	STD VEL	T = 56°F F = 511	fine
20-20		8000	5.94	G8II					II ₂₀ -E	A	Bl _n -O*	T = 54°F	1 st slwk
20-20		12000	5.94	09IV(N)		B.C.	830/40.2	B.S.	II ₂₀ -E	A			fine

Transparency Conditions . . . Fine . . . 158

Dome Temp./Hum.

Dome Temp./Hum.

[illegible]

Spectr. Temp. ... 68°F 20°C Dome Temp./Hum. 16.57 / 70%

Transparency Conditions . *Five - 5/1 cloudy* 160

Focus 505

Spectr. Temp. 63°.....

Dome Temp./Hum. *75.9°/80%*

no 098 in done unfortunately
no request for them, unfortunately

[illegible]

Mon - Tues

Emulsion Batches:

..... Da0-E 3J5 13066

5th 70th ... IITAS-efg 255-... 10066

[illegible]

Spectr.

Focus.

Spectr.

Exp. Mut.

1.0 GHz

13056
0066

12°/50b

162

Focus 503.....

Spectr. Temp.

Dome Temp./Hum.

Thunderstorm coming

[illegible]

Transparency Conditions *Fine* 164

Dome Temp./Hum. 75/71/60%

Reficon wort
Dewar topped up @ 20^h

[illegible]

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	Stellar	20sec
826 ⁱⁿ 804	HD 139892	15 ^h 35.6 ^m	+36° 58'	21:00 21:00	21:35			FeA T60+H FeArc T30+3	800
827 ⁱⁿ	HD 139892	"	"	21:37	21:50				120
	FLAT FIELD			21:54				TUNG T15	
	"							" T6	
	"							" TAT	
	"			22:01				" T15	
	"			22:03.6				" T12	
	"			22:09				TUNG 9000 cts	9000
	"			22:10				" 8000 cts	8000
	"			22:13				" "	850
838 ⁱⁿ 809	VEGA			22:41	22:48	Comp		FeA T60+H FeArc T30+	158
	DARK			23:12:21				3x720 sec. 3 fixed	

Spectr. Temp. Dome Temp./Hum. $+59^{\circ}\text{F.}/44\%$ Transparency Conditions haze 166

Focus

Spectr. Temp. Dome Temp./Hum.

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
20 sec. FeA				RETICON	1800/425	250/1.0	—	—	KK Reticon	HI GAIN T120 x2 T = -155.7	
										Avg. shift +.06 from 23 lines $\rightarrow 7^{\circ}$ CWISE $\Rightarrow$ per	
8000	3"	5.00	B7V	"	"	"			KK Reticon	HI GAIN T = -155.7	cloud
12 000										" T = -155.6	
				"	"	"				" T = -155.4	saturation
				"	"	"				" T = -155.4	"
				"	"	"				" T = -155.6	good
				"	"	"				LO GAIN T = -155.6	end saturation
				"	"	"				LO GAIN T = -155.6	
8000				"	"	"				HI GAIN T = -155.5	
8000				"	"	"				HI GAIN T = -155.5	
8640				"	"	"				HI GAIN T = -155.5	
8500				"	"	"				HI GAIN T = -155.5	
6585	2"			"	"	"				LO GAIN T = -155.7	cloud
				"	"	"				LO GAIN T = -155.7	

167

Thurs - Fri

Date June 26/27, 1986 Observers Lgt - Tn

Emulsion Batches:

.....

.....

.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
844 _{Tn}	Focus test	(1st indicated)	109° CW, did 100° CW	21 03	21 11	4 OE	+38 50	C1 A5	120/120
811	Vega			21 03	21 11			FeA FeArc	120 30+30
	Flat Fld "Lump"		C2, A5	21 25	T12				
847 _{Tn}	Vega			21 42	21 52	(then cloud)		FeA FeArc	120 30+30
	Flat Fld "Lump"		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 _{Tn}	Vega			23 41	23 52				
858 _{Tn}	Vega			23 54				FeA FeArc	120 30+30
	Flat Fld "Lump"		C2, A5, T12	* unknown exposure	see trouble sheet				
	DARK X3			00 58		3x 540 sec. each		3 final patterns	

Spectr. Temp. Dome Temp./Hum. *70°F / 43%*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
A5 120/30	<i>2nd ind. ind. 28 CW; 20 CW</i>				<i>BC</i> <i>1800/42.5</i>	<i>1800/42.5</i>	<i>250/10</i>	<i>HG</i>			<i>T = -154.9</i>	
A 120 Arc 30+30	<i>1895 - 1st ind. 1</i> <i>189139 - 2nd ind. 1</i>				<i>BC</i>	<i>4</i>	<i>"</i>	<i>LG</i>	<i>1st</i>	<i>Fe Arc 2048</i>	<i>cnts</i>	
								<i>LG</i>	<i>2nd</i>	<i>Fe Arc 2170</i>		
											<i>Cloud</i>	
A 120 Arc 30+	<i>56321</i>	<i>Cloud</i>			<i>BC</i>	<i>1800/42.5</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 = 1808</i> <i>Fe Arc = 1500</i>	
								<i>LG</i>			<i>T = -154.8</i>	
					<i>BC</i>	<i>1800/42.5</i>	<i>250/10</i>	<i>HG</i>			<i>T = -154.9</i>	
A 120 Arc 30+	<i>450000</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>	
A 120 Arc 30+30	<i>49070</i>				<i>"</i>	<i>"</i>	<i>"</i>	<i>LG</i>			<i>T = -155.0</i>	<i>Good</i>
	<i>452170</i>				<i>"</i>	<i>"</i>	<i>"</i>	<i>LG</i>			<i>T = -155.0</i>	
A 120 Arc 30+	<i>450427</i>				<i>"</i>	<i>"</i>	<i>"</i>	<i>LG</i>			<i>T = -155.0</i> <i>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>	

Spectr. Temp. *69.5°*.....Dome Temp./Hum. 163°/55%

Transparency Conditions *Fine but gusty* 170

Focus 505

Spectr. Temp.

Dome Temp./Hum. 153°F / 95%

Companson Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
125	100					BC	1200/50.7	BS	IIcO	A		* Cathex meter 934/1100	catas/red
20	20	37000	v poor	5.00	B7V	"	"	"	IIcS-ek	A	L ₇ pgm	*st mid 1st 378 850 613 cat	fast w/k fine w/k
20	20	42000	poor	5.19	B3IV	"	"	"	"	"	SB Bl ₄	600 650 520 cat	fast w/k vs w/k
									II				-v
		7000	poor	V 5.11	F8V	BC	1200/50.7	BS	IIcO-E	A	st/vel	1st normid 2nd 324 cat 475 T=62°F	fine

171

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 indicated	54° ^{→ CW} done	(2nd indicates 22° CCW, wedged 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 4.5
	Polaris			22 07	23 21		2x	C1 A5 C5, A5	120 4.5
62N scan	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	3627 120 sec
	Flat Field for Vega							C2 A5	12 sec
	HD 204867	21 26.3	-6 01	00 27				C5 A5 C1 A5	640 24 sec
	Flat Field for HD 204867		also HG					C2 A5	3 sec

Comp HG also
OK

Spectr. Temp. Dome Temp./Hum. *63°F/56%* Transparency Conditions *172*
 Focus
 Spectr. Temp. Dome Temp./Hum. */* *Reticon Night*

Comparison Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	<i>Blue Filter</i>											
<i>#5 120</i>					<i>BC</i>	<i>1800/425</i>	<i>250/1.0</i>	<i>HG</i>			<i>T = -155.5</i>	
<i>45 120</i>	<i>450,120</i>				<i>"</i>	<i>"</i>	<i>"</i>	<i>LG</i>			<i>* 30 sec Feare</i> <i>-155.5 = 3,983 cts</i>	
<i>45 120</i>								<i>LG</i>		<i>7922/8000</i>		
<i>45 T40</i> <i>45 T120</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</i> <i>4470</i>	
<i>45 120</i>						<i>"</i>	<i>"</i>	<i>LG</i>			<i>T = -155.4</i> <i>7950/8000</i>	
<i>45 120</i>						<i>"</i>	<i>"</i>	<i>LG</i>			<i>T = -155.4</i> <i>7913/8000</i>	
<i>45 120</i>	<i>450400</i>					<i>"</i>	<i>"</i>	<i>LG</i>			<i>T = -155.6</i> <i>35 sec Feare</i> <i>3694</i>	
<i>45 120</i>	<i>400,963</i>	<i>Try 375K next time</i>				<i>"</i>	<i>"</i>	<i>LG</i>			<i>T = -155.6</i> <i>45 sec Feare</i> <i>4184</i> <i>3251 cts</i>	
<i>45 120</i>						<i>"</i>	<i>"</i>	<i>LG</i>				
<i>45 120</i>	<i>469350</i>				<i>BC</i>	<i>"</i>	<i>"</i>	<i>LG</i>			<i>T = -155.7</i>	
					<i>"</i>	<i>"</i>	<i>"</i>	<i>HG</i>				
<i>45 120</i>	<i>451023</i>				<i>"</i>	<i>"</i>	<i>"</i>	<i>LG</i>			<i>-155.7</i>	
<i>45 120</i>					<i>"</i>	<i>"</i>	<i>"</i>	<i>LG</i>				
<i>45 120</i>	<i>75029</i>	<i>4"</i>	<i>374</i>	<i>G01b</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>HG</i>		<i>std vel</i>	<i>T = -156.0</i> <i>9599/16000</i> <i>good</i>	
<i>45 120</i>					<i>"</i>	<i>"</i>	<i>"</i>	<i>HG</i>			<i>9337/16000</i> <i>good</i>	

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions ... *Fine* *174*

Focus

Spectr. Temp.

Dome Temp./Hum. *57°F / 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 31000</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 before</i>	
<i>45 120500</i>	<i>* 525156</i>				<i>u</i>	<i>u</i>	<i>u</i>	<i>n</i>			<i>-156.5 * saturated</i>	
<i>45 3460</i>	<i>450116</i>				<i>n</i>	<i>n</i>	<i>1</i>	<i>n</i>			<i>Flat Field done before focus test</i>	
<i>45 120120</i>					<i>u</i>	<i>u</i>	<i>u</i>	<i>HG</i>			<i>T = -156.7</i>	
<i>45 35000</i>	<i>450889</i>				<i>u</i>	<i>u</i>	<i>u</i>	<i>LG</i>			<i>T = -156.7</i>	
<i>45 120120</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:

floppies 10 & 11

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.	Exp. Mtr.
	FOCUS TESTES							C1	120/120	
	VEGA							A5	120	
	HD 172167	18 33.5	+38 41	23:53	00:02			C1 A5	35	45032
	FLAT FIELD X2							C5 A5	12 SE	
	VEGA							C1 A5	35	
	HD 172167	18 33.5	+38 41	0:12	0:19	00° 10W		C5 A5	120	4510
	"	"	"	0:29	0:36			C1 A5	1	4510
	FLAT FIELD							"	"	4510
	HD 8890	01:22.5	+88° 46	01:01	01:14			C2 A5	12	
	FLAT FIELD			01:23				C5 A5	7	
	HD 8890	01:22.5	+88° 46	01:23	01:38	06° 32E		C1 A5	24 sec	4510
	FLAT FIELD							C2 A5	3 sec	
	HD 172167	18 33.5	+38 41	01:45	01:53			C5 A5	35	
	FOCUS TEST							C1 A5	120/120	45090
	HD 172167	18 33.5	+38 41	02:16	02:23	02° 13W		C5 A5	35	
	FLAT FIELD							C1 A5	120	45120
	HD 172167	18 33.5	+38° 41'	02:34	02 41			C2 A5	12 SEC	
	HD 172167	18 33.5	+38° 41'	02:46	03:00	02° 50W		C5 A5	35	44152
								C1 A5	120	45079

Spectr. Temp. Dome Temp./Hum. 17°C 9.2% Transparency Conditions clear 176

Focus

Spectr. Temp. Dome Temp./Hum.

Comparison
(Filter) Exp.

5 120

5 120

5 35

5 125

5 35

5 120

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5 120

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5 120

Exp. Mir.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		-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	
450000		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	

177

Emulsion Batches:

Date July 2/3 1986 WEO THOR Observers Lst-R1

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.....

.....

[illegible]

Transparency Conditions cloud at end

58°F/9270

178

[illegible]

179

Emulsion Batches:
R 5mm 11/12/42 J5-10066

Date THURS - WP1 July 3-4/86 Observers Von-Ro

[illegible]

Spectr. Temp. 63°F

Dome Temp./Hum. . 13°C 53%

Transparency Conditions SOME CIRROS 180

Focus 506

Spectr. Temp.

Dome Temp./Hum. ... 12°C ... 53%

Comp.anson pe/Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2021 2022	37672			5.19	B3IV	B.C.	1200/50.7	B.S.	IIIaTe4	A	S.B. - B1/2	CLOUDS NEAR END	F2/OK S1/OK
2023 2024									IIIaTe4				- ✓
2025 2026						B.C.	1200/50.7	B.S.	IIaD	A		T=60°F F=506	OK

181

Date Sun Mon July 6-7/86 Observers Ly-Ri

Emulsion Batches:
5th 6th Front 125-20066

[illegible]

183

Date Mon-Tues July 7-8/86 Observers Ly-R

Emulsion Batches:

THUO-BIS-13066

[illegible]

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.	fine
40000		5.2	B3V	B.C.	1200/50.7	B.S.	Ilford	A	SB-B1/2	T=75 F set 503.	fine
							Ilford				✓
1600		~8.0	FS-G3	BC	1200/50.7	BS	Ilford E	A	BinCap-Ly	T=71°	OK

Spectr. Temp. 74°F

Dome Temp./Hum. 69°F / 58%

Transparency Conditions Clear 186

Focus 5.03

Spectr. Temp. 63°F

Dome Temp./Hum. 59°F / 89%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
7644	2-3	~2	F	B.C.	1200/50.7	BS	IIaO-E	A	Asm-sp KK	1st 30-230 2nd 30-472 30-187	fine
7506	2-3	~2	F	B.C.	1200/50.7	"	"	"	"	1st 20-321 2nd 25-310 10-136 10-119	fine
3245 +170 3070	2-3	7.09	KI or GA V	"	"	"	IIaO-E	"	"	1st 25-318 3rd 20-302 2nd 20-188, 20-281	Fes/str Fine
36205	2	2.2	A5 II	"	"	"	IIaJ-efg	"	"	Spec T=70 Focus=50.4 1st 30-337 2nd 120-693 30-187 50-441, 50-459 *Possibly on stellar	comp.
38480	3	3.68	Fo IV	"	"	"	"	"	"	1st 90-1200 2nd 90-701	fine
36449	3	2.2	A5 III	"	"	"	"	"	"	1st 60-906 2nd 70-816	fine
3562 3540	3	6.21	Ko IV	BC	1200/50.7	BS	IIaO-E	A	" for Percy	1st 25-347 3rd 25-307 2nd 25-302	Spec = 67 up Foc = 50.5 fine
5022	3	V=4.79	Ko IV	"	"	"	"	"	STD	1st 60-564 2nd 630-413	fine
8007	3	V=3.78	F5 IV	"	"	"	"	"	Asm sp KK	1st 25-456 2nd 25-474	fine
750 counts 188 counts				BC	1200/50.7	BS					

KK. Note Thousands of Twilight added to last night's III and exp box
from fring. It is a the same "20066" batch

Spectr. Temp. *67°F*.....Dome Temp./Hum. *160°F/80%*Transparency Conditions... *SL cloudy → V cloudy*....Focus.... *505*..... *509 for 612*Spectr. Temp. *61°F*.....Dome Temp./Hum. *+55°F/90%*

new liquid light guide for arc

188

Comparison
Filter

Exp

Exp

Exp

Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>B 948</i>										<i>#1 #2 #3</i>	
<i>6796</i>											
<i>5142</i>	<i>poor</i>	<i>6.22</i>	<i>18+18</i>	<i>BC</i>	<i>1200/50.7</i>	<i>BS</i>	<i>II₄₀-E</i>	<i>A</i>	<i>SB Bl_n</i>	<i>#1 173 cuts 182 180 187</i>	<i>fine comp fair</i>
<i>163864</i>							<i>II₄₀-E</i>				<i>-V</i>
<i>8160</i>	<i>OK</i>	<i>5.83</i>	<i>065V</i>	<i>BC</i>	<i>830/40.2</i>	<i>BS</i>	<i>II₄₀-E</i>	<i>A</i>	<i>Bl_n O*</i>	<i>#1 136 #2 287 H-3 189</i>	<i>fine</i>
<i>8058</i>	<i>OK</i>	<i>4.64</i>	<i>F7V</i>	<i>γ</i>	<i>γ</i>	<i>11</i>	<i>* II₄₀-E</i>	<i>A</i>	<i>S_d Vel</i>	<i>#1 355 End- 360 cloud</i>	<i>fine comp fine</i>

189

Large four foot plate m13 with CCD/intensifier Emulsion Batches:

Mon - Tues

Emulsion Batches:
8^m 69^o ... II-0-E-315 - 09076

Date July 14-15/86..... Observers Tn.....

[illegible]

Spectr. Temp. 67°FDome Temp./Hum. $+68^{\circ}\text{F}/50\%$ Transparency Conditions *Fine*.....190.....Focus *507*.....Spectr. Temp. 67°FDome Temp./Hum. $+63^{\circ}\text{F}/60\%$ *getting gusty*Comparison
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>Blue filter</i>										<i>* For Hrc counts</i>	
10,000	2-4	6-78	041Ft	BC	830/402	BS	I ₄ O-E	A	B/h-0*	#1 #2 #3 226 260 153	Em brood fine
							I ₄ O-E				✓
4000	3-5	$\frac{1}{8}$ 11	F8V	BC	830/402	BS	I ₄ O-E	A	St2ue1	#1 no mid end 300 comp 310	fine

20066

Spectr. Temp. 76.1.....Dome Temp./Hum. 73°/59%Transparency Conditions Fine..... cloud.....Focus 503.....

192

Spectr. Temp.

Dome Temp./Hum. /.....Comparison
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<u>Blue Filter</u>										<u>* experiments</u>	
<u>40000</u>	<u>poor</u>	<u>5.19</u>	<u>B3IV</u>	<u>BC</u>	<u>1200/50.7</u>	<u>BS</u>	<u>IIIa-efg</u>	<u>A</u>	<u>SB Bln</u>	<u>#1 446</u> <u>#2 807</u> <u>#3 429</u>	<u>Fe slwk</u> <u>ok</u>
							<u>IIIa-efg</u>				<u>-v-</u>
<u>31000</u>	<u>Fair</u>	<u>5.7</u>	<u>B8III</u>	<u>BC</u>	<u>1200/50.7</u>	<u>BS</u>	<u>IIIa-efg</u>	<u>A</u>	<u>SB-Ly</u>	<u>#1 200</u> <u>#2 200</u> <u>#3 400</u> <u>#4 250</u> <u>#5 250</u>	<u>Fe slwk</u> <u>slwk</u>
				<u>"</u>	<u>"</u>	<u>"</u>	<u>IIIa-efg</u>	<u>A</u>		<u>60s</u> <u>150</u>	<u>11 BORTEI - Clouds</u>
										<u>high age fog</u>	

Spectr. Temp. *69°f*.....

Dome Temp./Hum. 73° / 59%

Dome Temp./Hum. 61°F. / 50%

Transparency Conditions *Five - sl/d cloudy*.....

194

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	*	Blue filter											
20		31000	2"	5.11	A2V	BC	830/40.2	BS	Ud-efg	A	GRAY pgm	#1 #2 #3 446 450 420	slstr but fine
20		40000	3"	5.11	A2V	BC	1200/40.5	* BS	evacuated 2 hrs only	A	Gray pgm	* didn't see mid comp with -UV filter over it -UV as well	
30		30200	"	"	"	"	"	"	"	H	"		
30									"				

Spectr. Temp. 70°F..... Dome Temp./Hum. 76°F/53%..... Transparency Conditions OK..... 196.....

Focus 505

Spectr. Temp. 69.4 Dome Temp./Hum. +65°/95%[illegible]

Transparency Conditions . *clearing from SW* 198

Focus 504

Spectr. Temp. 71°F

Dome Temp./Hum. +70 / 70%

Comparison	
Filter	Exp

Filter	Exp
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
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91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

1

1	8
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[illegible]

199

Mon-Tues

Date .. AUG. 4/5, 1986 Observers ... Van-Tn

Emulsion Batches:

4 1/2 70° IIa-Jefg. 215.....-20066
8" 68° IIa-F... 315.....-09076

[illegible]

20066
29076Spectr. Temp. 70°FDome Temp./Hum. $73^{\circ}\text{F}/60\%$ Transparency Conditions *Fine...sl. hazy*.....200.....Focus 504Spectr. Temp. 66°FDome Temp./Hum. $62^{\circ}\text{F}/96\%$ *cloudy*Comparison
Filter Exp

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-Jeg				✓✓
8455	OK	5.11	F8II	BC	1200/50.7	BS	IIa-O-E	A	std vel	* #1 #2 #3 187 510 140	residual fine
4765	OK	6.24	07.5Iaf	BC	830/40.2	"	"	A	Bln 0*	T=70°F set 506 *200 207 (in 3rd read)	slut
* Note. after mid Fe Arc, plate was mistakenly capped & exp continued for another 600 cts before ending. (done)											
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				✓
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 #2 #3 306 331	fine

Note Fe Arcs for 830/40.2 are right on for Exp.

Note: All G12, IIa-Os of 0*s should be given at least 10K cts.

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	Fene COA5	5-5
	"	"	66 CW	done	6 hrs,				3-3
	"	"	31° CCW	(20° CCW done)	11 hrs, why?				"
	"	"	27° CW	done	4 hrs				"
	"	"	12° CW	(not done)	4 hrs				"
Notes no change.	"	"	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. CCW	4				2-2
	"	"	41° CCW	nothing not done	5 hrs,				2-2
	Flu Fld							C2A5	2 sec
	" "							C2A3	2 sec
								C2H4	2 sec
	Dark (black cloth over slit)				1800 secs				
Anyb	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 & to check slit length. Use light & dark cloth to illuminate

Comparison
Filter Exp.

5 5-5

3-3

"

"

"

0-2

2-2

2-2

2-2

45 2-2

3 2-2

14 2-2

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 Å	
									$T = -163.5^{\circ}\text{C}$		
									$T = -163.5^{\circ}\text{C}$		
				BC	1800/56.1	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

$\approx 6 \text{ sec}$)

not 2

But Aperture disc was the 2 sec shutter I noted,

203 Sun. - Mon.

Date Aug 10/11, 1986 Observers Lgt - Tn

Emulsion Batches:

II-40-F-315-08086

[illegible]

1086

Spectr. Temp. 69°F Dome Temp./Hum. $64^{\circ}\text{F}/91\%$ Transparency Conditions clear - gusty 204° Focus 504 Spectr. Temp. 64°F Dome Temp./Hum. $57^{\circ}\text{F}/97\%$ Comparison
Filter Exp.

See #

See #

See #

See #

See #

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	* Comp	Remarks	Quality
100 filter												
7500	2-3 3-4"	6.21	KO IV	BC	1200/50.7	BS	IIaO-E	A	Percy/KK	1-478 2-475 3-475	Fe sl wt cloud at end vs sl wt	
							IIaO-E					✓✓
7037	2-3 3-4"	4.64	F7V	BC	1200/50.7	BS	IIaO-E	A	std. std. vel.	1-473 2-471		sl wt
1-856 2-758				"	"	"	IIaO-E	A		1-856 2-758		center vs blue
5400	3-4"	4.64	F7V	BC	830/40.2	BS	IIaO-E	A	std. vel	1-373 2-372	spec. T = 64.5°F F=507	fine
1-893 2-893				"	"	"	IIaO-E	A				center vs blue

205

Mon - Tues

Date Aug 11-12, 186. Observers K. & T. n / T. n

Emulsion Batches:

...II.0-E 305 - 080 86

IIIa1-cfg. 215... -10086

[illegible]

Spectr. Temp. 67°FDome Temp./Hum. $62^{\circ}\text{F}/52\%$ Transparency Conditions *Fine*..... 206Focus... 505 ... - 509Spectr. Temp. 57.2°FDome Temp./Hum. $52^{\circ}\text{F}/52\%$ *good meteors after 01:00 EST
perseids*

Comparison Filter	Exp.	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	II ₀ O-E	A	Kub p9m	#1 #2 #3 300 417 535	slwk
									II ₀ O-E				✓
	*	40,200	4"	3.6	B6p	BC	1200/50.7	BS	III ₀ L-efg	A	Kub p9m	#1 #2 #3 902 933 set 509	fine w/c ? like bed guiding
									III ₀ L-efg				✓
	*	36,344	3"	3.68	F01V	BC	1200/50.7	BS	III ₀ L-efg	A	Asm Sp Kk	#1 End 895 864	fine w/c fine
	*	10,000	2-3'	6.26	0916-II	BC	830/40.2	BS	II ₀ O-E	A	Bln-O star	#1 #2 #3 135 343 set 509	fine
	*	10,400	3"	5.19	0951b	"	"	"	II ₀ O-E	H	Bln-O *	#1 #2 #3 222 258 T=58°F	fine
	*	5,300	5"	4.64	F7V	"	"	"	II ₀ O-E	A	std vel	#1 End 350 300	fine
	*					"	"	"	"	H		#1 #2 #3 727 270 T=57°F set 509	OK

12086

Spectr. Temp. $+67.7^{\circ}\text{F}$Dome Temp./Hum. $63.7^{\circ}\text{F}/67.7$ Transparency Conditions $50\% \text{ cloud at sundown} \dots$ 208Focus $505-509(612)$..Spectr. Temp. $+62.0^{\circ}\text{F}$Dome Temp./Hum. $+58.6^{\circ}\text{F}/78.7$ Barium cloud Release? @ 21 05 EST
NOT Barium - KKComparison
Filter Exp

Exp

Exp

Exp

Exp

Exp

Exp

Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
10267	2"	6.0	Hop	BC	1200/50.7	BS	II ₉₀ -E	A	Kub pgm	#1 #2 #3 471 628 464	wrong drizzle slut
5200 4800 10,000	2"	6.2	H _p	BC	1200/50.7	BS	II ₉₀ -E	A	Kub pgm	#1 #2 #3 487 506 433	1/2 2 wrong slut
8000	2	6.2	H0IV	"	" ?	"	"	A	P _g -Pg _m	400 405 378 T=828	"
10,400	2"	7.20	09.5IV	BC	830/40.2	BS	II ₉₀ -E	A	Pl _n O+	251 305 250 T=618 set 509	fine
Note 1st 3 exps may have had grating tilt of 45.7° Dev will decide that center would be shifted 600 Å blue 1st set of intended.											
6,000	2"	4.64	F7V	BC	830/40.2	BS	II ₉₀ -E	A	st/ve	1st 1st 353 477	fine

Wed. - Thurs.

Date . . . Aug. 13-14/86

Observers . . . Lt - ~~Ri~~ Ri . . .

Emulsion Batches:

5^m IIIc-Te 4-215-10086
8^m IIaO-E-315-12086

8^m JAO-E-315-12086

[illegible]

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

Comparison Filter	Exp	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	IIIaJ-ef	A	KK asm sp	1-900 2-1000	Fo s/w K Fine
	*	3723 3100	3"	7.09	dK10r G9V	"	"	"	IIaO-e	A	KK asm sp	1-400 2-360 3-352	Fo s/w K s/w K
									IIIaJ-ef				✓
	*	18128 19931	2-3"	3.68	Fo IV	"	"	"	IIIaJ-ef	A	KK asm sp	1-751 2-649 3-701	broken cloud F=505 last 1/2 of exposure T=60F Fo s/w K fine
	*	18733 1566	3"	4.63	A3m	"	"	"	"	"	"	1-698 2-757 3-642	cloud! Fo s/w K Exp s/w K

12086

Spectr. Temp. 76°FDome Temp./Hum. $75^{\circ}\text{F}/72\%$ Transparency Conditions *Some cloud - then more.....*

212

Focus503.....

*getting gusty too*Spectr. Temp. 76°FDome Temp./Hum. $72^{\circ}\text{F}/98\%$ Comparison
e/Filter Exp

1/der *

2

1/der *

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>Blue filter</i>										<i>Fe Arc Exposure</i>	
12,000	2-4" ≈ 6.5	A0p	BC	1200/50.7	BS	IIc0-E	A	Kob	pgm	#1 413 #2 450 #3 439	SlwK
						IIc0-E					VV
9000	3-4" 6.21	K0IV	BC	1200/50.7	BS	IIc0-E	A	Pg	pgm	#1 360 #2 434 #3 400	Fe slwK Fine

213

Mon.-Tues.

Date .. Aug... 18. 19.....

Observers

45 - R.

New Stop Bath

with prev.
2 nites

8^m 68

5m68

Emulsion Batches:

440-E 355-12086....

Item 255-10086.....

[illegible]

Spectr. T

Focus..

Spectr. T.

Exp. Mtr.

02/5

100

8145

1

— *Journal of the American Medical Association*

2601

38000

9

2107

1

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
<i>Clear</i>	*	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
	*	12000		6.0	AOp	B.C.	1200/50.7	B.S.	IIaO-E	A	Kub. Prog	① 501 ② 500 ③ 400 CLOUDS ON AND OFF	Fo sl wk B sl wk
									IIaO-E			Spectroph. T = 73°F	✓
<i>Clear</i>	*	36012	"	2.2	A5 III	BC	1200/50.7	BS	IIIaJ-ef	A	KK asm sp	1-1003 2-1001	← use 2400 or 2700 Faint fine
	*	38000	"	3.68	F0 IV	"	"	"	"	A	"	1-653 2-652	3-555 Faint fine
									IIIaJ-ef				✓
<i>Clear</i>	*	2109+675	"	7.82	G9V	B.C.	1200/50.7	B.S.	IIaO-E	A	KK asm sp	1-301 Faint 2-300 3-302 4-300	← inst WK
							1200/50.7	BS	IIaO	A		9-675 F: 504	WK but OK

215

Tues. - Wed.

Date Aug. 19/20 Observers Lgt-Ri

Emulsion Batches:

Marie 2J5-10086
MARIE 3J5-18086

[illegible]

Spectr. Temp. 73°F Dome Temp./Hum. $70^{\circ}\text{F}/50\%$ Transparency Conditions Some cloud 216 Focus 503 Spectr. Temp. 66°F Dome Temp./Hum. $62^{\circ}\text{F}/8/2$ at beginning, but
 $\text{very clear rest of night}$ Comparison
Filter Exp

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 2-633 667 on plate	smudges OK
7000	$\sim 3''$	5.94	G8IV	"	"	"	IIaO-E	A	KK asm sp std val.	1-400 3-400 2-400 #67A on plate	fine
12000	$\sim 3''$	6.0	Aoe	"	"	"	IIaO-E	A	Kub Prog.	1-402 3-504 2-432	fine
							IIaO-E				fine
4463 3804	$\sim 3''$	6.21	KoIV	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	slwk
8003	$\sim 3''$	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	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 2-606	T=66°F F=507 fine

10086
3086

+70% / 86%

218

Focus 503.58/.506 . G12..

Spectr. Temp. 70°f

46 f. / 96%

Comparison	
Filter	Exp
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
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79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

[illegible]

219

Date .. ^{Thurs/Fri} Aug. 21/22, 1986... Observers Vnn - Tn.....

Emulsion Batches:

III aJ - ef4 2J5 - 10086
II a0 - E 3J5 - 18086
II 40*E 1D5 - 20086

[illegible]

Spectr. Temp. 60°F.....

Dome Temp./Hum. 70°F./93%

Dome Temp./Hum. 56°/97%

Transparency Conditions *Sl harizy* 220

Companson Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks			Quality
✓	✓	21400 + 20128	2"	5.19	B3IV	BC	1200/50.7	BS	III aJ-efy	A	SB Bl _n	#1 800	#2 812	#3 801 (Cdn 4973)	Feslwk slwk
✓	✓	10,200	2"-3"	5.97	06V	BC	830/40.2	BS	II aO-E	A	Bl _n O*	#1 315	#2 280	#3 300	fine
✓	✓			5.11	F8V	BC	830/40.2		II aO-E			#1	#2		✓✓
✓	✓	3584 + 3429	3"	V= 5.11	F8V	BC	830/40.2	BS	II aO-E	A	RN Sta? Bl _n O*	#1 301	#2 300	#3 300	fine
✓	✓	4500 3500+	2"-3"	7.59	09J6	BC	830/40.2	BS	II aO-E	A	Bl _n O*	#1 300	#2 300	#3 303	vs lwt
✓	✓	7000	4"	5.15	06ep	BC	830/40.2	BS	II aO-E*	H	Bl _n O*	#1 530	End 460	Set 508 T= 61°f	fine
									II aO-E*						✓✓

221

Συν - Ν.οη

Date *Aug. 24-25, 186*.... Observers *T. G.*.....

Emulsion Batches:

..Mas-efy 215 - 15086
..Iao-E 105 - 20086

[illegible]

15086
10086

627/5270

Some cloud..... gusty wind

506.

.57%

50°f.../60%

* going sometimes outrageous

222

[illegible]

Spectr. Temp. 56°F

Dome Temp./Hum. . . 10°C . . . 54%

Transparency Conditions good 224

Focus 508

Spectr. Temp.

Dome Temp./Hum. ... 7°C / 90%

Comparison	
Filter	Exp

450

一、

'AR 1-4910

228

AR1046 13

1

111

1

1[illegible]

225

Date FRI-SAT AUG 29-30/86 Observers Ri.....

Emulsion Batches:

8m 680 Typ-E 315-29086

5m 680 Plate 225-15086

dev. w/ fellow Taoists

[illegible]

Spectr. Temp. ... 60° F.

Dome Temp./Hum. . . 13°C / 70%

Transparency Conditions 226

Focus 507

Spectr. Temp.

Dome Temp./Hum. . . 11°C / 80%

Comparison Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
RAR	6048		6.0	Aoe	B.C.	1200/50.7	B.S.	I ^{rad-E}	A	Kub Prog	#1 400 #2 400 #3 500	Fine
RAR	6000											
DZ	5912		6.21	KOIV	B.C.	1200/50.7	B.S.	I ^{rad-E}	A.	Percy/KK	#1 451 #2 450 #3 504	Fine
BID	5000											VV
AR	5000		5.84	KOIII-IV	BC	1200/50.7	B.S.	I ^{rad-E}	A	SYP VEL	#1 451 #2 450 #3 451	Fine
AR	5002		V=			1200/50.7	B.S.	I ^{rad-E}	A		#1 650 #2 651 651	Fine
RAR	2000 5		3.78	FSII	B.C.	1200/50.7	B.S.	I ^{rad-E}	A	Ash-Spec /KK		Fine
1800	2000 4				B.C.	1200/50.7	B.S.	I ^{rad-E}	A		T = 57°F F = 50.7	right on

Spectr. Temp. 67°F.....

Dome Temp./Hum. ... 18°C / 55%

Transparency Conditions . . . *1. sl. large* 228

Focus 505

Spectr. Temp.62°F.....

Dome Temp./Hum.

Comparison e/Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
1	1200					BC	1200 /50.7	B.S.	Ti20-E	A		T=67°F F.505	OK
1	450	6000 + 6000				B.C.	1200 /50.7	B.S.	Ti20-E	A	Triple		fine
1	450	10000 10020 5004				B8III	"	"	Ti20-E	A	SB-Ly		reslwk OK
									Ti20-E				✓✓

229

Date MON TUES SEPT 1-2/06 Observers Ly-Ri

Emulsion Batches:

5m 68°

III-7c-7 275-15086

[illegible]

Spectr. Temp. 68° F

Dome Temp./Hum.

Transparency Conditions 230

Focus 505

Spectr. Temp. 65°F.

Dome Temp./Hum. 60°F / 98%

[illegible]

231

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

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	COMPARISON			19:09				coFe/De A 1/2 D	2 sec
	FLAT FIELD	3X		19:15	19:24			TRANSF A 1/2 D	30 sec
	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 1/2 D	8 sec
	FLAT FIELD	3X		04:00	04:12			C270 DKS A 1/2 D	30 sec

232

4012 = 4290 STEPS

4015 = 4310 STEPS

5017 = 5440 STEPS

Comparison	Filter	Exp
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234

Spectr. Temp.

Dome Temp./Hum. ... 12°C ... 88%

[illegible]

235

Emulsion Batches:

Date 1986 Sep 11 Observers KK

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

[illegible]

Transparency Conditions 238

Spectr. Temp.56°F.....

Dome Temp./Hum. *10°C / 96%*[illegible]

239

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

Emulsion Batches:

Date .. Tues-Wed .. Sept. 16-17. 186...

Observers ... Tn

* An error 4 min instead of 7 min
spot plate Ilao got 7 min
unfortunatelyIlao's: c.s.g. ... 215 ... - 11096
Ilao: E. ... 315 ... - 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	890 965 866
49802	HD 164852	17 58.1	+20 50	20 33	22 45	4 09 W	+20 57	"	540 524-700
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 18/86, Dome Temp = 58°F H = 100% + inside				01 00 W	+21° 06	FeNe/clear	10 sec 2: 10 sec 3:
F5	Note all Lids of PHS put on with #s upright when Dark 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	on 15 1200 1220
F10						01 00 W	+21 06	"	1200/1200

1096
9086

50°f / 54°o

240

385

Dome Temp./Hum. +42°F. / 95% dome too wet any way by 2 AM

Dome Temp./Hum. +42°F. / 95% dome too wet any way by 2 AM

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
clear 890 985 866 640 540	19,140 T= 19,100 36,240 3,200 T 4,000 3,600 40,800		3.68	F0 IV	BC	1200/50.7	BS	IIIaJ-efg	4	Asm Sp		OK
	poor	5.19	B3 IV	"	"	"	BS	IIIaJ-efg	5	SB Bl'n	some cloud	OK
								IIIaJ-efg				✓
clear 420 420 450	4,000 T= 2,500 6,500	5050	6.5	A0.	BC	1200/50.7	BS	IIaO-E	4	Kub pygm	T=48°F ^{4 min dev} cloud again To limit	Slwk
								IIaO-E			[*] 7 min develop	✓
650 674	9,700	OK	4.64	F7 V	BC	1200/50.7	BS	IIaO-E	4	std vel	T=48°F	fine
750 130					"	"	"	IIaO-E	4		T=48°F set 385	center sl blue
60/60					BC	1200/40.5	"	IIIaF	4		T=47.5°F set 387	center blue vs 1/2
60/60					"	"	"	"	1		T=47.5°F set 382	center blue
10 sec 23 clear 100 35					BC	G4310 1200/40.5	BS	O98	1		T=59.5°F set 382	center blue
10 22						"	"	"	2		"	center Red
10 34						"	"	"	3		"	center blue std
10 38						"	"	"	4		"	center blue std
10 38						"	"	"	5		"	OK
10 35 0.5 1200 1200						G4290 830/40.2	1	IIaO-E	4		T=59.5°F set 384	OK
						"	"	"	5		T=59°F	5050 center, blue

241

developed T_{min} @ $68^{\circ}F$

Emulsion Batches:

Emulsion Batches:
D.O.E 3TS-29086

Date Sept 23 Observers Ta

[illegible]

86

63% / 100%

242

384.

Spectr. Temp.

Dome Temp./Hum.

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

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		B Filter											
100%		2900				BC	64290 830/40.2	BS	IIaD-E	5			
200%		3816				"	"	"	"	4			
		Note - Everything in dome was wet. Optical surfaces may also have had condensation on them.											
	40%	660				BC	830/40.2	BS	IIaD-E	5		I realised that I was getting more	
80%		1366				"	"	"	"	4		than 400 cuts/min in that AK got.	

243

Wed-Thurs

Sept 25 Plots Dev 5 min @ 68°F T_h

Emulsion Batches:

Emulsion Batches:
...III-c.f.g...205...11096

Date Sept. 24-25/86..... Observers T₂.....

[illegible]

Spectr. Temp. ...6.6°F.....

Dome Temp./Hum. 46.3°F./52.3

Transparency Conditions ...Some cloud → cloudy....

Focus382.....

FeNe with new semidiffuser "Out" pos'n

Spectr. Temp. 6.4°F.....

Dome Temp./Hum. 46.0°F./95.70

244

Comparison e/Filter	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	* Remarks	Quality
757 2406 2406	20,000 18,900	poor?	5.7	B8 III-IV	BC	65440 1200/50.7	BS	IIIaJ-cfg	4	Ly pgm	comp exp 757 cts/30 secs 2406 190 secs 140 secs	FoNe sl/wk sl/wk
								IIIaJ-cfg				✓✓
1638 1638 1638	19,000 9,500	OK → poor	3.68 5.7	B3 IV	BC	1200/50.7	BS	IIIaJ-cfg	5	Asm Sp KK	40 secs 40 secs	FoNe sl/wk sl/wk
1638 1638 1638					"	"	"	IIaO	4		150/60 secs	OK
1638 1638 1638					"	"	"	"	4		60/30 secs	OK
	A good test of something maybe, at least the diff light throughput to exp motor											discarded
1638 1638 1638					BC	1200/50.7	BS	IIaO	4		60/30 secs	Set 382 still T=64°F OK

245

Dev Oct 3/86 Th @ 68°F 7 min

Emulsion Batches:

Date Oct 23/86 Thurs Fri. Observers Tq.....

Emulsion Batches.

1140-E	18096
098-E	test plates

[illegible]

Spectr. Temp. 60.....

Dome Temp./Hum. 55° / 80%

Transparency Conditions 246

note - This problem for 498076 TF
due to slit fld diaphragm
being in place

[illegible]

247

III. S. dec. 66895. Tenin

Emulsion Batches:

Tues - Wed

Date Oct 7-8, 1986 Observers TJ

Emulsion Batches:

Mal-off	215	-11096
Д-40-Е	105	-18096

[illegible]

Primary Newly Aluminised

Focus tests put with DAs for similar development.

[illegible]

251

Fri - Sat

Date Oct 10-11/86..... Observers Ty.....

Emulsion Batches:

8^m 69° F. Heo-5 105-18096

[illegible]

Spectr. Temp. $+41^{\circ}\text{C}$

Dome Temp./Hum. 34°/75%

Transparency Conditions *s/bazy* 252

[illegible]

253

Date Wed-Thurs Oct 15-16/86 Observers BT-Tn

Emulsion Batches:

*Doc E 105 - 18096

Tag-4. 125... - 10106

[illegible]

Spectr. Temp. *71°f*.....

Dome Temp./Hum. 2.°C / 95%

Transparency Conditions *clearing at 20:30 EST* 254

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		Blue filter											
✓	647	4065	variable				1200		*				splars
✓	650	A069	peer	6.2	KoIV	BC	/507	BS	TaOE	5	Ry/KK P _m	No tx5 for this emulsion	Slick
✓	679	2515	peer	7.7	F5	"	"	"	IIoO-E	4	KK Akm Sp	same cloud	wk
✓	829	2084					"	"	IIoO-E	4			slope
✓	835	75xxc			"	"	"	"	IIoO-E	4		Set 1387 T=41°F *	cat's head
✓	845	20 ac							IIoO-E				VL
									*				
									On commencing following tests, note that mask was left in "comp imale" from				
✓	175C	75xxc				T= +46°F Set #387				4		Previous night? is 498/8F OK?	
✓	214C	25				(untouched from last night)				5		slope too → consider	
✓	193C	75										slope	
✓	2117	25				All → BC	1200/507	BS	IIoO-E	1		centered	
										2		big slope	
												cat's head	
												center	
										3		v Red	
						T= +45.5°F at end of tests						center vs blue	

10106

$+45^\circ / 70.2$

256

389.

45°f

..+40% / 80%

Comparison	
Filter	Exp.

* ie number on left
upper ramp interrupted
(ie dust on slit)

257

Mon-Tues

Date *Oct 20-21/186.* Observers *34-Tn*.....

Emulsion Batches:

* II 00-E 105-20106

[illegible]

Spectr. Temp. 540F.....

Dome Temp./Hum. 129C / 66%

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

Focus ... 3.83.....

258

Spectr. Temp. 48.5°.....

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
		BLUE FILTER											
	500	4004					1200						
	580	4039	good	6.2	KOTI	BC	50.7	BS	ITaO-E	4	P/KK P _{gm}		Fine
	581-58	3260											slut
	590-59	3025	OK	7.8	G9V	"	"	"	"	4	KK H _{gm} Sp	broken - 2 pieces like	Feature
	620-62	1615					830						
	475-47	362	so so	27	G	"	40.2	"	"	4	Std Vel	T=52° Set 387 Some cloud.	slut
	435-43	2715											
	465-46	2374	poor	4.2	F8V	"				4	Std Vel		
	1500								"	4		T=49° Set 387	center sl/rod
	35	8209	poor	2	F	BC	1200/50.7	BS	ITaO-E	4	KK H _{gm} Sp	Reversed T=49° Set 384	Fine
	35	8354		"	"	"	"	"	"	"	"		Fine
	35							"					slut
	70	1689							"				OK
	70	2587				BC	1200/50.7	BS	ITaO-E	4		Set 384 T=48.5°	OK

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

259

Emulsion Batches:

5m 67° ... III as of 215-11096

Date Oct 22-23 Observers Tg

[illegible]

1/10/76

Spectr. Temp. 54°F

Dome Temp./Hum. 198°F/80%

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

Focus 3.85

Spectr. Temp. 50°F

Dome Temp./Hum. 145°F/95%

Comparison
Filter Exp

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
no filter											
4,850				BC slitless	1800/46°	—	IIIa Setg	4	Kli planetary	Normal unreversed side some cloud	
6,400				"	"	"	"	4	"	Reversed	
No light as stars = outside dark lamp. Now I have full light possible & may repeat previous exps.											
3,600				BC	1800/46°	slitless	IIIa Setg	4	Kli Planetary	Reversed/still T=53°F at start some cloud	
3,680				"	"	"	"	4	"	unreversed some cloud T=51°F at end	
							IIIa Setg				✓

Emulsion Batches:

Tues - Wed
 Date Oct 28-29/86..... Observers K.K. - T.M. / B.T. - T.H.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
	Focus tests							Felle 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								
	Flt Fields	4 without TV						CA AS	40
	HD 202109	¹⁹⁸⁰ 21 12.1	¹⁹⁸⁰ +30 08	21 32	23 36	W		"	20/20
	HD 215182	¹⁹⁸⁰ 22 42	¹⁹⁸⁰ +30 07	23 48	00 57	4 35W		"	20/20
	HD 18925	¹⁹⁸⁰ 02 57.6	¹⁹⁸⁰ +53 07	01 16	02 25	W		"	20/20
Oct 29	Tests after tour - Generator off for both darks only starlights on								
	5 S commands before 1st dark on Tests #1 file Tn								
	Dark	60 sec, 10x, 4 fixel patterns	(Spec controller on)	starlights on					
	"	" "	"	"	no lights on				
	"	60 sec, 3x, 4	"	Spec cont off	no lights on				
#2 File	"	600, 2x, 4	"	" "	"	"	"	"	

Spectr. Temp. Dome Temp./Hum. 52°F / 74% Transparency Conditions hazy - cloudy 262

Focus

Spectr. Temp. Dome Temp./Hum. 195%

Comparison Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
130/30	Blue filter				BC	G5110 1200/	254/5	Reticon			Disc #13 * Blue filter Intel beam	
20	26,400				"	"	"	"			wh	HIGH NOISE
20	10,000				"	"	"	"			OK	"
20	20,000		4.2	K517 +B	BC	"	"	"		maybe some of Blue comp star	low 200 counts T = -152.7°C	"
note - TV CCD seems to cause noise on Reticon readout.												
25	40				BC	G5110 1200/	254/5	Reticon		std		
20	80,000				"	"	"	"		std for 2 pg	some cloud TV volt -152.2°C for readout	
20	76,000		3.8	G8	"	"	"	"			T = -152.1	
20	39,000		3.63	G8+ HKV	"	"	"	"			T = -151.8 cloud	
slit uncovered												
slit uncovered					BC	G5110 1200/	254/5	Reticon		starting at 0957	T = -163.2	
slit covered									"	0957	T = -163.2	
start at 1 19 50 (not real time)									"	1 19 50	T = -163.2	
1 19 03									"	1 19 03	T = -163.2	

Thurs - Fri

Date Oct. 30-31/86..... Observers KK-Tm / XBT-Tm..

Emulsion Batches:

.....

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	2-3
	"			18 22	18 28			"	30
5	HD 202109	21 12.1	+30 08	18 42	20 21	-19.58		"	20-30
	4 Darks							H5 C2	40
12	HD 215182	¹⁹⁰⁰ 22 38.3	¹⁹⁰⁰ +29 42	20 42	22 01	-16.72	+30 14	FeNe clear	20-20
15	8 Per	2 57.6	+53 07	22 15	23 22	9.17		"	20-20
18	0 Tau	^{1986.5} 3 24.1	^{1986.5} +8 59	23 38	01 27	7.14		"	20-20
	Comp for NGC 2392							FeNe A4	3-5
	" " "	"						"	2-5
	NGC 2392	¹⁹⁸⁰ 7 28.0	¹⁹⁸⁰ +20 57	02 04	02 49			"	2-5
	"	"	"	03 01	05 50			"	2-1/2
	Flat Fields	X2						C2A1 Targets	30-40

Spectr. Temp.

Dome Temp./Hum. 30°F / 85%

* Blue litter before spit.

Companson (Filter) Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.P.	Program	Remarks	Quality
2	2K,000	bad		AOV	BC	G 5110 1700 gr/mm	24.5	Reticon			Forget to turn off CCD or readout	LOVIZ OK
4	200,000	"		"	"	"	"	"			no CCD or readout	
2	160,000	"		G8 II	"	"	"	"	-151.3			
40				"	"	"	"	"			1st/hrs spikes, rest OK,	
20	120,000	poor	3.8	G804F	"	"	"	"	-151.2			1868
20	140,048		3.63	G804F	"	"	"	"	-151.4			
20	100,200	poor	4.49	G804F	"	"	"	"	-151.6			
35	no filter				BC	G 6049 1800 L/mm	"	"	-151.5	Blue filter Removed	Tapped up 01 35 (2F)	
2					"	"	"	"				
35	1,240				"	"	"	"	-151.5	going for Hox	on control star	652/400
2	1,688				"	"	200/1.0	"	-151.6		on control star again note finger slit nice	
35					"	"	"	"	-151.6			

Spectr. Temp. $+5^{\circ}\text{F}$Dome Temp./Hum. $+40^{\circ}\text{F}/58\%$Transparency Conditions $\text{SI } 10.7\% - \text{thick cloud} - \text{thicker}$ Focus 3.88Spectr. Temp. 37.5°FDome 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 oscillator at end 6 sec comp = 37 cnts	
3002	OK	28	M7II	BC	1200/40.5	BS	"	4	Obs pgm std	Dark sky m getting cloudy lost exp	
20050	Poor										
2000	OK	511	A2V	BC	1200/40.5	BS	098-02E	4	Gry pgm		
0660	3050	"	"	"	"	"	"	4	"		
5540											
7510	OK	25	F8V	"	"	"	"	4	std vel	Hopefully everything set ok now 3 sec = 2.740 cnts T = 39.7	
7200				"	"	"	"	4		T = 38.5 F set 398	OK
				"	"	"	"	4		" "	OK
Blue filter				"	"	"	"	2			
6840	PEE	25	F8V	"	G4290 830/40.2	BS	TiO-E	4	std vel	T = 39.5 set 390	
603 cnts				"	"	"	"	4		T = 37.5 set 390	sl blue
759				"	"	"	"	2		FeNo lamp failed	

Note Exps 49831 $\rightarrow$ 33 had faulty Comp due to Incorrect diaphragm and half diffuser slide not fully up. Should have realised that Ex meter was counting too slow. Well, I finally did realise that.

T₁

2106

me Temp./Hum. 31°F / 52%

Transparency Conditions Excellent - some cloud by 22 hrs.

Focus . 390

Spectr. Temp. *31.2*.....

Dome Temp./Hum. *24° F* / *5*

268

[illegible]

316

47°/75°

270

Focus . . . 388

Spectr. Temp. 1440°.....

Dome Temp./Hum. 48.7.../95.70

[illegible]

Per Nov 11 7 min 68° T_N

Emulsion Batches:

Date *Nov. 10-11. 186...* Observers *Tn-Bt... Dubirski...*

Emulsion Batches.

IIa.O.-E	105	20106
* IIa.O.-E	105	03116

[illegible]

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

Dome Temp./Hum. 34°F / 60%

Transparency Conditions *Some Cloud* 272

Focus .. 388

Spectr. Temp. +36.7.....

Dome Temp./Hum. / 80%

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	ITaO-E	4	Pg-kk p _{gm}		Comp slwt in Re fine
				11	4	11	ITeOE				✓
2173 463	2"	5.81	G5V _p	BC	5110 1200/50.7	BS	ITaO-E	4	Asm Sp tk	* real end @ 21 11 but too close for last 20 min	Comp slwt wk
2561 894				2	12	12	ITaO-E	2			
				✓	11	11	11	4		very close to each other visually	✓ sl blue ✓ sl blue

116

Spectr. Temp. ... +27.0°F.....

Dome Temp./Hum. +20.7°/60%

Transparency Conditions Fine - Cloudy 23 hrs.....

Focus 39.4.....

274

Spectr. Temp. +27.5°F.....

Dome Temp./Hum. +18.0°/60%

Comparison Filter	Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		Blue filter											
00	30-32	-036	OK	5.7	F8I	BC	G 4290 830/40.2	BS	IT40-E	4	Std Vel	Oscillation & curl	* fine
00	32-34	-5.22 +	* OK	7.58	06f?	"	"	"	IT40-E	4	Bln OK	* seeing going bad T=25.7 Set 395	* fine
		2850		66					IT40-E			RA oscillation @ 250W	✓
00	34-36	1852				BC	830/40.2	BS	"	4	X }	T=22.5f Set 395	* contrast blue
		837				"	"	"	"	2	X }	Hartmann mask knot	* contrast blue
						"	"	"	098	5		too trustworthy	

Again - Can we really count on Mask stopping at exact same pos'n each time? I + Fell out when attempting F3

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

Mon-Tues

Emulsion Batches:

...Tad-E... 105-03116

* По.Е. 105-13116

Spectr.
Focus.
Spectr.

Exp. Mtr.

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
<i>Ne 20</i>	4034					<i>1200</i>						
	4123		<i>6.21</i>	<i>KoIV</i>	<i>OK</i>	<i>1200</i>	<i>BS</i>	<i>II₄₀-E</i>	<i>4</i>	<i>PYIRK</i>	<i>maybe labelled "47"?</i>	<i>Fine</i>
								<i>II₄₀-E</i>				<i>✓</i>
<i>10 sec</i>	2685											
<i>20 sec</i>	2377				<i>BC</i>	<i>1200/507</i>	<i>BS</i>	<i>II₄₀-E*</i>	<i>4</i>		<i>T = 40°F Set 387</i>	<i>✓ OK</i>
<i>100 sec</i>	2461				<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>2</i>		<i>n</i>	<i>center blue</i>
<i>85 sec</i>	2071				<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>5</i>		<i>n</i>	<i>center red</i>
<i>90 sec</i>	2156				<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>5</i>		<i>n</i>	<i>off (Sige)</i>
<i>25 sec</i>	1977											
											<i>* Note, previous page</i>	

277

~~Mon~~ - Tues - Wed

Mike Learning Telescope

Emulsion Batches:

Emulsion Batches:
II 90-E 105 - 13116

Date Nov. 25-26, 1966 Observers Tn - Fds

[illegible]

Spectr. Temp. 407

Dome Temp./Hum. *74.0 F. / ... / 75.*

Transparency Conditions *hu 24* 278

Focus 384

Spectr. Temp. 407

Dome Temp./Hum. *73.5 f. / 75%*[illegible]

279

Thurs - Fri

Date Nov 27-28/86 Observers T.H.

Emulsion Batches:

8^m 68° II 0.0 E 105 - 131/6
5^m 68° 09802e 985 - 0511/6

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.
49850	HD 222368	23 34.8	+5 05	17 30	17 42	1 47 E	+5 44	FeNe clear	35-35
49851	HD 206183	21 35.3	+56 32	18 01	20 11	2 41 W	+57 07	"	3030-30
49851T	Spot Cal'n	for 49850	-52		15 min @ 15V	D4 3900	D3 4300	D2 4810	
49852	HP 5005	00 47.0	+56 05	20 21	23 55	3 14 W	+56 44	FeNe C100W	3030-30
49852 F	Focus test					0 0	+9° 02	FeNe clear	90 sec 30
49852 T	Comp Exp Test	[forget stellar to see exp)				0 0	"	FeNe clear	40-40-40
	Dec 1 1986	(after plateholder mount rotation)						diffusion in	
49852FI	Focus test							FeNe clear	30/30
F2	"							"	"

Spectr. Temp. 41° F.....

Dome Temp./Hum. 43.8°/76.7

Transparency Conditions *some cloud → lots of cloud*

Focus . . . 390

Spectr. Temp. 37.5°f.....

Dome Temp./Hum. 132° / 97%

280

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		Blue filter											
	8-55	6295	OK	4.67	F7V	BC	830/40.2	BS	I _a O-E	4	Std Vel	#1 #2 807-812 cts	Fine
		5,500											
	8-58	4,500	fine	7.54	O9.5V	"	"	"	"	4	Bk O*	#1 #2 #3 RH asc/dsc line 702 685 711 cts 215 hr W	Fine
									"		✓		✓
Ne near	8-53	570 2,650	Sc Sc	7.85	O6.5V	BC	830/40.7	BS	I _a O-E	4	Bk O*	#1 #2 #3 C low 698 700 714	Wk
No near	9C	* counts 2159				Note, There is a companion star that may contribute to spectrum ↑							center
No near	3D	2169				BC	830/40.2	BS	I _a O-E	4			s/blue
No near	3E					"	"	BS	I _a O-E	4		#1 #2 #3 955 967 973	
He in		line file											
He near	3D					BC	CASP 1200/40.5	BS	O9.6O2e	4		T = 23°F SET 395	center vs blue
He d		π / 46				"	"	"	"	5			center s/blue

281

Thurs - Fri

Date Dec 4-5, 186..... Observers B/n-Tn.....

Emulsion Batches:

...#00-E.105-13116

[illegible]

Spectr. Temp. 30°F.....

Focus . . . 395

Spectr. Temp. 30°C

Dome Temp./Hum 28°/58%

Dome Temp./Hum. 72.6°/65%

Transparency Conditions *Semi Cloudy*..... 282

Students ~~tour~~ look at
(Training session) Jupiter
→ What tour?

[illegible]

283

Fri - Sat

8^m 68° Emulsion Batches:
..IIa0-E..105...131.1.6Date Dec. 5-6/86..... Observers ..T₁...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 Coll	for	49854-55		15 min @ 15V	D4 3900	D3 4300	D2 4800	
49856	NGC 7062	23	-42	19 59	20 11				
Dec 10/86 Focus tests - 22" EST Dome T = 22°f									
49856F1	Focus test					0 0	+1° 00	FeNe clear	90 30
F2	" "					0 0	11	11	90 30
F3	" "					"	"	"	90 30
F4	" "					"	"	"	90 30

Note: detector cooler a bit
stiff. Normal for cold weather.

Spectr. Temp. 32°.....

Dome Temp./Hum. 125.4/48.7

Transparency Conditions . . . *getting cloudy* . . . 284

Focus ... 3.92

Spectr. Temp. ... 32°f

Dome Temp./Hum. 42.6°/50%

(New Dig)

[illegible]

285

098s 4.5 min @ 66°F

Emulsion Batches:

Dec 11/86

...098-02E.....05116

Date Dec 11-12-86..... Observers ..Tn.....

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.
49857 F1	Focus tests (after this afternoon's rotath adj.)			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						F/6	W 1/116	2s
T2	"						F/18	W 1/116	1s
	Performed another plate holder mount rotation						— raised blue	by	
F4	Focus							FeNe clear	45 45
1986 Dec 17	Tn	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 12 focus tests					"	"	"	110 45
F9						"	"	"	110 45
F10						"	"	"	"

16

26°F. / H=60%

286

Focus 395

Spectr. Tem

Dome Temp./Hum.

Note, Same conventions as are observed as
on last night's Poem tests

Comparison Filter	Exp.	Expt. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
r	70	1589					G4240						
r	25	1853					830/402	BS	098-E	5			
"	"	1614					"	"	098-E	4			
"	"	1863					"	"	098-E	4			
"	"	1588					"	"	098-E	5			
"	"	1773					"	"	098-E	5			
b	25	15 w/ diffuser 15 w/o diffuser					G4270 1200/405	RS	III ₂ F	5			
"	15	w/ diffuser					"	"	"	4			
e	45	3 mil , lowered red by 2 mil					"	BS	III ₂ F	4			
r	45	diffuser					"	BS	III ₂ F	4			
e	40	Blue filter					G4270						
TP	45	2175					1200/405	BS	III ₂ F	4			
"	45	2881					"	"	"	5			
"	45	1861					"	"	"	4			
"	45	3000					"	"	"	5			
"	45	1900					"	"	"	4			
"	45	3000					"	"	"	5			
"	45	8166					G4290	"	III ₂ J-Eg	5			
"	45	2859					830/402	"	"	4			
"	45	2216					"	"	"	5			
"	45	3061					"	"	"	4			
"	45	2183					"	"	"	5			
"	45	3000					"	"	"	5			

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					diffuser & F/18 aperture in		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	0 0	FeNe clear	12^s 4^s
F12	More focus tests Tn			@ 79 ^h EST Dec 18/86 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

Transparency Conditions 288

288

Focus

Dome Temp./Hum.

[illegible]

289

Sun - Mon

Date Dec 21-22, 186... Observers Tm.....

Emulsion Batches:

098-02E 05716

[illegible]

716

$+25^\circ / 90^\circ$

OK slazy 290

399.

102% / 968

[illegible]

291

Mon - Tues

8m 680

Emulsion Batches:

ΠαΟ-Ε 05176

Date Dec. 22-23/86 Observers Tn.....

[illegible]

Transparency Conditions . . . *S/ Cloudy - v gusty* . . .

Focus 394

Spectr. Temp.

Dome Temp./Hum. /

→ V cloudy

292

[illegible]

293

Emulsion Batches:

8th 68^o ... Dec-E 3DS - 05126

Date Jan 4-5/87..... Observers Ty..... (Bln cheating on me) - wash water at 48°F (no hot water)

[illegible]

5/26

Spectr. Temp. 30°F Dome Temp./Hum. $126^{\circ}\text{F}/78\%$ Transparency Conditions $S. \text{ hazy} - \text{cloudy}$ Focus 394 Spectr. Temp. 29.5°F Dome Temp./Hum. $124^{\circ}\text{F}/95\%$

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 Fe	
		4545	OK	5.15	06ep	BC	G 4290 830/402	BS	II40-E	5	Bh 0*	687 692 689	fine
		3366											
		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	"	1.54	09.516	"	"	"	"	5	"		fine
		4500											
		4520	so so	6.86	05V	"	"	"	"	5	"		fine
		4500											
		4500	poor	6.36	09.716	"	"	"	"	5	"	AH oscilator @ 2 20V some cloud	fine
		9060	OK	4.40	07V	"	"	"	"	5	"	cloud	fine
						"	"	"	098	5		Set 394 T=29.5f Blue end Red Red end Blue Big #11	

295

Mon - Tues

Emulsion Batches:

8^m 68°F ~~II~~ G.O.E. 3.D.5. 0.51.26

Date 1987 January 5/6.. Observers Bl...-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'	FeNe Clear	30-30
49869	HD 22434	03 ^h 31 ^m .8	+00° 05'	20:31	20:48	00 06 E	+00° 34'	FeNe Clear	45-45
49870	HD 47839	06 ^h 35 ^m .5	+09° 59'	20:54	21:06	02:52 E	+10° 07'	FeNe Clear	45-45
49871	HD 48099	06 ^h 36 ^m .6	+06° 27'	21:12	22:14	01:44 E	+06 34'	FeNe Clear	30-30
49871 T	Spot Caln 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	FeNe clear	70-75
49871 F2	" " LPH " " " 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 into far right in PH mount)					0 0	+5 05	FeNe 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 68°F -					III and appear OK	Tn		

Spectr. Temp. 32°F.....

Focus 394

Spectr. Temp. . 32.5° F......

Dome Temp./Hum ~~43.0~~ F. / 85%.

Dome Temp./Humt ~~28~~²⁹°/90%

Transparency Conditions Slight haze w/ scattered
cloud. 106

296

[illegible]

297

Date Jan 13/14 1987 Observers Rm-Tn

Emulsion Batches:
8m 680 II₄₀-E 305-01057

[illegible]

057

Spectr. Temp. $+36^{\circ}\text{F}$Dome Temp./Hum. $32^{\circ}\text{F}/56\%$ Transparency Conditions *some cloud*..... 298

Focus... 39.3.....

Spectr. Temp. $+32^{\circ}\text{F}$Dome Temp./Hum. $+32^{\circ}\text{F}/90\%$ Comparison
Filter Exple
ar

4-75

333

4-40

4-40

4-40

4-40

4-40

4-40

4-40

4-40

4-40

4-40

4-40

4-40

4-40

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4-40

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4-40

4-40

4-40

4-40

4-40

4-40

4-40

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>Blue filter</i>				BC	830/40.2	BS	098	5			OK but some tilt
3333 1866	OK	6	GO	"	"	"	IIaO-E	5	Ceph-Rm	S set 38° 21'	OK through slat
		4.3V	F8II	8	8	8	IIaO-E			missing 79810 spots	
6,267	5050	4.3V	F8II	"	"	"	IIaO-E	5	Std. Vel	cloud	fine
9,000 ²	OK	5.15	O6ep	"	"	"	"	5	13In O*	thin cloud	OK but uneven exp
		2.7	GO					5	Ceph-Rm	thick cloud	
				BC	1200/50.7	BS	IIaO-E	5		T=329 set 391	Center S red in Blue 51 Blue a mid 25

294

Wed Thurs

Date Jan. 21-22/87... Observers T. G.

Emulsion Batches:

098 05116

[illegible]

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		Blue filter											
40-41		7408	OK-poor	4.28	F8V	BC	830/40.2	BS	II-O-E	5	std vel	cloud	uneven top Fine
60-25		1311 1695				BC	830/40.2	BS	098	5			OK
40-25		1291 2400				"	1200/50.7	"	II-O-E	5		big tilt (OK on Red half) +1/8"	Costo Rel bubble Flat
60-25						"	"	"	"	4		Set 399 T=16 °F	OK

Sat-Sun

Date Jan. 24-25/87 Observers KK-TN

Emulsion Batches:

 H_2Fe

05126

0.985

01126

Иа.О. 3Р5-01057

[illegible]

Spectr. Temp. ... +11.°F.....

Dome Temp./Hum. +8.°F/60%

Transparency Conditions ... Fine..... 302

Focus ... 39.9.....

gusty from WSW

Spectr. Temp. ... +8.5°F.....

Dome Temp./Hum. +1.°F/70%

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
4500	poor			BC	1800/5900	skylight filter	IIIaFe	5	Pl neb/KK		
5500	"			"	"	"	"	4	"		
4300	"			"	"	"	098-e	4	"		OK
3314	4-5"			BC	1200/5440	BS	IIaDe	5	Asm spec/KK	Comp ? - 619-657 Set 397	OK
3610							098-e				VL
							IIIaFe				VL
7000	poor	109	A0II	BC	1200/50.7	BS	IIaDe	5	Asm Sp KK	T = +19°F Set 397	Five out
2,300		7	dFg	"	"	"	"	5	"	dealer may have not been fully out for 1st half of exposure	OK
3,120	poor						IIaDe				OK
				BC	1200/50.7	BS	"	5		T = 8.5°F	broken off end while labelling
										note no dust off	
										on BS as observed now right.	

303

Sun - 1 Nov

Date Jan. 25-26/87 Observers Tn

Emulsion Batches:

Emulsion Batches:

8 ^m 680	Inst. Chy.	20106
	H ₂ O-E	305-01057
	*H ₂ O-E	- 062387

[illegible]

7
387

Focus . 399

Spectr. Temp. ... $+14^{\circ}\text{F}$

Dome Temp./Hum. 45° F. / 52%

Dome Temp./Hum. +8°/52%

Transparency Conditions *Fine - no wind or haze*

Seeing must be good, though can't tell from
TV image 309

Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
2236				BC	830/40.2	BS	Ilal-eg	5		T=+17°F Set 399	OK
2818				"	"	"	"	4		"	OK
2258				"	"	"	"	4		"	OK
2815				"	"	"	"	4		"	OK
5331	OK	26	2G	"	"	"	Il ₄₀ -E	5	Ceph-Rm	"	dust? Fine
5113	Fine	428	F8V	"	"	"	"	5	Spd Vel	"	dust? Fine
2500 *	"	58	2G	"	"	"	"	5	Ceph-Rm	* Exp meter inaccurate	dust? Fine
3900	"	58	2G	"	"	"	"	5	Ceph-Rm	Cord Dec corrected	dust? Fine
*	SO SO → poor	47.5	2G	"	"	"	Il ₄₀ -E *	5	"	* Exp meter problem	dust? Fine
	SO SO	27	60				Il ₄₀ -E *	5	Asm Spk K		VV dust Fine
3000?	SO SO	27.5	60	BC	830/40.2	BS	Il ₄₀ -E *	5	Asm Spk K	+17°F still	Fine
3600	SO SO	27.5	60	BC	830/40.2	BS	Il ₄₀ -E *	5	Asm Spk K	+17°F still	Fine
2500 *	poor	6.67	dG3	"	"	"	"	5	"	oscillate 2 ⁿ 05 W	Fine dust? Sica?
2300	poor	6.67	dG3	"	"	"	"	5	"	oscillate 2 ⁿ 05 W	Fine dust? Sica?
Exp meter count unreliable in some cases										Noise from focus switch	

305

Mon - Tues

Date Jan 26-27/87 Observers Tn

Emulsion Batches:

..PAGE 305 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	Fe Ne Clear	40-40
49889	HD 32147	04 55.9	-5 52	18 57	20 44	0 9 E	-5 37	"	30-30-30
49889T	Spot Calc for 49888-89 + 49893-95.					(next night) 15 min @ 15V		D2 D3 D2	4810
49890	NGC 2392	7 28.0	+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 @ H.L., D1, 7V			
49892F	Focus test for G1800 grating					0 0	+10	Fe Ne Clear	100 30

Spectr. Temp. $+17.7^{\circ}\text{F}$Dome Temp./Hum. $+12^{\circ}\text{F}/52.76$ Transparency Conditions *Fine*.....

306

Focus... 399

no wind

Spectr. Temp. $+130^{\circ}\text{F}$Dome Temp./Hum. $+4^{\circ}\text{F}/52.2$ prob frozen Good TV image of slicer for 1st time.

Comparison Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	Blue-G/100											
40-40	52130	OK	26	2G	BC	830/40.2	BS	II-0-E	5	Ceph-Rm		* fine
33-30	2542											* Fine
33-30	2540	5050	7.27	K3V	"	"	"	"	5	Asm Sp KK		Fine
33-30								"				✓✓
no filter	4800	OK			BC	1800/55°	Slitless slight filter	098-e	5	Planetary Proj	focused on - slit 1st Set 399 + 14°f	Fine
4826	poor				"	"	"	"	5	"	* reversal focus backwards than 1st one	Fine
4800	OK				"	"	"	"	5	"	refocused on slit for this exp	Fine
								"		Lost spot plate, fogged		
100					BC	1800/55°	BS	"	5			center S/Red

367

Tues - Wed

Date Jan 27-28 187 Observers Jn.....

Emulsion Batches:

... Inc-E3P5 012387

W.A.L.F. 20106

[illegible]

Spectr. Temp. $+20^{\circ}$

Focus 394

Spectr. Temp.

Dome Temp./Hum. +15 f/52% 7/11

Dome Temp./Hum. /

Transparency Conditions *getting busy - cloudy* 308

frozen humidity meter I think

Comparison Filter	Exp	Exp. Mtr	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
		Blue filter											
	3333	7006											
	3333	7006	Fine	7.1	B8	BC	1200/50.7	BS	IIa-b-E	5	Lg Prog	some cloud no RH as yet	* Slut
45-45		2,137	"	5.0	B8p	"	"	"	"	5	Rg Prog		* Fino
45-45		11,776	"	3.6	B8D	"	"	"	"	5	"		* Fino
2-1/2		36,775	"	"	"	"	"	"	IIIa-b-E	5	"		* Fino
2-1/2		20,650	"	5.0	B8p	"	"	"	"	5	"	cloud again end of exp	* Slut
		11,600							"				✓✓
												*Dust on Slicer??	

309

Emulsion Batches:

Date SAT JAN 31, SUN FEB 1 Observers BE-R
1987

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[illegible]

311

Thurs - Fri'

Sheetograph 1st light 11 OK

Emulsion Batches:

Date Feb 5-6/87 Observers KK-mki-Tn-Se

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[illegible]

Focus

Dome Temp./Hum. *726°*

Transparency Conditions *Mostly cloudy* 312

Spectr. Temp.

Dome Temp./Hum. +24°C / 80%

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
				$V=$ 9.8	dM5	BC	1200/	RS			Asm/Spec KK		
						BC	1200/4500	RS			1st planetary nebula	guided on central star	

Mon ~~Wed~~ Tues

Spectrophotograph

Emulsion Batches:

Date Feb. 9/10/187... Observers MKI - KK - TA - BT....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter Exp.	
SP 000010	mk1								
11	V 471 Tau								
12	"								
13									
14									
15	Sky Ratio				1800 sec				
16	2.75 Volt test								
17	back to 2.25V test								
18	Tungsten				3600 sec				
19	Fe-Ar								
20	H0 84937								
21									
22	Fe-Ar								
23	Fe-Ar								
24	H0 65934								
27	H0 75935								

Transparency Conditions *Some clear sky* 314

Spectr. Temp. Dome Temp./Hum.

[illegible]

315

Cont ~~Feb~~ Mon-Tues

Emulsion Batches:

Date Feb 9/10 Observers

Plate No.	Object	R.A. 1900 1950	Declination 1900 1950	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
29	Fe-Ar								
30	Durk	3600	sec					A 1/2 FeA	200
SP000032	Comp					0 0			
SP000031	Sky Ratio	near 5900	λ	04	04 30	0 0	-18°		
32	Sky Ratio	near 4300	λ	04 35		0 0	"		
33	Comp							A 1/4 FeA	200
35	Sky Ratio	near	5700 λ						
36	Comp for	#35	5700 λ					A 1/4 FeA	200
37	Sky Ratio	near	4000 λ	06 05	6:00 sec				
38	Comp for		4000 λ					A 1/4 FeH	200
39	1501608	7h 24m 43s	+5° 22' 7"	20:16					

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions 316

Focus

Spectr. Temp. Dome Temp./Hum. 18.7°/90.3%

Comparison Filter	Exp.	Exp. Mtr.	Seeing	Mag. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
						DC	1800/40°	RS					
						"	"	"					
1/2	200					BC	1800/52	RS					
						BC	1800/52°	RS				2x 600secs	
						BC	1800/42°	RS				600sec	
1/4	200					"	"	"					
						"	1800/50.7	RS					
1/4	200					"	"	"					
		600sec				"	1800/40.5	RS				One emission line	
1/4	200	3				"	"	"					
						982 JMS							

317

Tues.-Wed

Shoetograph

Date Feb 10-11/87 Observers MKS - Ta

Emulsion Batches:

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Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
SP000039	MK1 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	" " 9nd	12004	1200	21 36 46	21 45 14	3 00W	extreme RA oscillation		
SP000049	MK1 Problem	nothing in	49. 2. 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 84937	9 48.2	+13 49	23 17 36			59.59	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 mins						

Spectr. Temp. Dome Temp./Hum. 18.570 Transparency Conditions Fine - sl. cloudy 318
 Focus
 Spectr. Temp. Dome Temp./Hum. 20°F / 90%

Comparison Filter Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
	<u>B filter</u>				BC	^{G4500} 1200/42.6	RS	with - UV filter above slicer				
200					"	"	"				1200 + 1200	
200					"	"	"				1200 + 1200 = 1054 cts ^{Reg. Expt. mtr}	
					"	"	"			460 cts	1200 separate	
					"	"	"			390 cts	1200 + 1200	
					"	"	"			540	1200 sec	
					"	"	"				cut short by oscillator	
300					"	"	"					
200	765 cts.	OK	8.63	G8V	"	"	"			std vel	1.5 hrs from full moon	
200			V 8.3	-	"	"	"			"	Refocused before	
					"	"	"				1497 cts	
	1500				"	^{~42.0?} 1500/42.0	"				moved grating to 42.0?	
	500				"	"	"				faint comp of AW UMa	
	100 cts				"	"	"				cloud	
36	B channel	Signal	1400		"	"	"	Using ND 2.3 in holder			ND 1.2 on top of slicer	

319

Sat - Sun

Spectograph

Emulsion Batches:

Date Feb 14-15 1987... Observers Mki.-Tn.....

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
SP0000 74	BM Cas	^{1986.3} 00 53 55	+64° 00' 36"			SP0000	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	"	0120148	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 467.0 B	11 54 46	+30 31				Comp	"	"

Transparency Conditions *Exo* 320

Focus

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

Spectr. Temp.

Dome Temp./Hum.

[illegible]

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions 322

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
	Red Exp				BC	G 3860 1200/36.5	RS				Dark = 14 s^{-1} . $T_{\text{dome}} = -8^{\circ}\text{F}$	
4 200					"	"	"				200	
	800 s^{-1}				"	"	"				Dark = 11 s^{-1} , $T_{\text{dome}} = -8^{\circ}\text{F}$	
2 200	150 s^{-1}				"	"	"				Dark $\sim 10 \text{ s}^{-1}$ $T = -9^{\circ}\text{F}$	
	1400 s^{-1}				"	G 4460 1200/42	"	Comp on Stellar.			good H α	
A 200					"	G 3720 1200/35.2	"	1st comp. is good			good H β	
	800 s^{-1}				"	G 4460 1200/42	"	Skipped too bright on slicer slit.			Dark $\sim 9.5/\text{sec}$ $T = -9^{\circ}\text{F}$	
	750 cts/sec start					1)		(Channel A 80/sec, Chan B 1000/sec)?				
Tuna	7350 cts/sec				BC	G 4460 1200/42	RS	(Filters 0.9 + 2.3 + 0.6)			A 1/4 Contamination = 10 cts/sec (A+B) Total B = 2500 s^{-1} Dark = 9 s^{-1} ; $T_{\text{dome}} = -40^{\circ}\text{F} = -20^{\circ}\text{C}$	

323

Spectograph work

San Men

Emulsion Batches:

Date Feb. 15-16 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	E ₂
130	Tungsten Flat Fld	* 2400 sec (intended)		17 24		0 0	Zenith	Tung A 1/16	
SP000 132	V 471 Tau	¹⁹⁸⁷ 03 49.7	^{set} +17 20	19 03	19 23		^{#131} Comp	FeA A=1/4	200
133	"	"	"	19 24					
134	Comparison								
135	Comp.							FeA 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. $-1^{\circ}\text{F}/60\%$

Comparison pe/Filter	Channel B Exp. Mtr. Sheet meter	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	mean counts	Quality
	average 1690 cts	* actual exp 2360 BC secs				G4460 1200/42	RS	PCS			Indome T = $+7^{\circ}\text{F}$ Channel A = 400 cts/sec		
	600 cts	sky 47 cts									1st comp with Dark Header		
	900 cts	" 74				1200 + 1200							
	256 / 18 comp			dms	BC	G4910 1800/46.3	RS						75, 14
	256 / 51			"	"	"	"						69, 15
		V ₂ 9.87		"	"	"	"	same label header as previous.			* uncertain - fid drawn on card		69, 10
				"	"	"	"				** west of previous exp		105, 10
	750 cts/sec (37 sky cts/sec)			"	"	"	"				Dark = 18/sec Dome T = -2°F		
				"	"	"	"						178, 12
				Mop	"	"	"						85, 9
				"	"	"	"						120, 11
	1750 cts/sec			"	"	"	"				Channel A 300 cts/sec		
	17 cts/sec			"	"	"	"				In IB buffer 17		
				G2V	"	"	"						

325

Mon-Tues

Emulsion Batches:

Date Feb. 16.-17.18.7... Observers X34-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. Mi
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	165c/167	"	200
169	BD+69° 181	¹⁹⁸⁷ 12 58.3	+68 52			Comps	168c/170	"	4
173	NGC 4151	12 09.9	+39 29		~ 1 41	1200secs 30 min exp	172c/174	Comps	"
175	"	"	"	02 01	~ 02 20	1200 sec	176 Comp	"	"
177	Flat Field (oops - labelled "Dark")			02 35	03 35	0 0	0 Zenith		
178	Dark	1200 sec		03 41		0 0			
179	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 e/Filter, Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
<i>the photograph</i>	B A											
<i>1520</i>	<i>hannels</i>				BC	G4910 1800/46.3	RS					
<i>180</i>	8,00,200										Dark $\approx 30/\text{sec}$	
	50,40 @ 18 50 EST										Sky signal no integration done	
<i>1/4</i>	22,45				BC	G4910 1800/46.3	RS			2400sec		<i>2000</i> 120,127
<i>1</i>	300,45				"	"	RS			2400sec*	maybe only 1700sec stereocircled on this field	
<i>1</i>	2500 cuts in B				"	"	"			2400 sec	600sec exp	
	90,40 in semi cloud					1800/56°					Quite cloudy, barely visible in slicer view.	
	170,40				BC	G6000 1800/56°	RS			(1A, Last long IB)	thin cloud check fld notes	
	1000,330				"	"	"			Note forgot to change header for 1800/56° for previous exps.		
	33 cuts/sec Dome T = $+8^{\circ}\text{F}$				BC		RS					
	3										Note SP000171 deleted (It was nothing)	
<i>1/4</i>	1400,88				BC	G6000 1800/56	RS				Clear	
					"	"	"				clear	
<i>200</i>	300,60				"	"	"				Then Cloud	

pg # 2

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BT-T7

[illegible]

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions 328

Focus

Spectr. Temp. Dome Temp./Hum.

Comparison Filter	Exp.	Exp. Mtr. <i>Cuts</i>	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
A 1/4	700	810, 65				BC	G 4900 1800/45°	RS				HB centered	
		1300, 90				"	"	"					
		100, 100				"	G 5000 1800/45°	"			(Try G 4950 next time)	centered to red of HB ≈ 100 Å	
												Dome T = 19°F Feb 17 dark cuts ≈ 73/sec @ BEST	
						BC	G 4450 1200/42°					dark cuts ≈ 70/sec @ 1835	
					@ 21"	Focus looks v good @ GX 2900, 3 hrs, ≈ 4-5 pixels						(@ 0" EST Feb 18 Dark = 80/sec Dome T = 20°F	

329

Emulsion Batches:

Date WEDNESDAY FEB 18-19/87 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.
196	DARK								10 MIN
SP000197	V471 TAU	03 ^h 44	+16 57.1	20:20:10	20:32:11				120
198	COMP			20:44	20:47			FeA A $\frac{1}{2}$	200
199	V471 TAU			20:49	21:09				12008
200				21:11	21:31				+12005
201	COMP			21:33				FeA A $\frac{1}{2}$	200
202	V471 TAU			21:38	21:57				120
203	V471 TAU			21:59	22:19				+1200
204	COMP			22:20	22:23			FeA A $\frac{1}{2}$	203
205	V471 TAU	03 ^h 44	+16 57.1	22:32	22:52				
206	COMP			22:53	22:56			FeA A $\frac{1}{2}$	2005
207	SKY			22:58	23:03			SKY	3000
208	DARK							dark	300
209	COMP			23:23	23:26			FeA A $\frac{1}{2}$	2005
210	BM CAS	00 ^h 54 ^m	+69° 00'	23:27	23:47				1200

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
1300	WE CYS CH B											
1200			9.6	K2	P.C.S.	1200/42.0° 4460	RS				East of pier.	
200					"	"	RS					
1200	80004		9.4	K2	P.C.S.	1200/42.0° 4460	"			EXPTIME 1200 SEC 500 SEC +1200 SEC		
1200	"				"	"	"					
200	364				"	"	"			EXP 200 SEC 1200 SEC		
200					"	"	"					
1200					"	"	"					
200					"	"	"					
80004												
37504												
150/sec											Looks well aligned.	
120/sec.												
200			V2 8.8	A7M	"	"	"					

331 PS #2

Emulsion Batches:

Date WED. THURS FEB 5-13/87 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.
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 Ne 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

332

Focus

Spectr. Temp.

Dome Temp./Hum.

Comparison Filter	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
120			V ₂ 8.8	ATIA	P.C.S.	1200/47.8 4460	RS	Hd				
200			"	"	"	"	"	Hd				
200	375ct		"	"		1200/36.5 3860	RS	5160 Å				
1600						"	"	"				
200						"	"	"			Dark count ~ 105/sec.	
200	1000ct					1200/47.4 4494	RS	7770 Å				
1600	500ct					"	"	"				
40						"	"	"				
200						"	"	"				
200						1200/42.0 4460	RS	Hd				
300			8.6	GSD		1200/42.0 4460	RS	Hd				
200			"	"		"	"	"				
200			"	"		1200/36.5 3860	RS	5160 Å				
600			"	"		"	"	"				
200						"	"	"			Dark = 100/sec.	

333

PS II 3

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

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
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 STARRE			03:44	03:47			FeA A 1/4	200
233	UGC 4151	12 08.0	+35° 41	03:49	03:53				1200
234	UGC 4151	"	"	03:57	04:16				1200
235	COMP			04:17	04:21			FeA A 1/4	200
236	COMP	"	"	04:21	04:24			"	"
	UGC 4151	"	"	04:26	04:27				
237	COMP			04:41	04:44			FeA A 1/4	200
238	HD 132737	14 55.6	+27° 33	04:46	04:51				300
239	"	"	"	04:59	04:04				300

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions 339

Focus

Spectr. Temp.

Dome Temp./Hum.

[illegible]

335 ps #4

Date FEB 19/87 THURS Observers MAI - R1

Emulsion Batches:

[illegible]

Spectr. Temp.

Dome Temp./Hum.

Transparency Conditions

336

Focus

Spectr. Temp.

Dome Temp./Hum. *...11°C... 90%*

Comparison Filter	Exp.	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				
	200					P.C.S.	1200/42.0 4460	R.S.	Hd				
	950	2700				"	"	"	"				
	200					"	"	"	"				
	200					"	1200/357 3750	"	4900A				
		900				"	"	"	"				
	200											Dark = 80/sec.	
	90						1200/42.0 4460	"	Hd				
	800						"	"	"			~ 73/sec.	
	300						"	"	"				

337 Page #1

Date Feb. 19/20, 1987. Observers Mki - 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.
SP00250	Flat Field				17:32				3600
SP000251	DARK								300
SP000252	COMP			19 44	19 47			Fe A A $\frac{1}{4}$	200
SP000253	V471 TAU	03 44.8	+16° 57'	19 49	20:09				1200
254	COMP			20:12	20:15			Fe A A $\frac{1}{4}$	200
255	COMP			20:25	20:28			Fe A A $\frac{1}{4}$	200
256	M42	05 35	-05 23	20:30	20:35				300
257	COMP	'		20:44	20:48			Fe A A $\frac{1}{4}$	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 $\frac{1}{4}$	200
261	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 $\frac{1}{4}$	200
264	V471 TAU	03 44.8	+16° 57'	22:25	22:45				

Spectr. Temp. Dome Temp./Hum. *-04°C 95%* Transparency Conditions *338*...

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
		<i>COUNTS</i>											
	<i>3600</i>					<i>P.C.S.</i>	<i>1200/42.0</i> <i>4460</i>	<i>R.S.</i>	<i>Hd</i>				
	<i>300</i>					<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>				
	<i>200</i>	<i>350</i>				<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>				
	<i>1200</i>	<i>1500</i>		<i>9.7</i> <i>9.4</i>	<i>KOV+wd</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>				
	<i>200</i>					<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>				
	<i>200</i>					<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>				
	<i>300</i>					<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>			<i>3050 W D'OR, C</i>	
	<i>200</i>					<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>				
	<i>1200</i>	<i>1000</i>		<i>9.7-</i> <i>9.4</i>	<i>KOV+wd</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>				
	<i>1200</i>	<i>1500</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>				
	<i>200</i>					<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>				
	<i>1200</i>	<i>1500</i>		<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>				
	<i>1200</i>	<i>1500</i>		<i>9.7-</i> <i>9.4</i>	<i>KOV+wd</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>				
	<i>200</i>	<i>450</i>				<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>				
	<i>1500</i>			<i>9.7-</i> <i>9.5</i>	<i>KOV+wd</i>	<i>"</i>	<i>"</i>	<i>"</i>	<i>"</i>				

339 P₅+2

Emulsion Batches:

Date THURS - FEB 19-70 Observers HAK - R₁

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
SP000 265	V 471 TAN	03 44.8	+16 57	22:46	23:06				+1200
266	COMPARISON			23:07	23:10			Fe 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			Fe 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			Fe 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			Fe A A 1/2	200
274	COMP			00:35	00:39			Fe 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			Fe A A 1/2	200
277	DARK								300
278	COMP			01:25	01:29			Fe 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
+1200	1500		9.7- 9.4	Koumud	P.C.S.	1200/42.0 4460	R.S.	Hd				
1200	450			"	"	"	"	"				
1200	1000		9.7- 9.4	Koumud	P.C.S.	1200/42.0 4460	R.S.	Hd				
1200	450			"	"	"	"	"				
300				"	"	"	"	"				
300				"	"	"	"	"				
1200	420			"	"	"	"	"			DARK 135/sec	
1200	2200		8.82 9.33	A7	P.C.S.	1200/42.0 4460	R.S.	Hd				
1200	420			"	"	"	"	"				
1200	420				P.C.S.	1200/36.5 3860	R.S.	5160A				
1200	1000		8.82 9.33	A7	P.C.S.	1200/36.5 3860	R.S.	5160A				
1200				"	"	"	"	"			DARK 130/sec	
1200					"	"	"	"				
1200					"	"	"	"				
1200	2500		8.63	GST	P.C.S.	1200/36.5 3860	R.S.	5160A				

341

P[#]3

Emulsion Batches:

Date Feb. FEB 20/87 Observers M41-R1

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
SP000 280	COMP			01:55	01:58			Fe A A $\frac{1}{4}$	200
281	COMP			02:13	02:16			Fe A A $\frac{1}{4}$	200
282	HD 25935	8 47.9	+27 18°	02:18	02:28				600
283	COMP			02:30	02:33			Fe A A $\frac{1}{2}$	200
284	COMP			02:39	02:43			Fe A A $\frac{1}{2}$	200
285	AW 1 UMa "B"	11 24.9	+30° 31	02:44	02:54				600
286	COMP			02:55	02:58			Fe A A $\frac{1}{2}$	200
287	COMP			02:59	03:03			Fe A A $\frac{1}{4}$	200
288	AW UMa "B"	11 24.9	+30° 31	03:03	03:13				600
289	COMP			03:15	03:18			Fe A A $\frac{1}{2}$	200
290	COMP			03:24	03:27			Fe A A $\frac{1}{4}$	200
291	COMP			03:52	03:55			Fe D A $\frac{1}{2}$	200
292	BD+26° 2606	¹⁹⁵⁰ 14 46.8	+25° 54	03:56	04:16				1200
293	COMP			04:17	04:20			Fe A A $\frac{1}{2}$	200
294	COMP			04:27	04:31			Fe A A $\frac{1}{2}$	200

Spectr. Temp. Dome Temp./Hum. Transparency Conditions 342

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
A 1/4 200	400				P.C.S.	1200/36.5 3860	R.S.	5160A			SYSTEM CRASH	
A 1/4 200	400				P.C.S.	1200/42 4460	R.S.	Hd				
62	3000		8.6	G8V	P.C.S.	1200/42.0 4460	R.S.	Hd				
A 1/4 200					P.C.S.	1200/42.0 4460	R.S.	Hd				
200	350				P.C.S.	1200/42.0 4460	R.S.	Hd				
62	1400		9.0		P.C.S.	1200/42.0 4460	R.S.	Hd				
A 1/4 200	350				P.C.S.	1200/42.0 4460	R.S.	Hd				
A 1/4 200	400				P.C.S.	1200/36.5 3860	R.S.	5160A				
62	1000				P.C.S.	1200/36.5 3860	R.S.	5160A				
A 1/4 200					P.C.S.	1200/36.5 3860	R.S.	5160A				
500	400				P.C.S.	1200/36.5 3860	R.S.	5160A				
200	300				P.C.S.	1200/36.5 3860	R.S.	5160A				
1200	1000		9.68	sdF	P.C.S.	1200/36.5 3860	R.S.	5160A				
A 1/4 200	330				P.C.S.	1200/36.5 3860	R.S.	5160A				
A 1/4 200	330				P.C.S.	1200/36.5 3860	R.S.	5160A				

343 P₅ #4

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

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
SP000 295	HD 132737	14 55.6	+27 33	04:32	04:37				300
296	COMP			04:38	04:41			Fe A A $\frac{1}{4}$	200
297	COMP			04:43	04:46			Fe A A $\frac{1}{4}$	200
298	HD 132737	14 55.6	+27 33	04:48	04:53				300
299	COMP			04:54	04:57			Fe A A $\frac{1}{4}$	
300	COMP			05:04	05:07			Fe A A $\frac{1}{4}$	
301	NOVA HER	18 43.1	+15° 18	05:08	05:19				600
302	COMP			05:20	05:23			Fe A A $\frac{1}{4}$	200
303	COMP			05:24	05:28			Fe 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 $\frac{1}{4}$ Fe A	200
306	DATA								
307	COMP			06:02	06:05			Fe 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 344

Focus

Spectr. Temp. Dome Temp./Hum.

Companion Filter	Exp.	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
344		5000		8.02	KOIII	P.C.S.	1200/36.5 3860	R.S.	5160A			LIGHT IN CH "A"	
A	200	330				P.C.S.	1200/36.5 3860	R.S.	5160A				
200		330				P.C.S.	1200/42.0 4460	R.S.	Hd				
350		8000		8.02	KOIII	P.C.S.	1200/42.0 4460	R.S.	Hd			LIGHT IN CH "A" HIGH COUNT RATE	
						P.C.S.	1200/42.0 4460	R.S.	Hd				
		380				P.C.S.	1200/42.0 4460	R.S.	Hd				
600		3000				P.C.S.	1200/42.0 4460	R.S.	Hd				
700		350				P.C.S.	1200/42.0 4460	R.S.	Hd				
200		550				P.C.S.	1200/35.7 3750	R.S.	4900A				
1200		1000				P.C.S.	1200/35.7 3750	R.S.	4900A				
200		550				P.C.S.	1200/35.7 3750	R.S.	4900A			Dark ~ 100 S-1	
		550				P.C.S.	1200/35.7 3750	R.S.	4900A				
300		1100					1200/35.7 3750	R.S.	4900A				
300		1300					1200/42.0 4460	R.S.	Hd			sky 180 EV BOTH CH AT FEND	

Date FEB 20/86 Observers MAI-R

Emulsion Batches:

[illegible]

Spectr. Temp.

Dome Temp./Hum.

Dome Temp./Hum. -07°C 86%

Transparency Conditions 346

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[illegible]

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Fri - Sat

Emulsion Batches:

Date Feb. 20-21/87... 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	FeA 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	FeA A 1/8?	200
327	AD 88801	¹⁹⁸⁷ 10 0.9	^{set} +28 45	23 59		900 sec 15 min	Comp 326 Comp	FeA A 1/8?	200
328	"	"	"	00 15	00 30	"	Comp 329	"	200
330	Dark	4 mins							
	Flat Field	0 Hr	f40			2 hrs long		Tung A 1/16	
	SAT	FEB 21/87		Ri					
334	FLAT FIELD	0 HRL	+43°			2 HRS		Tung A 1/8	
335	DARK					1 HR			

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Mon-Tues

Date Feb. 23-24/27. Observers BT-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.
SP000-340B12	Flat			17:48	18:55	0 ^h 0 ^m	zenith	Augsten A 1/8	4000
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			Fe 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			Fe A A 1/8	200
346	COMP			20:53	20:56			Fe 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			Fe A A 1/8	200
349	HD 8890B	1:22.6	+88° 46	21:29	21:49		611		1200
350	COMP			21:52	21:56			Fe 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			Fe A A 1/8	200
353	HD 8890B	1:22.6	+88° 46	22:52	23:12		669		1200
354				23:14	23:18			Fe A A 1/8	200

Spectr. Temp. Dome Temp./Hum. $-03^{\circ} 64\%$ 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°	150μ slit	Hβ			SYSTEM CRASH	
525											
2500		V= 8.75	G2I	P.C.S.	1800/4900 46°	150μ SLIT	Hβ	CHANNEL A			-30.08
550				P.C.S.	1800/4900 46°	150μ SLIT	Hβ				
2700		V= 8.75	G2I	P.C.S.	1800/4900 46°	150μ SLIT	Hβ	CH B			-30.05
550				P.C.S.	1800/4900 46°	150μ SLIT	Hβ				
450, 480				P.C.S.	1800/4900 46°	150μ SLIT	Hβ				
3000, 577		V= 8.6	F	P.C.S.	1800/4900 46°	150μ SLIT	Hβ	CH A			-11.19
					1800/4900 46°	150μ	Hβ				
775, 3500		V= 8.6	F	P.C.S.	1800/4900 46°	150μ	Hβ	CH B		1/4 WAY MOVED TO RIGHT OF SLIT	-11.13
520				P.C.S.	1800/4900 46°	150μ	Hβ				
3000, 500		V= 8.6	F	P.C.S.	1800/4900 46°	150μ	Hβ	CH A		SYSTEM CRASH	-11.14
				P.C.S.	1800/4900 46°	150μ	Hβ				
3200		V= 8.6	F	P.C.S.	1800/4900 46°	150μ	Hβ	CH B			-11.14
					1800/4900 46°	150μ	Hβ				

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Date FEB 23-24/87 Observers B-L-R

Emulsion Batches:

Plate No.	Object	R.A. 1900	Declination 1900	Starting Time E.S.T.	Ending Time E.S.T.	Hour Angle End	Declination	Comparison Type/Filter	Exp.
SPORO 355	COMP			23:19	23:24			FeA A $\frac{1}{2}$	200
356	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	"	"	02:24	02:44				1200
369	COMP			02:46	02:49				

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions	352
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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
4	500						P.C.S.	1800/6000 56	150 μ	H α				
1200	1000, 300		V=8.6	F	P.C.S.		1800/6000 56	150 μ	H α	C4 "A"				-11.14
200							P.B.R.	1800/6000 56	150 μ	H α				
1200	450, 1100		V=8.6	F	P.C.S.		1800/6000 56	150 μ	H α	C4 "B"				-11.15
200							P.C.S.	1800/6000 56	150 μ	H α				
675														
200							P.C.S.	1800/6000 56	150 μ	H α				
1200	1200, 400		V=8.88	Go II	P.C.S.		1800/6000 56	150 μ	H α	C4 "A"				-6.18
200							P.C.S.	1800/6000 56	150 μ	H α				
1200	200, 1600		V=8.88	Go I	P.C.S.		1800/6000 56	150 μ	H α	C4 "B"				
200							P.C.S.	1800/6000 56	150 μ	H α				-6.22
200							P.C.S.	1800/4900 46	150 μ	H β				
3000, 450			V=8.88	Go I	P.C.S.		1800/4900 46	150 μ	H β	C4 "A"			SYSTEM CRASH	-6.26
1200	300, 675		"	"	"		"	"	"	"				

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Emulsion Batches:

Date Feb. 23-24/87 Observers Bl-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.
SP000370	HD 86801	9 55.8	+29° 02	03:07	03:27				1200
371	COMP			03:28	03:32			Fe A A $\frac{1}{8}$	200
372	DARK			03:33	03:46				800
373	COMP			03:48	03:51			Fe A A $\frac{1}{4}$	200
374	3C 273	12 26.6	+2 20	03:55	04:18				1200
375	COMP			04:20	04:23			Fe A A $\frac{1}{4}$	200
376	DARK			04:25	04:38				
377	COMP			05:15	05:19			Fe A A $\frac{1}{4}$	200
378	NOVA HER	18 41.5	+15 16	05:20	05:35				900
379	COMP			05:36	05:39			Fe A A $\frac{1}{4}$	200
380	NOVA HER	18 41.5	+15 16	05:40	05:55				900
381	COMP			05:56	05:59			Fe A A $\frac{1}{8}$	200
382	COMP			06:00	06:03			Fe A A $\frac{1}{8}$	200
383	NOVA HER	18 41.5	+15 16	06:04	06:19				1000
384	COMP			06:20	06:24			Fe A A $\frac{1}{8}$	200
385	DARK			06:25	06:38				
386	FLAT FIELD			06:				TUNG A $\frac{1}{8}$	7200
387	DARK								7350

Spectr. Temp. Dome Temp./Hum.

Transparency Conditions 354

Focus

Spectr. Temp. Dome Temp./Hum. 73.8

Comparison Filter Exp	Exp. Mtr.	Seeing	Ptg. Mag.	Sp.	Inst.	Grating/ Tilt	Slit	Emulsion	P.H.	Program	Remarks	Quality
120	350, 370		V=8.8	G02	P.C.S.	1800/4900 46	150 SLIT	H β	C4 B		SYS. EM CRASH	
20					P.C.S.	1800/4900 46	150 SLIT	H β				
80												
200					P.C.S.	1800/6000 56	150 SLIT	H α				
120	150, 210				"	"	"	"				
40					"	"	"	"				
					"	"	"	"				
20					"	"	"	"				
150	1800, 450				P.C.S.	1800/6000 56	150 SLIT	H α	C4 A			
200					"	"	"	"				
90	2000, 250				"	"	"	"	C4 B			
100	1000, 233				P.C.S.	1800/4900 46		H β	C4 A			
200					"	"		"				
40					P.C.S.	1800/4900 46	150 SLIT	H β				
70											1 crash after ~ 150°	

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Emulsion Batches:

Date Observers

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[illegible]

Doc 531-7059

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