

Mar 1-2, 2014

Mar 29-30, 2014

OCT-LMI

PNe

Sunset 6:28pm

Sunrise 6:49am

Moon 1- 190 illum, sets at 7:14pm

2- 590 " , set at 8:20pm

Twilight end LST =  $6^h$ , 7:46pm

beg =  $15^h45$ , 5:30am

midnight LST =  $10^h15$

Need: braces

dome flats

twilight flats

Readnoise = 2.1 ADU

Gain =  $2.87 e^-/ADU$

Observations: < 1.5 airmass

[OIII], V V [OIII] ... [OIII]  $30^m \times 12$

V  $1^m \times 12$

H $\alpha$ , R, R, H $\alpha$

H $\alpha$   $30^m \times 8$

R  $1^m \times 8$

visible

status 8

N1569 0:30-8:30

H $\alpha$ : 1, [OIII]: 11  $\rightarrow$  Need 8 H $\alpha$  + 4 [OIII]

N2366 4 - 11

050 4:20-12:20

H $\alpha$ : 14, [OIII]: 12  $\checkmark$  DONE

N3738 7:30-15:30

N4214 8:15-16:15

Plan:

Night 1+2 = N1569 beg -  $8^h30$  LST, N3738 rest of night

	<u>Operators -</u>	<u>PP people</u>
Weather X	March 1 - Mike Swanton / Lisa Foley	Kelsey + Dan x
Nothing	2 - Jason Janbon / Heidi Larson	Liz + Gary ✓
	29 - <sup>Heidi</sup> Lisa Foley + Susan <del>Stapler</del> / <sup>Tennie</sup> Stapler	[Steve Leskin] ✓
	30 - Heidi / Jason	Kelsey, <sup>Kathy</sup> <del>Jan</del> ✓

March 1-2 -  
 Snow. APS power out. Humidity 98%.  
 Dewar window frosted over

March 29+30 -  
 Sunset ~ 6:48pm      Sunrise ~ 6:14am  
 Twilight end ~ 8:07pm      beg ~ 4:55am  
 LST 8:10      17:00  
 midnight LST ~ 12<sup>h</sup>  
 Moon - 29<sup>th</sup> + 30<sup>th</sup> 0% illum

1/mi/20140330 cloudy

#	object	filter	exp	X	focus	RA, Dec offset	(pixel = " seeing	⊕
1-20	Bias	dash	∅	-	-	-		
21-25	Home plate	Hα	30s					
26-30	"	[VII]	30s					
31-35	"	V	2s					
36-40	"	R	2s					

Focus in V at U4214 → 900

X	41	U4214	Hα	30s				
X	42	"	Hα	1800s	1.40	950	0,0	3.43 = .82" <sup>11.07</sup> 12.14
	43	"	R	60s	1.28	935	"	
	44	"	R	60s	1.27		0,+10"	

1718,2750

	#	object	filter	exp	X	focus	offset	FWHM	plot
X	45	n4214	H $\alpha$	1800	1.26	950	0,+10"	3.75=0.9"	<del>10.52</del> 11.34
X	46	"	H $\alpha$	1800	1.17	950	0,+20"	3.04=.7"	10.64
	47	"	R	60	1.10	935	"		
	48	"	R	60	1.10	"	+10",+20"		
X	49	"	H $\alpha$	1800	1.10	950	"	3.07	11.93
X	50	"	H $\alpha$	1800	1.05	"	+10",+10"	3.0	11.50
	51	"	R	60	1.02	935	"		
	52	"	R	60	1.02	935	+10",0		
X	53	"	H $\alpha$	1800	1.02	950	"	3.11	11.19
X	54	"	H $\alpha$	1800	1.00	"	+10",-10"	3.03	11.01
	55	"	R	60	1.00	935	"		
	56	"	R	60	1.00	"	+10",-20"		
Clear!	57	"	H $\alpha$	1800	1.00	950	"	3.22	10.63
	58	"	H $\alpha$	1800	1.02	"	+20",-20"	3.44=.83"	10.22
	59	"	R	60	1.05	935	"		
X	60	"	R	60	1.05	"	+20",-10"		
X	61	"	H $\alpha$	1800 <sub>s</sub>	1.05	950	"	3.61=0.9"	10.99
X	62	"	H $\alpha$	1800 <sub>s</sub>	1.10	"	+20",0	3.13	11.32
X	63	"	R	60 <sub>s</sub>		935	"		
	64	"	R	60 <sub>s</sub>	1.17	"	+20",+10"		
X	65	"	H $\alpha$	1800 <sub>s</sub>	1.18	950	"	3.46	10.84
X	66	"	H $\alpha$	1800 <sub>s</sub>	1.27	"	+10",+10"	4.66	11.83
	67	"	R	60 <sub>s</sub>	1.40	935	"		
	68	"	R	60 <sub>s</sub>	1.40	"	+10",0		
X	69	"	H $\alpha$	1800	1.42	950	"	5.05	12.00
X	70	"	H $\alpha$	1800	1.60	"	+10",-10"		
X	71	"	R	60	1.86	935	"	5.3	13.14

(n2)

Mostly  
Clear + windy  
/lmi/20140331

#	object	filter	exp	X	focus	offset	FWHM	shot*
1-20	Bair	Dark	∅	-	-	-	-	-
21-25	dome flat	Hα	30s	-	-	-	-	-
26-30	"	[LIII]	60s	-	-	-	-	-
31-35	"	V	2s	-	-	-	-	-
36-40	"	R	2s	-	-	-	-	-
41-45	sky flat	[LIII]						
46-50	"	Hα						Filter moving in 46?
51-55	"	R						" in 51?
56-60	"	V						
61	scattered light	V	100s	-	-	-	-	3600" N Jupiter
62	"	"	"	-	-	-	-	3600" S
Focus at N4214, in V → 915 (but awful)								
63	N4214	Hα	1800s	1.34	965	0,0	5.44=1.3"	10.08
64	"	R	60s	1.21	950	"		
65	"	R	60s	1.21	"	0,+10"		
66	"	Hα	1800s	1.20	965	"	4.3=1.0"	10.05
67	"	Hα	1800s	1.13	"	0,+20"	3.7=0.9"	10.25
68	"	R	60s	1.07	950	"		
69	"	R	60s	1.07	"	0,-10"		
70	"	Hα	1800s	1.07	965	"	3.8	10.19
71	"	Hα	1800s			-10",-10"	3.3=,8"	10.10
72	"	R	60s		950	"		
73	"	R	60s			-10",-20"		
74	"	Hα	1800s	1.01	965	"	3.3	10.03 sat?
75	"	Hα	1800s	1.00	"	-20",-20"	3.5	10.03 "
76	"	R	60s		965	"		

#	object	filter	exp	X	focus	offset	FWHM	* phot
X 77	N4214	R	60s	1.01	965	-20", -10"		
78	"	R	60s		"	"		
79	"	H $\alpha$	1800s	1.01	965	"	3.1 = .7"	
<del>80</del> Focus in V $\rightarrow$ 965								
80	N4214	[OIII]	1800s	1.05	1065	0, 0	4.6 = 1.1"	<sup>10.47</sup> <del>13.38</del> focus off
81	"	R	60s					
X <del>82</del>	Focus in V + new wavefront $\rightarrow$ 915							
<del>82</del>	N4214	R	60s	1.15	915	0, 0	4.3 = 1.0"	focus good
84	"	[OIII]	1800s	1.16	1015	"	4.3	10.51
85	"	[OIII]	1800s	1.25	"	0, +10"	4.2	10.53
86	"	V	60s	1.36	915	"		
87	"	V	60s	1.37	915	-10", +10"		
88	"	[OIII]	1800s	1.38	1015	"	3.74 = 0.9"	10.52
X 89	"	[OIII]	1800s	1.54	"	-10", 0		X aborted due to AZ error

Telescope needs oil.

349

IN-1-T-50

1734, 2725

Ha - n2	75	5.9, <u>11.43</u>	
	74	3.3, 11.47	x 1.04
	71	3.2, 11.53	x 1.10
	70	3.7, 11.62	x 1.19
	67	3.7, 11.68	x <del>1.19</del> 1.25
	66	4.3, 11.55	x <del>1.19</del> 1.12
	63	5.5, 11.64	x <del>1.19</del> 1.21
	79	3.1, 11.44	x 1.01
n1	57	2.9, 11.54	x 1.17
	58	3.4, 11.66	x 1.23

1703, 2796

[OIII] h2	84	4.3, <u>10.51</u>	
	85	4.2, 10.53	x 1.02
	88	3.8, 10.52	x 1.01

April 24

n1	<del>81</del> 81	1101, 2206	
	61	2.55, 10.88	
	64	2.44, 10.86	
	65	2.72, 10.86	
	68	4.67, 10.90	
	69	2.62, 10.85	
	72	2.69, 10.94	
	73	3.4, 11.17	
	<del>73</del>	<del>3.4, 11.17</del>	
	76	3.84, <del>11.53</del> 11.13	
n2	31	5.9, 11.10	
	34	5.4, 10.91	
	35	5.5, 10.91	
	38	5.5, 10.91	

Apr 24-25, 2014

OCT-LMI

PNE

Sunset 7:06pm      Sunrise 5:42am  
Twilight end 8:30pm      beg 4:20am  
LST 10<sup>h</sup>16, 10<sup>h</sup>20      18<sup>h</sup>06, 18<sup>h</sup>09  
LST midnight 13<sup>h</sup>45  
Moon rise 3:19, 3:58am      189°, 109°

Need braces, dome flats, sky flats  
[OIII], V of N4214

Have 1st halves, but can observe N4214 until 2 hrs past  
midnight.

operators

24 - Teznie | Heidi, Taxon  
25 - Teznie | Heidi

M /lmi/20140425/

Clear.

#	object	filter	exp	X	focus	offset	FWHM	*plot
1-20	Bias	-	0	-	-	-	-	-
21-25	Dome plate	[OIII]	90	-	-	-	-	~7800
26-30	"	H $\alpha$	45	-	-	-	-	~7300
31-35	"	V	3	-	-	-	-	~10800
36-40	"	R	3	-	-	-	-	-
41-45	Hy plate	[OIII]	0.3-0.4s	-	925	-	-	-
46-50	"	H $\alpha$	0.3-0.7	-	-	-	-	-
51-55	"	V	0.1-	-	-	-	-	-
56-60	"	R	0.1-0.5	-	860	-	-	-

Focus 813,799 in V  $\rightarrow$  930

* 61	N4214	[OIII]	1800	1.14	1030	0,0	2.55 = .61", 10.88
62	"	V	60	1.08	930	"	
63	"	V	60	1.07	930	0,10"	
* 64	"	[OIII]	1800	1.07	1030	"	2.44 = .60" 10.86
* 65	"	[OIII]	1800	1.03	1030	0, -10"	2.72 = .65" 10.86
66	"	V	60	1.01	930	"	
67	"	V	60	1.01	930	+10", 0"	
* 68	"	[OIII]	1800	1.01	1030	"	4.67 = 1.1" 10.90

Focus 831,783 in V  $\rightarrow$  940 ~~400 1040 +10", +10"~~

* 69	N4214	[OIII]	1800	1.00	1040	+10", <del>-10"</del>	2.62 = 0.63" 10.85
70	"	V	60	1.02	940	" -10"	
71	"	V	60	1.02	940	+10", +10"	
* 72	"	[OIII]	1800	1.02	1040	"	2.69 10.94
X 73	"	[OIII]	1800	1.06	1040	-10", 0	

began unwrapping during exposure

X 73 N4214 [OIII] 1800 1.10 1040 -10", 0  $\rightarrow$  telescope jumped



#	object	filter	exp	X	focus	offset	FWHM	#phot
* 73	N4214	[OIII]	1800	1.14	1040	-10",0	3.4 = 0.8"	11.17
74	"	V	60	1.23	940	"		
75	"	V	60	1.23	940	-10", +10"		Clouds coming
* 76	"	[OIII]	1800	1.24	1040	"	3.84 = 0.9"	<del>11.13</del>

N2

/lmi/20140426

Clouds + wind

#	object	filter	exp	X	focus	offset	FWHM	#phot
1-20	Brain Park	-	-	-	-	-	-	-
21-25	Dome flats	[OIII]	90	-	900	-	-	-
26-30	"	V	3	-	-	-	-	-
Focus in V			815, 787	→ 940				
* 31	N4214	[OIII]	1800	1.14	1040	0,0	5.9 = 1.4"	<sup>~8</sup> 11.10 Clear?
32	"	V	60	1.08	940	"		
33	"	V	60	1.08	940	0, +10"		
* 34	"	[OIII]	1800		1040	"	5.39 = 1.3"	<sup>~8</sup> 10.91 Clear!
* 35	"	[OIII]	1800	1.03	1040	-0, -10"	5.52 = 1.3"	10.91
36	"	V	60	1.01	940	"		
37	"	V	60	1.01	940	+10, 0	5.46 = 1.3"	10.91
* 38	"	[OIII]	1800	1.01	1040	"		
39	"	[OIII]	1800	1.00	1040	+10, +10	5.77 = 1.4"	11.50
40	"	V	60	1.00	940	"		Clouds coming in
41	"	V	60	1.00	940	-10", 0"		
42	"	[OIII]	1800	1.01	1040	"	5.36 = 1.3"	12.34

Close down

Clouds