

LMI Filter Information

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The information on this page is for quick reference. Please consult the [LMI Users Manual](#) for more detailed information, including filter transmission curves and data.

LMI Filters:

Currently available filters for LMI are given in the table below.

- The value shown under **FITS Header** will appear in the FILTERS keyword of your image headers.
- The **Pattern String** is the LOUI display string you need to use if creating a [Telescope Motion Pattern File](#).
- **Focus Offset** indicates how much additional focus offset is applied to the Active Optics System to account for filter refraction – it is most helpful for determining which filters are parfocal.
- For taking dome flats (using the CLSD lamps at 12V), an approximate **Exptime for 20k counts** is provided. For the bluest filters (both broad- and narrow-band), the usual "LMI Lamps" do not provide sufficient flux in the bandpass to easily collect dome flats. For these, a second exposure time is listed using the Photo Floods (a.k.a. IGRINS lamps) on the lamp boom. These are 600-W photographic flood lamps with very short lifetimes – please use sparingly.
- For selected filters, the **Central Wavelength** and **Filter Width** (both in Å) are listed.

Sample dome flats for the various filters taken over time can be found on the [LMI Filter Characterization](#) page.

Filter	FITS Header Value	Pattern String	Focus Offset (μm)	Exptime for 20k counts (seconds)	Filter Central Wavelength (Å)	Filter Width (Å)
<u>Non-Filter Positions</u>						
OPEN	OPEN	OPEN	0			
DARK	DARK	DARK	N/A			
4 Hole Mask	4HOLEMASK	4Hole				
<u>Johnson-Cousins Filters</u>						
U	U	U	+140	178 / 4*		
B	B	B	+105	9		
V	V	V	+105	5		
R	R	R	+140	3.5		
I	I	I	+140	3.3		
<u>Sloan (SDSS) Filters</u>						
SDSS u'	SDSS-U	SL-u	+180	313 / 4.5*		
SDSS g'	SDSS-G	SL-g	+180	4.5		
SDSS r'	SDSS-R	SL-r	+180	3.5		
SDSS i'	SDSS-I	SL-i	+180	4.25		
SDSS z'	SDSS-Z	SL-z	+180	3.25		
<u>Other Broad Band Filters</u>						
V+R	VR	VR	+185	2.5	6091.7	1763.9
Yish	YISH	YISH	+105	26		
<u>General Narrow Band Filters</u>						
[OIII]	OIII	OIII	+205	180	5001.7	25.5
H-On	HALPHAON	Ha-on	+155	115	6564.9	30.1
H-Off	HALPHAOFF	Ha-off	+155	37	6459.1	114.6
<u>Wolf-Rayet Filters</u>						
WC	WR-WC	WC	+165	115	4660.4	49.5
WN	WR-WN	WN	+160		4690.9	49.6
CT	WR-CT	CT	+170		4756.1	54.6
<u>Comet Filters</u> (Note: These filters are 4 inches round and suffer some vignetting on LMI)						
Ultraviolet Continuum	UC	UC	+175	500** / 80*	3449	79
Blue Continuum	BC	BC	+175	130 / 3.5*	4453	61
Green Continuum	GC	GC	+175	119	5259	56
Red Continuum	RC	RC	+175	70	7133	58
C ₂	C2	C2	+175	46	5135	119
C ₃	C3	C3	+175	250	4063	58
CN	CN	CN	+175	480 / 14*	3869	56
CO+	CO+	CO+	+175	160	4266	64
H ₂ O+	H2O+	H2O+	+175		7028	164
OH	OH	OH	+175	480** / 400*	3097	58
NH	NH	NH	+175		3361	54
<u>Assorted Other Filters</u> (inquire if you want to use, as they may not be readily available)						
W032	W032	W032	+176		5300	
5027	5027	5027	+130		5027	
K1593	K1593	K1593	+194		5010	

** OH & UC counts were at about the bias level for this exposure time using the CLSD lamps at 12V.

* Using the photo floods (a.k.a. IGRINS lamps) on the LMI lamp boom