

IMACS is an extremely versatile wide field imager and multi-object spectrograph. It offers a choice of two 8Kx8K CCD mosaic cameras - f/2 and f/4 - that provide two different scales and spectral resolutions, covering the range of  $20 < R < 20000$ . In addition to the wide-field imaging and a range of low- to medium - resolution spectroscopic modes, IMACS has four 'accessory' modules: (1) a 2x1000 fibre-fed integral field unit (IFU); (2) a multi-object echelon mode (MOE); (3) a full-field tunable filter (MMTF) ; and (4) an image-slicing reformat for dense multislit coverage over a 4x4 arcminute field (GISMO). It also includes a Centerfield Slit-Viewing mode that is set up to take spectra of objects that are bright enough to be seen in 'real time' in the guide camera. This is a time saving feature for programs of relatively bright sources, including photometric standard stars.

### Gratings available for the f/4 channel

Grating (lines/mm)	Blaze Angle (degrees)	Order	Central Wavelength (Angstroms)	Wavelength Range (Angstroms)	Dispersion (Angstroms/pixel)
150	3.4	1	7550	3650-9740	1.453
300	4.3	1	6650	3650-9740	0.743
600	8.6	1	5180	3650-6750	0.378
600	13.0	1	8410	6480-10000	0.387
1200	17.5	1	4440	3650-5230	0.194
1200	26.7	1	8550	8460-8700	0.188
1200	26.7	2	4040	3650-4350	0.096

### Grisms available for the f/2 channel

Grism (lines/mm)	Blaze Angle (degrees)	Order	Central Wavelength (Angstroms)	Wavelength Range (Angstroms)	Dispersion (Angstroms/pixel)
150	10.8	1	7200	5000-9000	2.630
200	15.0	1	6600	5000-9000	2.037
300	17.5	1	6700	3900-8000	1.341
300	26.7	1	8000	5000-9000	1.25
400	21.2	1	4730	3900-5800	0.9

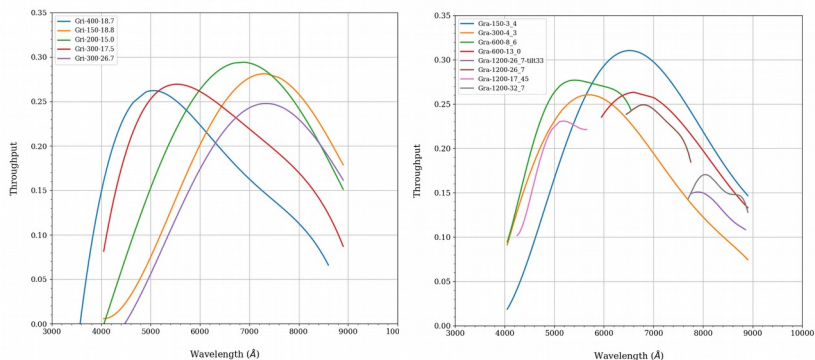


Fig.2 Throughput measurements after the dewar swap for all gratings for the f/2 camera (August 2018) (left) and all gratings for the f/4 camera (June 2018) (right).

For more information: [http://www2.lco.cl/?epkb\\_post\\_type\\_1=index](http://www2.lco.cl/?epkb_post_type_1=index)

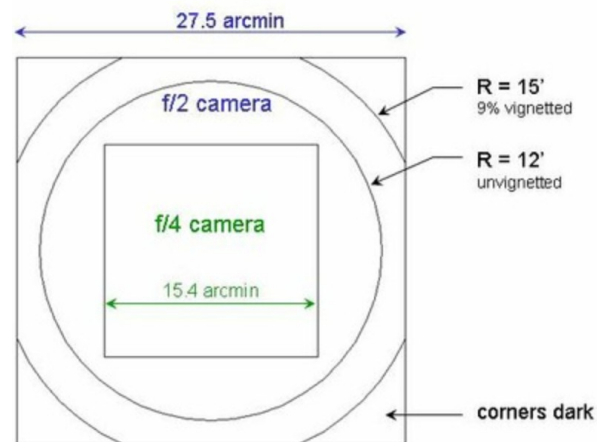
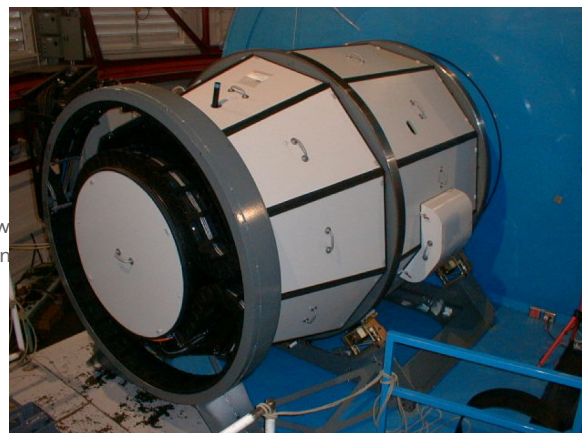


Fig.1 Detector footprint for both cameras, f/2 and f/4

## PHOTOMETRIC PERFORMANCE

### Photometric Zero Points for IMACS (June 2018 - new configuration)\*

Filter	ZPT Mag f/2 (1 e-/sec at 1.0 airmass)	ZPT Mag f/4 (1 e-/sec at 1.0 airmass)	Extinction	Sky mag
B	27.18	26.95	0.19	22.7
V	27.36	27.40	0.14	21.8
R	27.61	27.69	0.08	20.9
I	27.09	27.11	0.04	19.9
u'	23.55	24.49	0.48	22.7
g'	27.72	27.62	0.18	21.6
r'	27.77	27.87	0.10	20.7
i'	27.53	27.59	0.04	20.0
z'	26.97	26.94	0.02	18.4

\* BVRI magnitudes are on the Vega system and u'g'r'i'z' are AB magnitudes.