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Goodman spectrograph typical focus values

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Here we provide typical focus values for the Goodman instrument. The instrument focus is usually set once per night, and is done as the first step before afternoon calibrations. Note that the focus is dependent on ambient temperature, so values will change significantly from summer to winter, in fact, variations of up to ~500 units could happen from one observing run to another. Also, the depth of focus is roughly 100 units, so focus values within +/- 50 units can be considered consistent with no focus difference.

The **BLUE** camera focus values should be mostly positive; **RED** camera focus values are mostly negative.

See [how to perform a spectroscopic focus measurement](#) [1].

See [how to perform an imaging focus measurement](#) [2].

The following values are representative. In some cases we provide actual measured values obtained on different dates to illustrate the variations; both blue and red cameras are affected by focus variations as a function of temperature. You should perform a focus sequence every afternoon.

Red Camera spectroscopic focus values:

Grating	Mode	Camera Temp (C)	Focus
400	M1	19	-300
400	M1	16	-600
400	M1	13	-660
400 (+GG455)	M2	19	-990
400 (+GG455)	M2	16	-1200

Grating	Mode	Camera Temp (C)	Focus
400 (+GG455)	M2	11	-1300
400	M2	16	-250
400	M2	11	-690
600red (+GG385)	Mid	17	-1770
600red (+GG495)	Red	17	-992
600old (+GG385)	Mid	15	-1540
1200	M2	17	-700
1800	@700nm	13	-825
1800	@660nm	19	-460
2100	@650nm	16	-200
2100	@650nm	13	-555
2100	@650nm	17	-376

Blue Camera spectroscopic focus values:

Grating	Mode	Camera Temp (C)	Focus
400	M1	17	1615
400	M1	11	1320
400 (+GG455)	M2	11	773
600blue	UV	17	1650
600blue	Blue	17	1650
600old	UV	11	1370
600old	Blue	11	1440
600old (+GG385)	Mid	11	880
600old (+GG495)	Red	11	1350
600blue (+GG385)	Mid	17	820
600blue (+GG495)	Red	17	1650

Red Camera imaging focus values:

Filter	Lamps/(%)	Exp (s)	Camera Temp (C)	Focus
None	Dome/5	0.5	10	-1130
B	Quartz/50	2	19	-715
V	Dome/20	0.5	10	-580
R	Quartz/50	1	19	-1320
VR	Dome/25	0.5	16	-470
VR	Dome/25	0.5	11	-814
SDSS-u	Dome/20	1	10	
SDSS-g	Dome/20	1	10	
SDSS-r	Dome/20	1	10	-700
SDSS-i	Dome/20	1	10	-900
SDSS-z	Dome/20	1	10	-1250
	Dome/20	1	10	

Blue Camera imaging focus values:

Filter	Lamps (%)	Exp (s)	Camera Temp (C)	Focus
SDSS-g	Quartz/50	4	11	1100
SDSS-r	Quartz/50	1	11	990
SDSS-i	Quartz/50	0.3	11	860
SDSS-z	Quartz/50	0.5	11	540

Source URL: <http://www.ctio.noirlab.edu/soar/content/goodman-spectrograph-typical-focus-values>

Links

[1] <http://www.ctio.noirlab.edu/soar/content/observing-goodman#S5c>

[2] <http://www.ctio.noirlab.edu/soar/content/imaging-focus>