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SOAR for Astronomers/Observers

This page is intended to provide scientists with an up to date quick glance on the instrumentation currently available on the SOAR telescope and modes of operation.

Instrument	Type	Wavelength Range	Field_of_View (arcmin)	Scale (arcsec/pixel)	Resolution (R)	Filters	Data Reduction
SOAR Imager (SOI) [1]	U-sensitive optical [2] imager	310-1000nm	5.2 x 5.2	0.077	N/A	UBVRI, ugriz, ubvy, Ha, [SII], others (see Filters [3])	IRAF Mosaic Reduction, and also PyRAF script - basic image processing
SOAR Adaptive Optics Module (SAM) [4]	Laser-guided optical [2] Adaptive Optics imager	400-1000nm	3.1 x 3.1	0.045	N/A	BVRI, griz, ubvy, Ha, [SII], others (see Filters [3])	PyRAF script - basic image processing
Goodman High Throughput Spectrograph [5]	High throughput optical [2] imaging spectrograph	310-905nm	7.2 circular	0.15	~1400-10000	Imaging: UBVRI, ugriz, ubvy, Ha, [SII], others (see Filters [3]) Spectra: GG-385, GG-455, GG-495, OG-570	Goodman Spectroscopic Pipeline (Python) [6] IRAF. Tutorial for reducing single slit and MOS [7]
SPARTAN Near-IR Camera [8]	Near-IR [9] imager	1-2.4 um	f/12: 5.04 x 5.04 f/21: 3.05 x 3.05	f/12: 0.066 f/21: 0.040	N/A	YZJHK	
TripleSpec 4.1 Near-IR Spectrograph [10]	Near-IR [9] spectrograph	1-2.4 um	~30 arcsec slit; ~3 arcmin slit viewer	0.27 arcsec/pixel	~3500	J for slit viewer	Custom IDL-based pipeline

Visitor Instrument (Special access): ^[11] HRCam ^[12] . Instr. Scientist: A. Tokovinin	Optical High-speed Imager	400-1000nm	16 x 16 arcsec	0.01575	N/A	BVRI	Custom IDL-based pipeline by A. Tokovinin
Visitor Instrument - (Special Acces): ^[11] Fabry-Perot unit on SAM. ^[13] Instr. Scientist: Claudia Mendez-Oliveira NOT CURRENTLY AVAILABLE	Fabry-Perot Etalon	400-1000nm	3.1 x 3.1	0.045	4100, 11200	Filters for SAM-FP ^[14]	Custom pipeline
SOAR Integral-Field Unit Spectrograph (SIFS) ^[15]	Integral-Field Unit Spectrograph	400-780nm (during SV)	15 x 7.8 arcsec (during SV)	0.3 arcsec/fiber (during SV)	4200 (during SV)	--	Custom PyRAF/MSCRED pipeline
Ohio State IR Imager/Spectrograph (OSIRIS) ^[16] RETIRED - NO LONGER AVAILABLE	Near-IR ^[9] imaging spectrograph	0.9-2.2 um	f/7: 2.37 x 2.37 f/3: 5.65 x 5.65	f/7: 0.139 f/3: 0.331	1200-3000	Y (1.04um), JHK,Ks, He I (1.083um & 2.06um), Fe II (1.644um), 2.03um, BrGamma (2.17um), H2 (2.122um)	

OBSERVING MODES:

SOAR offers both [classical \(on-site\) observing](#) ^[17], and [remote observing](#) ^[18] (for experienced users). This provides with ample scheduling flexibility, making feasible complicated programs, especially those involving sporadic time sampling, that are otherwise normally not feasible in other facilities.

Once you have decided which instrument is best suited for your science program, the following links will help you in preparing your proposal, and later for your SOAR observing run:

1. [Preparing your proposal for requesting time with the SOAR telescope](#) ^[19]
2. Preparing for your SOAR observing run: this section will tell you what you need to do for your upcoming run, depending on whether you will be coming to [carry out your observations directly at the telescope.](#) ^[17] or [observing remotely via Internet.](#) ^[18]
3. [Reducing your data.](#) ^[20]

Please, do not hesitate to [contact us](#) ^[21] if you note errors, or you consider that important information is missing.

Source URL: <http://www.ctio.noirlab.edu/soar/content/soar-astronomersobservers>

Links

[1] <http://www.ctio.noirlab.edu/soar/content/soar-optical-imager-soi>

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

- [3] <http://www.ctio.noirlab.edu/soar/content/filters-available-soar>
- [4] <http://www.ctio.noirlab.edu/soar/content/soar-adaptive-optics-module-sam>
- [5] <http://www.ctio.noirlab.edu/soar/content/goodman-high-throughput-spectrograph>
- [6] https://github.com/soar-telescope/goodman_pipeline/releases
- [7] http://www.ctio.noirlab.edu/soar/sites/default/files/images/Instruments/mos_data_reduction_with_goodman.pdf
- [8] <http://www.ctio.noirlab.edu/soar/content/spartan-near-ir-camera>
- [9] <http://www.ctio.noirlab.edu/soar/content/infrared-instrumentation-soar-0>
- [10] <http://www.ctio.noirlab.edu/soar/content/triplespec-41>
- [11] <http://www.ctio.noirlab.edu/soar/content/access-visitor-instruments>
- [12] <http://www.ctio.noao.edu/~atokovin/speckle/index.html>
- [13] <http://www.ctio.noirlab.edu/soar/content/sam-fp>
- [14] <http://www.ctio.noirlab.edu/soar/content/filters-sam-fp>
- [15] <http://www.ctio.noirlab.edu/soar/content/soar-integral-field-spectrograph-sifs>
- [16] <http://www.ctio.noirlab.edu/soar/content/ohio-state-infrared-imagerspectrograph-osiris>
- [17] <http://www.ctio.noirlab.edu/soar/content/visiting-astronomers-guide>
- [18] <http://www.ctio.noirlab.edu/soar/content/soar-remote-observers-guide>
- [19] <http://www.ctio.noirlab.edu/soar/content/proposing-soar>
- [20] <http://www.ctio.noirlab.edu/soar/content/reducing-your-soar-data>
- [21] <mailto:cbriceno@ctio.noao.edu?subject=Web%20page%20issue>