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.

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

[1] U.S. National Optical Astronomy Observatory (NOAO)
[2] Optical Sciences and Technology (OST)
[3] Filters: See Filters
[4] University of Arizona
[5] Stanford University
[7] IRAF. Tutorial for reducing single slit and MOS
[8] Focal Plane and Instrumentation Group
[9] NASA/STScI
[10] Laboratory for Atmospheric and Space Physics
**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 Access): [11]  
**Fabry-Perot unit on SAM**. [13] Instr. Scientist: Claudia Mendez-Oliveira  
**NOT CURRENTLY AVAILABLE**

**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)  
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Custom PyRAF/MSCRED pipeline

**Ohio State IR Imager/Spectrograph (OSIRIS)** [16]  
**RETIRED - NO LONGER AVAILABLE**

**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.noao.edu/soar/content/soar-astronomersobservers

**Links**