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## README for the SOAR Instrument Setup Form

The SOAR [Instrument Setup Form](#) [1] is used by all SOAR observers to indicate the required configuration of the instrument/s that is/are going to be used to achieve their science objectives. On the [Instrument Setup Form](#) [1], the observers are asked to submit copies of their Target List, Finding Charts, and Special Instructions. We request that the Finding Charts are either submitted as a zipped file or as a tar-ball. If the file size of your Finding Charts is greater than 2MB, we request that you place your finding charts on a webpage and provide us with the URL.

### **Target List**

SOAR has the capability to guide sidereally or non-sidereally.

For sidereal guiding, these target files should be submitted in the following format:

```
[1]OBJECT_ID HH:MM:SS DD:MM:SS Epoch  
[2]OBJECT_ID HH:MM:SS DD:MM:SS Epoch  
[3]OBJECT_ID HH:MM:SS DD:MM:SS Epoch  
etc.
```

There should be no spaces in the OBJECT\_ID field. Use spaces to separate fields. You can insert extra information after the Epoch.

Here is a sample target list in the SOAR format:

```
[1]IC418      05:27:28.20 -12:41:50.3  2000.0  V=13  
[2]IC2448    09:07:06.26 -69:56:30.6  2000.0  B=11.1  
[3]NGC3918   11:50:17.73 -57:10:56.9  2000.0  V=8.5
```

For non-sidereal guiding, our software is set up to read in ephemerides generated using horizons (<http://ssd.jpl.nasa.gov/?horizons> [2]). An example of this is given below:

```
#Date__(UT)__HR:MN R.A.__(ICRF/J2000.0)__DEC dRA*cosD d(DEC)/dt a-mass
```

2008-Apr-07 05:00	16 44 46.1498	-01 44 13.359	-2.87	2.01	1.793
2008-Apr-07 05:30	16 44 46.0540	-01 44 12.353	-2.88	2.01	1.560
2008-Apr-07 06:00	16 44 45.9578	-01 44 11.346	-2.89	2.01	1.402
2008-Apr-07 06:30	16 44 45.8614	-01 44 10.340	-2.90	2.01	1.292
2008-Apr-07 07:00	16 44 45.7646	-01 44 09.334	-2.91	2.01	1.217
2008-Apr-07 07:30	16 44 45.6677	-01 44 08.328	-2.91	2.01	1.169

In order to obtain the proper information for the non-sidereal guiding ephemerides, you will want to change the Table Settings on the Horizons webpage so that only "Astrometric RA & DEC", "Rates; RA & DEC", and "Airmass". You will also want to change the Display/Output on the Horizons webpage to "download/save".

One can also determine which solar system objects are observable at SOAR for a given time using the JPL website (<http://ssd.jpl.nasa.gov/sbwobs.cgi> [3]). You only need to set the observation time, location (SOAR is I33), and a limiting magnitude. Press "search" and it will return a list of small bodies that are observable that night. Please note that all times are UT.

### **Finding Charts**

Zipped files or tar-balls of Finding Charts can contain the Finding Charts of your targets as either Postscript (PS), Portable Document Format (PDF), Joint Photographic Experts Group (JPEG/JPG), or Graphics Interchange Format (GIF) images. If you want to upload a zipped or tar-balled file of size greater than 2MB, please place the Finding Charts on a webpage instead and enter the URL of the webpage on the [Instrument Setup Form](#) [1] so that we can download the files in support of your run.

### **Special Instructions**

This includes any further information that you think needs further explanation or special setup requests.

### **Filters**

Most of the instruments that are available at SOAR have a specific set of filters installed. These instruments are the [Goodman High Throughput Spectrograph \(Goodman\)](#) [4], the [Ohio State InfraRed Imaging/Spectrometer \(OSIRIS\)](#) [5], and the [Spartan InfraRed Camera](#) [6]. The only instrument that allows for daily filter changes is the [SOAR Optical Imager \(SOI\)](#) [7]. SOI filters that are usually found at SOAR on Cerro Pachon are given [here](#) [8]. Other filters that can be used with SOI, but that are generally stored on Cerro Tololo can be found [here](#) [9]. If you have a question about filters that can be used with SOI, please contact the SOI Instrument Scientist. The only instrument that allows for daily grating changes is the [Goodman High Throughput Spectrograph \(Goodman\)](#) [4]. If you have a question about the gratings that can be used with Goodman, please contact the Goodman Instrument Scientist.

**Contact information for the SOAR Instrument Scientists can be found [here](#) [10].**

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**Source URL:** <http://www.ctio.noao.edu/soar/content/readme-soar-instrument-setup-form>

### **Links**

[1] <http://www.ctio.noao.edu/SOAR/Forms/INST/setup.php>

[2] <http://ssd.jpl.nasa.gov/?horizons>

[3] <http://ssd.jpl.nasa.gov/sbwobs.cgi>

- [4] <http://www.ctio.noao.edu/soar/content/goodman-high-throughput-spectrograph>
- [5] <http://www.ctio.noao.edu/soar/content/ohio-state-infrared-imagerspectrograph-osiris>
- [6] <http://www.ctio.noao.edu/soar/content/spartan-near-ir-camera>
- [7] <http://www.ctio.noao.edu/soar/content/soar-optical-imager-soi>
- [8] <http://www.ctio.noao.edu/soar/content/filters-available-soar>
- [9] [http://www.ctio.noao.edu/instruments/filters/filters\\_34.html](http://www.ctio.noao.edu/instruments/filters/filters_34.html)
- [10] <http://www.ctio.noao.edu/soar/content/soar-staff>