

## **Astrophotography List**

Astrophotography is a specialized type of photography that entails recording images of astronomical objects and large areas of the night sky.

The easiest way to start is to capture wide views of the night sky with an ordinary DSLR camera with interchangeable lenses. Such equipment affords a wide field of view, making easy work of imaging constellations, meteors, the Milky Way, and much more. Point-and-shoot cameras and even some of the newer cell phones can also capture the sky remarkably well.

Next levels include tracking mounts for the camera, or camera views through tracking telescopes. From there it progresses through various levels all the way to purpose-made astro-imaging telescopes, mounts, cameras, systems and software that rival some observatories.

This year we are trying something a bit different. Astrophotographers at OSP range from people who are pointing a camera at the night sky for the first time, to people using tracking telescopes or mounts, to people with very sophisticated tracking and imaging systems with extreme capability. To accommodate this better without creating many more lists, we are providing a few starter items here, then leveraging the other four lists for the remainder.

To complete this list, you may choose from the five items shown and/or any of the items in the other four lists to suit your desired challenge level – and do more if you like! Individual beginner and binocular list objects count as a single item. Intermediate list objects count as two. Advanced list objects (must meet full criteria for an object) count as four.

To receive the award pin this year you must photograph at least 12 items, (counting items per the rules above) while you are at OSP.

When finished, bring your record of observations and images to the Observing Program table next to the Information Tent to receive your pin. *Please check the information tent for updates on when the Observing Program table will be staffed, and where it is going to be for the next session. Typically it will be manned later in the afternoon.*

Finally, with your permission, OSP would like to display the images on the website for everyone to see!

4/25/2023 v1.0

## 2023 Oregon Star Party Astrophotography Observing List

#	Type	Object	Con	RA	Dec	Mag	Size/ Split	PSA	Alternate Name/Comments
1		North Celestial Pole							Time exposure showing circumpolar star trails. (Polaris as reference.) Also highlights star colors.
2		Moon							For more of a challenge, try imaging near terminator areas. Or, trying imaging the night side (Earthshine lit.)
3		International Space Station							Time exposure of ISS transit. Option: Tracked image of spacecraft.
4		Zodiacal Light							Look for glow to the East 1-2 hours before dawn. Zodiacal light is a faint pyramid shaped glow to the East along the ecliptic this time of year. It gets darker towards the horizon due to extinction. If it gets lighter towards the horizon, that's twilight instead.
5		Gegenschein	Sag	20h 24m	-20° 22m	5-6	10°	67/77	<p>Challenge... difficult but possible to see visually with averted vision from our dark skies. (Very low surface brightness at mag 5-6 over 10 degrees.) Try to capture an image of it with a long exposure. One source estimates it's 15x dimmer than the Zodiacal Light.</p> <p>Needs to be very wide field (i.e. camera not telescope image.) Location is for 7/21 It's always directly opposite of the Sun. 1 AM PDT is best time.</p> <p>Location, size, magnitude are approximate.</p>
6		Any Beginner List Item							<p>Each counts as one item.</p> <p>Good for tracked telescopic imaging. Many are also good for camera-based imaging (DSLR, etc.), but most objects will be small.</p>
7		Any Binocular List Item							<p>Each counts as one item.</p> <p>Most of these larger items are good for camera-based imaging (DSLR, etc.) or wide-field telescope setups.</p>
8		Any Intermediate List Item							<p>Each counts as two items.</p> <p>Stars/doubles need to show color, planets needs to show disks.</p> <p>Double stars need to show split and orientation relative to N (or W=drift direction)</p> <p>Most of these items will require more experience, and likely a tracking telescopic setup to image.</p>
9		Any Advanced List Item							<p>Each counts as four items.</p> <p>Photo needs to clearly capture details/aspects required in the list - all items needed for each item. They can be individual photos if needed.</p> <p>All of these items will require significant expertise and capable tracking, telescope, and imaging systems.</p>
		Key:							4/25/2023 v1.0
	P	Planet	DP	Dwarf Planet					
	GX	Galaxy	SC	Star Cloud					Locations J2000.0
	GC	Globular Cluster	S	Star					From Starry Night 8
	OC	Open Cluster	DS	Double Star					July 21, 2022, 1 PM
	PN	Planetary Nebula	MS	Multiple Star					(except as noted)
	EN	Emission Nebula	CS	Carbon Star					
	SN	Supernova Remnant	VS	Variable Star					
	DN	Dark Nebula	Ast	Asterism					