

2016 Oregon Star Party Advanced Observing List

Observe and document any 10 objects listed below to qualify for the Advanced Observing List award. **Please note that part of the challenge is researching each object to determine its location and difficulty.** Some objects are exceptionally challenging, some not so much, but all require observing experience and advance preparation to enjoy.

Written descriptions and/or a sketch that clearly show your observations were made during the 2016 OSP will be required. The use of photographs as finder charts is encouraged, and can be submitted along with your written descriptions. However, follow whatever system you like as long as it unambiguously shows your observations. Good luck and have fun! Howard Banich

| Object | Object Type | RA / Dec | Const | Mag | Comments |
|---|---|---|-------|--------------------------------|---|
| Markarian 538 / Arp 284 / NGC 7714 and 7715 | Interacting galaxies | 23h 36m 14s +02 degrees 09m 19s | Psc | 12.5 & 14.4 | See both galaxies. Tidal tails are optional. |
| Einstein's Cross | Gravitationally lensed quasar | 22h 40m 30s +03 degrees 21m 30s | Peg | 15.1 (galaxy) 16.8 (quasar) | See a boxy bright spot in the center of the lensing galaxy. |
| GSC 5709-017 | Quasar | 21h 55m 02s - 09 degrees 22m 24.2s | Cap | 14.4 | See the star-like image of the quasar. |
| IC 1396's Elephant Trunk dark nebula | Star formation site | 21h 36m 52s +57 degrees 30m 11s | Cep | n/a | See the long dark nebula silhouetted against IC 1396. |
| V404 | Flaring black hole | 20h 24m 03.83s +33 degrees 52m 02.2s | Cyg | Between 11.2 & 18.8 | See a star-like image. Earn extra cool points if you see it vary in brightness. |
| Trifid Nebula details | Star formation site | 18h 02m 25s - 23 degrees 01m 04s | Sag | n/a | See the listed dark clouds, multiple star HD164492 components A through G, and the thin dark filaments in the center of the HII region. |
| Barnard's Star | Star with high proper motion | 17h 57m 46s +04 degrees 44m 45s | Oph | 9.5 | See the star and carefully mark it's location on the photo. |
| Hecules Galaxy Cluster - 4 arp pairs | Interacting galaxy pairs | 16h 05m 07s +17 degrees 44m 30s | Her | Between 13.9 & 17.1 | See both galaxies in each Arp pair. |
| Markarian 691 / NGC 5996 and 5994 / Arp 72 | Interacting galaxy pair | 15h 46m 59s +17 degrees 53m 03s | Ser | 12.6 & 15.0 | See both galaxies. |
| Abell 2065 galaxy cluster details | Three distant galaxies | 15h 22m 24s +27 degrees 42m 51s | CrB | 15.4 & 15.7 | See the three galaxies listed. |
| Markarian 679 | Quasar | 14h 23m 26s +32 degrees 52m 20s | Boo | 16.6 | See the star-like point of the quasar. |
| Markarian 205 and NGC 4319 | Quasar and disturbed barred spiral galaxy | 12h 21m 44s +75 degrees 18m 39s | Dra | 14.5 & 12.8 | See the quasar and NGC 4319. The companion to the quasar is optional. |
| Pleiades Bubble | Inter Stellar Medium (ISM) | 03h 47m 29s +24 degrees 06m 18s | Tau | n/a | See the darker and brighter areas of the ISM bubble surrounding the Pleiades. |
| NGC 253 and it's dwarf companion galaxy | Galaxies | 00h 47m 33s -25 degrees 17m 18s | Scl | 8.0 and unknown | See the dwarf galaxy and the highly tilted barred spiral shape of NGC 253. |