



# The Texas Star Party - Advanced Observing Program – 2023

## "WITHIN"



The Advanced Observing Program was initiated to educate and challenge observers to locate and observe those objects they might have considered too difficult, if not impossible to find and/or see visually in what they may consider "too small a telescope". There is no better place to push the visual limit than under the dark transparent West Texas sky. Too often observers stop at the "NGC Limit" and never try to locate objects that begin with names like *Arakelian, Minkowski, Palomar or Sanduleak*. Such *Name Intimidation* is nothing more than becoming overwhelmed by the seemingly exalted difficulty of the object merely due to its unfamiliar or exotic name. A large telescope is NOT required to observe these objects.

The listed targets are best located and observed by careful and precise star-hopping. It is most imperative that the observer know exactly where in the field to look when the object is located, especially if some item turns out to be truly "light challenged" in their particular telescope. By using various magnifications and a combination of averted and direct vision along with a large degree of patience - usually the object will be seen. Give the sky a chance and it will come to you. The standard observing rule is if you think you see the object at least **three times**, then you probably Really Did See It - Log it - and go on to the next object. First please refer to the handout for some information about the object. Knowing something about what you are viewing makes it a much more interesting discovery, since each is unique and has a story to tell.

Visual observers enjoy viewing Orion Nebula like objects in our own Milky Way galaxy, but how exciting is it to view similar objects in OTHER galaxies, millions of light years away. Some observers may consider this a futile excursion into the realm of science fiction, but with patience and a knowledge of where to look, it is certainly possible, even with moderate aperture telescopes. How often do we merely glimpse the bright galaxy Messier 101, but fail to note the bright star forming regions within the spiral arms? How often have we observed Messier 16, the Eagle nebula but failed to notice the "Star Queen" formation, made popular by the Hubble Space telescope? However, you do not need the HST to see this yourself, as it is visible in medium aperture telescopes. These objects require a lot of time, study and patience.

This year's advanced program highlights 40 interesting, sometimes bright and easily seen objects, but they all contain internal details viewable in amateur optics. In planning your observations, pay attention to both the listed magnitudes and the distances, which will give an indication of the surface brightness of the features within the main object. However, as we visual observers know, the only way to know for sure if something is visible, on that particular night and in that specific telescope, is to LOOK for yourself. Adopt the theory, that within reason anything may be seen, - Until you have visually proven otherwise.

Only one feature within any of the selected 20 objects (Out of 40) is required to obtain a 2023 Advanced Observing Pin. This year, if one fails to ascertain internal detail in an object, the observer is still rewarded with viewing one of the brightest gems in the night sky - a nice feature of this year's program. Those of you who have successfully observed all of the previous 20 years programs, will also receive a very special TSP 20 year advanced anniversary T-shirt - while they last. As astronomers, we are privileged to view massive far-away objects that most people do not know even exists, and this year we get to view objects most observers have passed up. I urge you to try All of the objects, as you may be surprised at your accomplishments.

### TSP Advanced Observing Pin - From The One and The Only - The TEXAS STAR PARTY.

1. Any telescope may be used or any combination of telescopes.
2. Location by Star Hopping is Preferred - The best way to know where an object is in the heavens is to go and find it. "Star Hop and be Educated". Maybe next time you can locate it without a chart, from memory - Always the Best Way.
3. An Advanced Observing Pin will be awarded to those who observe any 20 of the listed objects during TSP.
4. Observation programs from previous years may be completed for appropriate pins.
5. Observations may be turned in to Larry Mitchell anytime during the Star Party.

To those of you who only complete part of the list, but who have worked hard at it, you have successfully completed the spirit of the program. You have improved your observing skills, learned something about the night sky and hopefully enjoyed yourself.... And you can always get that observing pin next year – I still have plenty. Many people have enthusiastically stated how amazed they were - at themselves - For observing these objects and with their own equipment.

### ◀ EXPAND YOUR PERCEIVED OBSERVING LIMITS - THIS IS WHAT THE ADVANCED PROGRAM IS ALL ABOUT ▶

I hope you enjoy this challenge as much as I have in presenting it and that it gives you a new sense of Enjoyment and Confidence in your Abilities to Successfully View – With Your Own Eyes - Natures Grandest Arena  
Our Wonderful - Magnificent Universe.



**Larry Mitchell**  
Chairman – TSP Advanced Observing Program – 2023