

*Len Amburgey*

When I retired from teaching in the sciences and doing educational research, I decided to look for a place where I could pursue my passion for astronomy. I had been observing astronomical objects in Massachusetts at Scott Observatory (MPC 823) since 1985. Interests concentrated on various aspects of asteroids, comets, variable stars, and nova searches. Growth in the region since 1985 began to brighten the evening sky limiting it for my retirement at that site. I decided to seek a new location. I found a 100% off grid property north of Benson, AZ that met my needs. It has as close to a pristine sky as is practical. I moved there in 2019 and established Two Hills Observatory. The observatory is located on a mesa at 3,600' with 360-degree views and is surrounded on 3 sides by state or federal land with very little development on the remaining side as a source of light pollution. Light is the enemy of visual and photographic astronomy. Since the property was purchased, I've added a second observatory which focuses on a slightly different aspect of photographic astronomy and a third observatory is planned for the fall of 2022 to focus on solar astronomy and pursue visual astronomy.

*Photographs are taken with camera(s) designed for celestial photography (very sensitive cameras, chilled to -40 degrees Celsius). Photographs of bright nebula and many celestial objects still take 15 minute or 45-minute exposures. Galaxies and other objects generally are 45 minutes to 60-minute exposures. Why so long? Even objects in our galaxy are great distances away, so the light may have traveled hundreds of light years for example the Orion Nebula is 1,344 +/- light years away. Outside our galaxy even greater! The great galaxy in Andromeda (you can see it with the naked eye is 3.5 billion light years away).*

*The cameras primarily are attached to an Astrograph designed telescope of 12.5" aperture at F 8.1 for galaxies or nebulas. Or F 6.1 for a slightly wider field to photograph. A second major instrument is a 14" telescope at F 1.9. for an even wider field photography. The images of the 'wide field' still only covers 3 degrees by 2 degrees with my largest imaging chip (about the same physical size as a digital cannon camera). The physical image size is determined by the Focal length of the camera and the aperture of the telescope or lens.*

*Images taken and offered to you are processed to the color your eye could see if you had enough aperture to see color. Such telescopes are beyond the average enthusiast or casual observer who wonders at the evening sky. Our eyes can detect the red, blue, and green wave lengths (which normal cameras record). The issue is your eyes cannot collect enough photons to see any vivid color. I do not generally alter the primary color bands unless noted and it accentuates a feature. Many of the photos you see online or the various 'space telescopes' (Hubble and now JWST telescope) use the false colors in wavelengths of light you can't see visually to accent features for scientific emphasis. Such images are processed in brilliant colors and very dramatic.*

*All the photographs I released are taken from the Benson, Arizona site. The exceptions are my historical pictures of some the 'great comet' photos taken since 1985 were from my Massachusetts observatory and noted as such. The comet 'Leonard' is a current one and discovered in Arizona at the U o A observatories in the mountains above Tucson.*

*Welcome to the wonders of the universe as I see them thru photography!*