

Research Committee report for September 2017

Finally some clear and mild weather to enjoy the night sky! Nebulae have been especially popular.

Solar System: Clif Ashcraft has imaged Uranus, but it is an essentially featureless ice giant.

Stars: Clif reports that the latest version of Speckle Toolbox software by David Rowe includes “Bispectrum Analysis” which keeps the phase information from the Fourier analysis and so produces a cleaned image as well as the autocorelogram which measures double star distance and position angle. He is looking forward to using this software on planets as well as on close double stars. Dennis Conti has been observing exoplanet and stellar binary candidates for KELT-FUN.

Nebulae: Helder Jacinto imaged IC 5070, the Pelican Nebula in Cygnus, for six hours in narrowband filters. He also shot the difficult *Cave Nebula*, Sh2-155 or Caldwell 9 in Cepheus, for 12 hours in narrowband filters.

Tony Sharfman shot the Iris Nebula and also the *Helix Nebula* in Ha/Oiii filters.

I pointed out that Helix Nebula is the closest large planetary nebula to us (only 700 to 750 lightyears away), and young too

at an age of only 11,000 years. It’s fun to say “thousands” instead of “millions” as we often do in astronomy. A *model of the radio Helix Nebula* from Zeigler (2013) indicate that it is an elongating barrel-shaped cylinder with the side farthest (red) from us being near the kinky arm at the top.

Galaxies: Bobby Marinov imaged the Andromeda galaxy from Jenny Jump with a camera and 139 mm lens but no telescope on Tony’s Polaris tracker, then stacked 64 x 90 second subframes for 96 minutes integration. Tolga Gumusayak also shot *M31* and produced an eight-panel mosaic (15 hours of LRGB and 25 hours in Hydrogen alpha from Jenny Jump)

Presentations: Helder has a nice display of his astrophotographs in Les Malamut Gallery, in the lower level of the Union Library at 1980 Morris Ave, Union, New Jersey 07083. The show runs from 9/9-10/31, so there is still time to enjoy it. I presented “My Eclipse Story” at the NJAG club in Montclair.

Other: Aaron Zuckerman pointed out that the study of triangles was invented by the Babylonians, 1500 years earlier than the Greeks. See his newsletter <https://www.ztutorialservices.com/newsletter>

Respectfully submitted, Mary Lou West, Research Chair

