

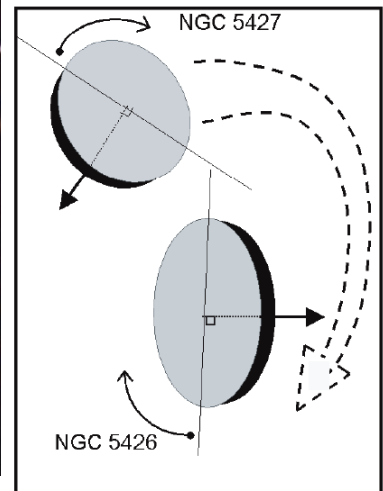
Research Committee report for May 2017

Clouds and turbulent air with “poor seeing” continue to plague observers.

Solar system Observations: The exciting news this month was the apparent discovery of two *volcanic eruptions on Jupiter’s moon Io* on May 27 by Clif Ashcraft. The moon’s shadow even looked like it had Mickey Mouse ears. Dale Gary calculated the freefall time for ejecta to return to Io from the height seen as 45-65 minutes, within Clif’s observed time. However, other observers did not see this effect. After some experimentation with duct tape Clif discovered that Io’s distorted appearance was due to air currents within his telescope tube from three passive vents near the mirror cell. (It was exciting while it lasted.) Clif also imaged the Jupiter system several other times and showed the equivalence of three magnification methods (Barlow, drizzling, and linear Debayering) when the seeing is not optimal.

He pointed out lucky observations that Jupiter was hit by a meteor on May 26 by Saveur Pedranghelu of Corsica and Thomas Riessler of Germany. Tony Sharfman also imaged Jupiter.

Galaxy Observations: Tolga Gumusayak and Mike Selby of Thailand imaged *NGC 5427 and NGC 5426*, a colliding pair of spiral galaxies collectively known as Arp 271. From Hydrogen alpha spectroscopy with a 2.1 meter telescope in Mexico *Fuentes- Carrera et al* (2004) figured out the probable trajectories of these galaxies. NGC 5427 will come from behind and circle around to the front of NGC 5426.



Presentations: The May 19 general meeting was devoted to reports by members on their projects this past year. Clif Ashcraft recommended Keith Burnett’s page (<http://www.stargazing.net/kepler/>) on calculating lunar shadows, and showed dramatic movies of shadows growing and shrinking as time passed. Enhancing the color saturation of his images showed lava flows in some Mare regions. Tolga Gumusayak gave pointers on optimizing your portable setup and emphasized the importance of buying quality cables, having redundancy in cables and software, setting up everything beforehand at home, printing Google maps, and arriving before dark. Steve Lowe and I discussed our challenges in spectroscopy of individual stars of a range of temperatures and of stars in a crowded globular cluster.

Other activities: My *Ophiuchus sculpture* at Montclair State University showed the shadow of the man subduing the “snake of all knowledge” on May 26 to celebrate graduation.



Respectfully submitted, Mary Lou West, Research Chair