

Bitter cold from the polar vortex hampered our enthusiasm for the lunar eclipse and some other nights.

Solar system: Mark Zdziarski captured an early *partial phase of the total lunar eclipse* of Jan 20-21 and Tony Sharfman imaged the *deep red moon in totality* and produced an animation. Some other members who observed the eclipse were Clif Ashcraft, Al Gottlieb, Helder Jacinto, Jim Nordhausen, and me. Clif remembers seeing his first lunar eclipse at 3.5 years old and Tony saw his first eclipse at 11. That magical experience got them both interested in astronomy. It seems that the eclipse-darkened moon looks much more 3- dimensional than the full moon, which appears flat.



Jim and Helder observed the parade of Venus, the very thin crescent moon, and Jupiter in the early morning sky of Jan 31. In NJ we could not see the moon occult Venus this time, but will see it on July 31, and as Tony pointed out it should be *much* warmer by then.

Clif continued to image Mars as it recedes from us.

Star Clusters: Helder considers M35 in Gemini and *M37 in Auriga* to be two of the prettiest star clusters in the whole night sky. M37 is estimated to be between 347 million and 550 million years old and has at least a dozen red giants. It is around 4,500 light-years from Earth.



Stars: Clif and I have been discussing using speckle interferometry to observe the close components of T Tauri. It is a triple star with a wide pair separated by 60 arc seconds, first measured by Struve in 1777. Then component A is itself a very close double, measured in 1980 by HA McAllister using speckle interferometry on a large telescope, giving a separation of only 0.23 arc seconds. The Sperry 24" should resolve 0.19 arc seconds, so it could conceivably resolve this close double.

Dale Gary pointed out an interesting recent use of the speckle technique to decipher a double dip occultation of a 14th magnitude star by the trans-Neptunian object Orcus. It turns out that the occultations were by Orcus's moon Vanth, and that there were two stars separated by 0.25 arc seconds. Maybe the Sperry 24" could resolve these stars also. Orcus and Vanth orbit the sun at nearly the same distance as Pluto and Charon, but on the other side of the sun from them.

Unfortunately, Clif has not been able to resolve the Pup, a white dwarf companion to Sirius, the Dog Star despite a separation of 11 arc seconds. The problem is the huge difference in brightness between the two stars of 9.9 magnitudes, corresponding to Sirius A being 9124 times as bright as Sirius B. However, under steady seeing conditions Helder and Mark have seen the Pup visually.

Other: John Kozimbo pointed out that the US Mint will be selling proof coins commemorating the 50th anniversary of Apollo 11's moon landing.

Jim sent a wonderful *black hole cartoon*. I hope you enjoy it.

Respectfully submitted, Mary Lou West, Research Chair

"Scientists have discovered a new kind of Black Hole that has a gravitational field so intense that no treats or dropped food scraps can escape."

