

## **West Jersey Astronomical Society**

**Meeting Minutes for:** January 19, 2018

Web Address: <http://wasociety.us>

Location: Virtua Moorestown

Members in attendance 14

Officers present:

Pres.: Roger Cowley

Sec.: Paul Bender

### **Roger called meeting to order at 7:44PM**

New Visitors: 2: Bill Diblasio and his friend Steve Edward, photographers. Bill has taken some nice sharp shots of moon through a small scope.

New member: Chuck S. (Joined but 1st time attending). Chuck is airline pilot with 10" Dob also has Vixen mount with Mead reflector that he renovated, and 60mm Televue.

Roger reported that **Bernie Hosko** sent him a **list of dates for observation at Batsto and Atsion sites**, announced 1st Atsion observing session on February 10th; Papers from State of NJ sent c/o Ray P., Bernie H., and Dan McCauley. Ray contacting Bernie H., about receipt of papers. The list of Atsion dates will be sent out to members.

**Joe Stieber** showed some pics and star charts from his web site and confirmed his sighting of (3200) **Phaethon** the extra solar system (rock comet)/asteroid in December. Joe located it using 3 stars in Perseus and over 10 min saw movement in the object. He also shot pic of Vesta with 85 mm scope at 2:30AM with Cannon 100mm f2.8 lens on his Cannon 60. Joe also showed his early AM pic of Mercury and Antares on Dec 28, 2017; and a Lunar Halo pic from Dec 7 AM. Bud displayed the images from his computer.

**Roger discussed his recent observations** on the **variable star Mira in Cetus**. He displayed his pics of Mira over recent months showing the large change in magnitude of this yellow star relative to its neighbors. Roger explained that Mira is the ancient grandfather of variable stars; but while most variable stars have a typical period of a few days, Mira's period is over 11 months. Normally these stars vary only a few orders of magnitude, however, Mira can change over 6 magnitudes. Rogers pics showed Mira from a bright (about mag 3) yellow star, to a very dim (mag 9), and he plotted the estimated magnitude vs. time for 15 observations of Mira gradually increasing in luminosity over a 6 magnitude range.

Al M. asked why it is pulsating in magnitude?

Roger compared it to the variable star Delta Cephei which is a pulsating Red variable star, Mira's variability may be due to a similar process. The energy generating process has gone out of equilibrium so it contracts and heats by gravitational warming, brightening into a hot star. Mira (so named from the word miraculous) was the first recognized variable star. Go and check it out.

### **Dave Neunheuser's presentation on "New Year's Day"**

NYD has not always been on Jan 1st. Ca 2000 BC Babylon set Mar 23rd as NYD as a time for new crops. Roman emperors shifted the date to suit their interests. Roman Senate in 153 BC

declared Jan 1st as beginning the New Year. After more shifting, Julius Caesar in 46 BC, with advise from astronomer Sosigenes, began what became known as the "Julian Calendar" with a year of 365.25 days, beginning on Jan 1 and a leap year added every 4 years. By 1582 a seasonal error of many days was noticeable, and Pope Gregory 13th began "the Gregorian Calendar" as a fix to set the date of Easter to the vernal equinox. After a number of years, even non-Catholic Europe, and eventually the rest of the world, adopted this convention. Later, astronomer Bessel worked out the criteria for NY's. NYD begins when the sun is a RA 18hr 40m, a Longitude of 280 deg. 3 types of years: Sidereal yr, Tropical yr, and anomalistic yr. To convert Jewish or Moslem dates to Gregorian, add 3761 BC as biblical creation, or 622 AD as day that Mohammed fled Hegira. Both calendars are based on a lunar cycle. NYD only celebrated as a holiday for ca last 400yrs.

**Bernie K**, brought to our attention that Mars will soon be coming into very close opposition (i.e., minimum distance to earth. Though now it is 10 or less arcsecs in width, on July 27th of this year it will be a very large 24 arcsec. Check it out month by month as it gets larger in the telescope.

Chuck S., asked what filters to use on Mars. Bernie said filters can show more details, but you will wash out light in a small scope. Bud went to a web site to display the orbital proximity of Mars and earth over time.

Gary suggested we might enjoy "acappella science tunes" (on YouTube)

Roger closed the meeting at 9:38PM.

**Submitted by:** Sec. Paul Bender on Jan 21, 2018