



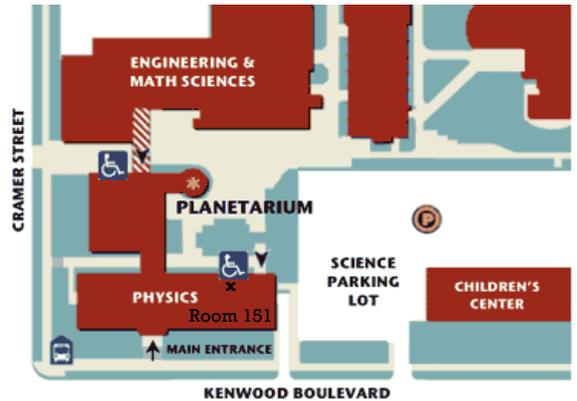
# Focal Point



March, 2012

## The March Membership Meeting

The upcoming General Membership Meeting of the MAS is going to be held on March 16<sup>th</sup>, at 8:00 PM at the UW Milwaukee Physics Building, Room 151, which is located at 1900 E Kenwood Blvd. Parking available in the Science Parking Lot. Dawn Erb, an Assistant Professor at UWM, Physics Department will give a talk entitled: **The Care and Feeding of Galaxies.**



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## The Care and Feeding of Galaxies



Galaxies do not evolve in isolation. Dawn Erb will discuss current research on the formation and evolution of distant galaxies, focusing on their interactions with the surrounding intergalactic medium.

## Treasurer's Report

After spending \$635 on utility bills and insurance and receiving \$102 in key deposits and member donations the checking account balance as of January 20<sup>th</sup> is \$5,217.07. The Albrecht fund is \$8,070.44.

After compensating for projected bills, subscription payments for members and other set asides, the amount available for discretionary spending is \$706.03.

Respectfully Submitted,  
Neil Simmons, Treasurer

## Announcements

Neil Simmons is going to hold **a class on how to read star charts** on his next keyholder night, on March 31. This will be rain or shine starting at 7:00 pm. (Sunset is 20 minutes later on that date).

**The MAS is seeking help from members who have a trailer big enough to carry the lawn tractor that we can borrow:**



Our lawn tractor is in need of repair. Does anybody have a trailer that we could use? We need to haul it to a nearby (5 mile) shop and bring it back afterwards. A snowmobile trailer would be perfect, but any trailer 5 foot or wider will do. Please contact **Russell Chabot (414) 559-3502** or **Neil Simmons (262) 889-2039**.

## Membership Meeting Minutes

**Held** on February 17<sup>th</sup> at UWM, Physics Building.

The meeting was called to order at 8:00 PM by President, Henry Gerner

There was no **Minutes** of the January General Meeting, because it was cancelled.

The **Treasurer's Report** was submitted by Treasurer, Neil Simmons. Copy attached.

There was no **Observatory Director's Report**

There was no **Correspondence**

There was no **Old Business**

**New Business** - Two new memberships were approved by the Board of Directors. Gene and Carole Luecker, and Heath and Kristen Ward joined the MAS.

**Announcement** - Henry announced that the annual Election Business Meeting will be held on May 11<sup>th</sup> at the MAS observatory. Volunteers are needed to fill the open spots. Henry will post the number of open seats in the Newsletter. Henry also publicized the 5<sup>th</sup> annual Swap'N'Sell sponsored by Sheboygan Astronomical Society. The event will be held at the Sheboygan Aviation Center on March 10<sup>th</sup>.

**The Program** Brian announced the guest speaker : David Kaplan, an assistant professor at the Department of Physics, UWM who gave a presentation entitled "Murchison Widefield Array".



The meeting was adjourned at 9:00 PM

Respectfully Submitted,  
Agnes Keszler, Secretary

## Observatory News

### Volunteers Needed for Public Nights

In April the MAS will start a new season of Public Nights. We will be needing volunteers to help make these events an enjoyable experience for our visitors. Remember, when the visitors enjoy themselves, not only do some return on other nights, sometimes they become new members! The planned dates are April 13, May 18, June 5, August 10, September 14, and October 12.

Members are needed to guide cars in the parking lots and collect donations, to speak on the topic of the night, to point the telescopes at celestial objects, to show visitors around the observatory, and just to answer questions and/or help out in any way.

A Table below is showing positions, which volunteers can sign-up for. Activities are covering a broad range, so everybody can pick a task suitable for their level of astronomical knowledge or comfort.

<b>POSITION</b>
<b>SPEAKER</b>
<b>Parking Lot</b>
<b>Parking Lot</b>
<b>Parking Lot</b>
<b>Telescope - 12.5" - B Dome</b>
<b>Telescope - 25" - Z Dome</b>
<b>Telescope - 10" - C Shed</b>
<b>Telescope - 18" - D Shed</b>
<b>Telescope - 14" Z-2 Shed</b>
<b>"Tour Guide"</b>
<b>Other Assistance</b>
<b>Other Assistance</b>

Volunteering isn't just for the "old timers" either – newer members are also welcomed. It is a good occasion for them to get involved in the MAS and watch our mission of public outreach in action. Whether a newer or long-time member, anyone who thinks he/she unprepared for volunteer tasks should come out any Saturday night to the observatory. On these so called Member Nights keyholders, and other members out there are always glad to teach, explain, and help their fellow members become more familiar with the observatory and its equipment.

Volunteer sign-up sheets will be available at the meetings, or you may contact me at 414-460-4886 or [potatosue@wi.rr.com](mailto:potatosue@wi.rr.com) if you wish to volunteer but can't be at one of the member meetings to sign up at that time.

by Sue Timlin



### Work Parties

The first Public Night is around the corner, so it is time to start preparing the Observatory. Those members who adopted telescopes will need to clean domes/sheds and do the necessary maintenance. But there is a lot more to do. The Quonset hut and restrooms need to be cleaned as well. Around the parking lots bushes have to be trimmed to accommodate more cars. Russell Chabot will organize work parties through a MAS Google Group. Volunteers are needed! Please stay tuned.

## Final update on Epsilon Aurigae 2009-2011 eclipse

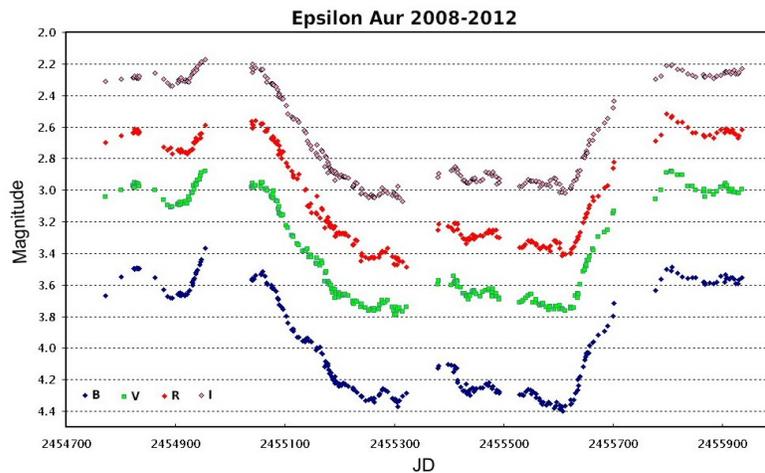
Epsilon Aurigae is one of the most interesting binary stars in the sky. Once every 27 years, a large, edge on disk, transits across the face of a giant F star. This eclipse drops the total brightness of the system by 50% and is easily observed with the unaided eye.

Johann Fritsch was the first to note the variability of epsilon Aurigae in early 1821, when the star was likely in the midst of a deep eclipse. The German astronomers Argelander and Heis both began "regular" observing once every few years around 1842-1843, and the data from both men showed that the star became significantly fainter around 1847. Observers later in the 19th Century recorded another dimming event in 1874-1875, and another in 1901-1902.

There is a slight brightening during mid-eclipse, suggesting the disk has a hole in it which the F star shines through. According to current models, astronomers believe there may be a star, binary star, or a star with one or more planets in that hole. This central brightening is getting stronger with each eclipses, suggesting that the hole is growing. The F star's companion is changing on timescales of decades. From 1901 to 1983 the time of minimum has increased from 313 to 445 days. The overall eclipse duration has declined from 727 to 640 days.

The current eclipse began in August of 2009 and ended in May of 2011. The plot below shows my CCD observations taken thru four filters (Blue, Visual, Red, and Infrared). The variations seen before the beginning of the eclipse are caused by pulsations in the F star. This star is close to the instability strip on the Hertzsprung-Russell (HR) Diagram. The brightening seen in the center of the light curve is caused by the hole passing in front of the F star. This feature is more prominent

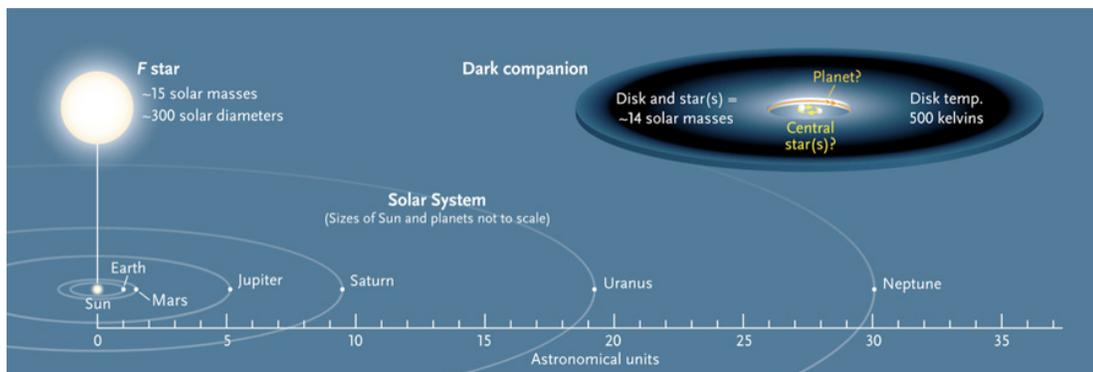
in blue and less in infrared. All measurements were made without using a telescope. I am simply using a camera on a tripod and taking 30-second exposures thru four different filters. A program called Mira was used to calibrate my images and perform the photometry.



Below is a S&T illustration by Casey Reed showing the scale of the epsilon Aurigae compared to our solar system. The primary F star is 300 times the diameter of our Sun! The secondary orbits almost at the distance of Neptune from the Sun. Both components are 14-15 solar masses.

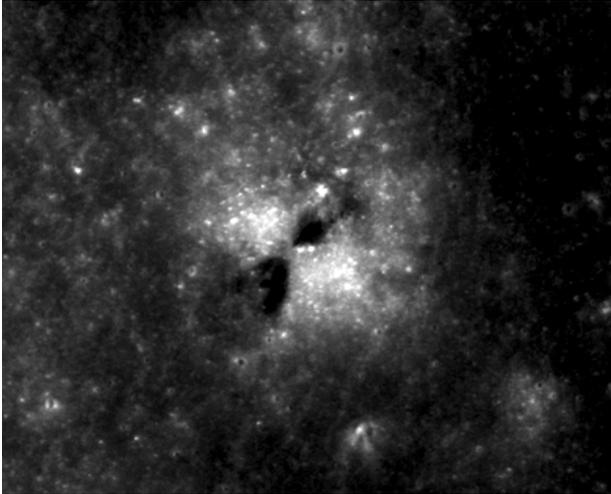
More information can also be found on the AAVSO Citizen Sky Project website located at: <http://www.citizensky.org/>.

by Gerry Samolyk



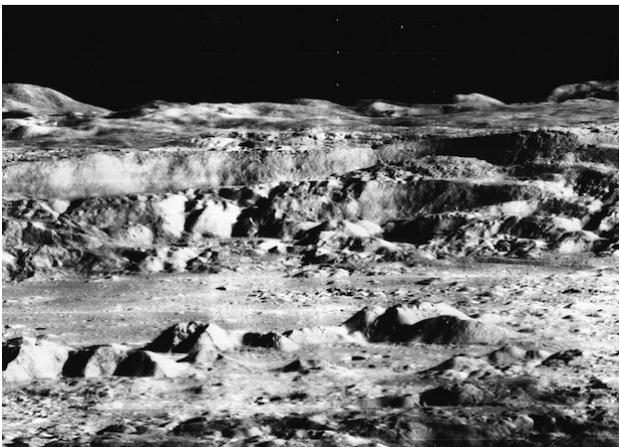
## In the Astronomical News

### NASA Finds Lost Spacecraft on Dark Side of the Moon



NASA scientists have found the crash site, pictured above, of a spacecraft set into orbit during the early 60s. This one—thankfully—is not crawling with Deceptions. They believe it is the missing *Lunar Orbiter 2* which disappeared back in 1967 during a passage over the far side of the moon, when the craft went out of telescope and radio range.

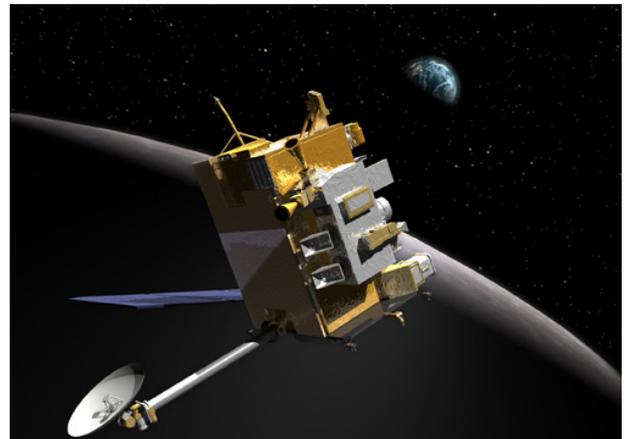
Lunar Orbit 2' s primary function was documenting areas of the moon that would be most hospitable to the Apollo and Surveyor missions. During its run, it returned a total of 609 high resolution images and 208 medium-sized frames. This includes the [Copernicus crater](#) (pictured below) which is considered by many to be the Picture of the Century.



While the spacecraft was intentionally downed on October 11, 1967, scientists had yet to find the crash site—til now.

The wreckage is thought to have been located by the [Lunar Reconnaissance Orbiter](#) (LRO) which is currently mapping the lunar surface in unprecedented detail. During its mission so far, the [spacecraft](#) has gathered more than 192 terabytes of data; that's nearly 41,000 DVDs worth of data, images and maps! One of its key findings is our solar system's coldest spot: a crater near the moon's north pole was recorded at minus 415 degrees Fahrenheit. Brrr!

On the moon we will develop technologies to survive in the infinite frontier of space, because the moon presents the same challenges we will encounter throughout the universe: harmful radiation, electrified dust, and extreme temperatures.



Just as a scout finds the safest way for expeditions on Earth, NASA will first send a robotic scout, called the Lunar Reconnaissance Orbiter (LRO), to gather crucial data on the lunar environment that will help astronauts prepare for long-duration lunar expeditions.

LRO will spend at least a year in a low polar orbit approximately 50 kilometers (31 miles) above the lunar surface, while its seven instruments find safe landing sites, locate potential resources, characterize the radiation environment and test new technology.

by Jerry James Stone

## Adopt a Telescope Program - Signup Sheet

	<b>Adoptee</b>	<b>Scope</b>	<b>Location</b>
<b>1</b>	Sue Timlin	18" F/4.5 Obsession	Wiesen Observatory
<b>2</b>	Neil Simmons	12.5" F/7.4 Buckstaff	B Dome
<b>3</b>	Russell Chabot	12.5" F/9 Armfield	A Dome
<b>4</b>	Dan Yanko	10" F/6 Newtonian	Albrecht Observatory
<b>5</b>	Tamas Kriska	25" F/15 Zemlock	Z Dome
<b>6</b>	Henry Gerner	12" LX 200	Tagney Observatory
<b>7</b>	Jeffrey Fillian	14" Z-Two scope	Ray Zit Observatory
<b>8</b>	Kevin & John McCarthy	10" LX 200	Jim Toeller Observatory

### At Your Service

#### Officers / Staff

President	Henry Gerner	414-774-9194
Vice President	Brian Ganiere	414-961-8745
Treasurer	Neil Simmons	262-889-2039
Secretary	Agnes Keszler	414-475-6267
Observatory Director	Gerry Samolyk	414-529-9051
Asst. Observatory Director	Henry Gerner	414-774-9194
Editor	Tamas Kriska	414-475-6267

#### Board of Directors

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Henry Gerner	414-774-9194
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Al Hovey	262-524-5510
Agnes Keszler	414-475-6267
Tamas Kriska	414-475-6267
Lana Silke	262-966-4929
Neil Simmons	262-889-2039
Sue Timlin	414-460-4886
Dan Yanko	262-255-3482

#### December/January Key Holders

3/17	Tim Hoff	262-662-2212
3/24	Tom Schmidtkunz	414-352-1674
3/31	Neil Simmons	262-889-2039
4/7	Dan Yanko	262-255-3482
4/14	Paul Borchardt	262-781-0169



#### MAS Observatory

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[www.milwaukeeastro.org](http://www.milwaukeeastro.org)