

Skywatchers

Newsletter of the China Lake Astronomical Society

Volume 45 No. 11

November 1, 2008

NEXT MEETING 7:30 p.m., Monday, November 3, 2008

Maturango Museum, 100 East Las Flores Avenue, Ridgecrest, California

PROGRAM FOR THE NOVEMBER 3 MEETING: ANDROMEDA

Andromeda is directly overhead in the early evening in early November. That puts it in the best position for viewing at our November star party. Let's talk about the Andromeda constellation and galaxy at our November meeting. If you have pictures or observing tips, bring them along.

The Andromeda galaxy is also known as M-31, and is a naked eye object, with a visual magnitude of 4.4. It is in the local group of galaxies, which includes our own galaxy, the Milky Way.



DATES TO KEEP IN MIND

STANDARD TIME RETURNS SUNDAY MORNING NOVEMBER 2 AT 2:00 a.m. SET YOUR CLOCKS BACK ONE HOUR

Monday, November 3, 2008: Regular CLAS Meeting at the Maturango Museum in Ridgecrest, 7:30 p.m.

Wednesday, November 26, 2008: Deadline for next Skywatchers Newsletter

Friday, November 28, 2008: Public Star Party at Brown Road Site, see below.

Monday, December 1, 2008: Regular CLAS Meeting at the Maturango Museum in Ridgecrest, 7:30 p.m.

STAR PARTY SCHEDULE FOR THE 2008 SEASON:

The last Star Party of the season will be held on the date listed below. Star Parties are an activity where members and guests come together to view the skies. If you have a telescope, bring it; if not, come and look through someone else's. They are held at a site in the open desert south of Ridgecrest. To reach the site from Ridgecrest, go south on China Lake Boulevard 6.5 miles from its intersection with Ridgecrest Boulevard. Continue straight across Highway 395 and you will be on Brown Road (Old Highway 395). Follow Brown Road as it curves to the right and goes west. After 2.3 miles there will be a 30-inch orange cone on the left. Turn left and follow the dirt road marked by 12-inch cones. The CLAS star party is 0.5 miles along this road. Signs and cones will be put out about a half hour before viewing starts. Call Carroll Evans 760-375-5681, or Bruce Churchill 760-375-7247, for more information.

Friday, November 28: Signs out at 5:30 p.m., Star viewing at 6:00 p.m. March of 2009 is next.

THE SKY IN NOVEMBER by Roger Brower

1. Jupiter is in the south southwest as the evening starts. Look for it to the left of the Teapot of Sagittarius. Venus is also in the western evening sky. By months end, they will meet to the upper left of Sagittarius.
2. Saturn has moved to the morning Sky and will rise about 3 a.m. Daylight Saving Time on November 1st. Look for it in the east before dawn.
3. Mercury has moved to the morning sky but will only be visible low in the east-southeast for the first few days of the month.
4. Uranus and Neptune are more challenging to see but are well placed this month for observing. Look for them in the south as the night darkens. Go to SkyandTelescope.com/UranusNeptune for a finder chart.

“THE END OF NIGHT,” COVER STORY FOR THE NOVEMBER ISSUE OF THE NATIONAL GEOGRAPHIC MAGAZINE.

The November 2008 issue of National Geographic features the cover article titled “The End of Night: Why We Need Darkness.” It deals with the virtual disappearance of the night sky as people used to know it intimately before the advent of mass electrical illumination, a matter of great relevance to all amateur astronomers.

EXO-PLANET COUNT GROWS

As of October 2008 a total of 312 extra-solar planets have been discovered to be in orbit around 267 stars. To date, the star with the largest number of detected planets is 55 Cancri, with five confirmed and two more suspected (you can get its coordinates on Wikipedia). 55 Cancri is a sixth magnitude star in the constellation of Cancer, and is 41 light years away. The system consists of a yellow dwarf star and a smaller red dwarf star, separated by over 1,000 times the distance from the Earth to the Sun. The planets orbit the yellow dwarf.

AN INFORMATIVE SITE FOR ONLINE AMATEUR ASTRONOMERS

This site offers an excellent “TELESCOPE FAQ” for beginners considering their first telescope.

<http://home.inreach.com/starlord/>

EPSILON AURIGAE – THE ECLIPSING OF A GIANT Ivin Williams

Robert Richards, our Philadelphia correspondent, has referred us to this article, which was published in the September 2008 issue of the Rittenhouse Astronomical Society newsletter.

A total lunar eclipse took place in February of this year and those who watched it from the Franklin Institute's Joel N. Bloom Observatory will recall not only the eerie beauty of the moon as it was swallowed by the earth's shadow but also the length of time it took for the eclipse to complete, which was close to 3-1/2 hours. Yes, 3 plus hours is a long time to look up and wait for an eclipse to pass by, but what if there is an eclipse out there that takes nearly two years to complete and on top of that, what if it is almost a complete mystery to us down here exactly what is responsible for such a long eclipse despite over 150 years of observations? Well, such an eclipse does regularly take place and it does so every 27.1 years. Fortunately for us, this mysterious eclipse is scheduled to again take place beginning next summer and will continue into 2011. I should inform you though, before everyone rushes back down to the Franklin Institute next year to observe it, the star being eclipsed and its eclipsing object or objects are close to 2000 light-years away and many of their chapters and secrets are written in infrared and ultraviolet ink.

Epsilon Aurigae (Epsilon) is a huge third magnitude F-type yellow-white star located in a triangle of stars known as the Kids within the northern constellation Auriga, the Charioteer. Huge, in this case, is a star with a diameter slightly more than the earth-sun distance of some 93 million miles or one astronomical unit (AU). Imagine a star centered on our solar system and engulfing planet earth. The extremely interesting unique thing about this star though, is not its huge size but that it is eclipsed by a vastly more massive object, and one with a possible hole in its center. What colossal object could cause both the ingress (disappearance) and egress (reappearance) phases of an eclipse to last for some six months each and totality to last for a good whole year? What truly menacing object could once every generation dim Epsilon to one-half of its brightness, but midway into the eclipse allow its light to again shine through? The common answers to these questions seem to be almost anyone's educated guess because opinions and statistics have long widely varied. In 1904, the German astronomer Hans Ludendorff proposed that a swarm of meteoroids surrounded Epsilon while observations made during the 1928–30 eclipse pointed to a huge mass of gas that was responsible for the strange eclipse. Both of these early theoretical models held up fairly well for some observations but neither fully explained exactly what was really taking place. The problem was that neither model could account for the gravity that would be needed to hold such an object in place as it revolves around the primary star. Something has to be buried within the ring or shell.

The Italian astrophysicist Margherita Hack began her observations of Epsilon during the 1955–57 eclipse and came to the conclusion that the real culprit is an invisible hot companion star surrounded by a thick shell of gas. Subsequent observations in both the ultraviolet and infrared regions of the spectrum seem to give support to the idea that Epsilon is the primary member of an eclipsing binary system where it and its mysterious companion are gravitationally bound together and both orbit a common center of mass. This companion does appear to be a star that is surrounded by a ring or shell comprised of either gas or dust, and furthermore seems to have some sort of doughnut-like hole in the middle, because there is a mid-eclipse brightening. Such a system is differentiated from so-called double stars, which we often view as being next-door neighbors, but are usually members of star systems that are vast distances away from each other.

The 1982–84 eclipse saw hundreds of astronomers, both amateurs and professionals from all over the world point their visible, ultraviolet and infrared eyes towards this star system. The upcoming 2009–2011 eclipse should be a real bonanza for observers because a whole new generation of equipment will be available to zero-in on this strange star system. Is the eclipsing object one star, two stars or multiple stars?

MEMBERSHIP INFORMATION

Basic CLAS dues are \$20.00 per year, which includes the *Skywatchers Newsletter*. As a benefit of membership you may also receive *Astronomy Magazine* and/or *Sky and Telescope Magazine*. The fee schedule is as follows

Basic membership	\$20.00 per year
Membership with Astronomy magazine	\$54.00 per year
Membership with Sky and Telescope magazine	\$53.00 per year
Membership with both S & T and Astronomy	\$87.00 per year

Send your check to: Roger Brower, Treasurer, China Lake Astronomical Society, P.O. Box 1783, Ridgecrest, CA 93556.

PRESIDENT – Earl Wilson – 760-876-5455 (email zearl.email@gmail.com)
VICE-PRESIDENT – Bruce Churchill - 760-375-7247 (email rbchurchill@yahoo.com)
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WESTERN AMATEUR ASTRONOMERS WEB SITE <http://www.waa.av.org/>

Meetings of the China Lake Astronomical Society are held at the **Maturango Museum** at 7:30 p.m. on the first Monday evening of each month, except when the first Monday is a holiday.

**SKYWATCHERS, Newsletter of the
CHINA LAKE ASTRONOMICAL SOCIETY
POST OFFICE BOX 1783
RIDGECREST, CA 93556-1783**

FIRST CLASS

**NEXT MEETING: 7:30 p.m., MONDAY NOVEMBER 3, 2008: “ANDROMEDA” AT THE
MATURANGO MUSEUM, 100 EAST LAS FLORES AVE., RIDGECREST, CALIFORNIA
CLAS WEB PAGE <http://www.chinalakeastro.org>
INDEX OF CLAS NEWSLETTERS <http://www.ridgenet.net/~clevans/clas/>**