

Skywatchers

Newsletter of the China Lake Astronomical Society

Volume 47 No. 5

May 1, 2010

NEXT MEETING 7:30 p.m., Monday, May 3, 2010

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

PROGRAM FOR THE MAY 3 MEETING - THE EXPLORATION OF EXOPLANETS

Steve Edberg, a scientist at the Jet Propulsion Laboratory, and long-time friend of the China Lake Astronomical Society, will discuss the Space Interferometry Mission, SIM, which is presently in its preliminary design phase. The instrument, spacecraft, and ground system designs are being prepared for a mission that will improve astrometric measurements a thousand-fold from what has been done before. And contrary to the common reaction to astrometry -- yawns -- the results of the mission are likely to revolutionize our understanding of astrophysics, from planetary systems clear to the edge of the universe. Major emphasis will be on the exploration of planetary systems beyond our own. SIM discoveries will lead to advances beyond what we can do now. In less than 20 years, the study of planets beyond the Solar System has gone from theoretical to, literally, weather studies on planets orbiting other stars. Future generations of instruments will permit us to learn about the exo-Earths, including not just whether life is possible on them, but even discerning that life exists on them.

DATES TO KEEP IN MIND

Monday, May 3, 2010: Regular CLAS Meeting at the Maturango Museum, 7:30 p.m.

Thursday, May 6, 2010: Public Star Party at the Maturango Museum Observatory

Friday, May 7, 2010: Regular CLAS Star Party, see below.

Tuesday, May 25, 2010: Deadline for next Skywatchers Newsletter.

Monday, June 7, 2010: Regular CLAS Meeting at the Maturango Museum in Ridgecrest, 7:30 p.m.

STAR PARTY SCHEDULE FOR THE 2010 SEASON:

Star Parties will be held on the dates 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, May 7: Signs out at 8:00 p.m., Star viewing at 8:30 p.m.

Friday, June 11: Signs out at 8:30 p.m., Star viewing at 9:00 p.m.

Friday, July 9: Signs out at 8:30 p.m., Star viewing at 9:00 p.m.

Friday, August 6: Signs out at 8:30 p.m., Star viewing at 9:00 p.m.

Friday, September 10: Signs out at 7:30 p.m., Star viewing 8:00 p.m.

Friday, October 8: Signs out at 7:00 p.m., Star viewing at 7:30 p.m.
Friday, November 5: Signs out at 6:30 p.m., Star viewing at 7:00 p.m.

MUSEUM STAR PARTIES

Public star parties are scheduled, weather permitting, at 8:30 p.m. at the Maturango Museum's observatory, on Thursday evenings, May 6, June 10, July 8, August 5 and September 9.

THE SKY IN MAY by Roger Brower (Written by Robert Shaw, this month)

May brings longer hours of daylight, pushing back observing time until later in the evening. Venus, Mars, and Saturn continue to be the three planets of the evening and will remain so for a few months to come.

1. **Venus** is now visible in the Western sky after sunset, 20° above the horizon one hour after sundown, and remains brilliant for more than two hours each night. It is in the early stages of an evening apparition, which will last through to October.
2. **Mars** can be found high in the southwestern sky after sunset. Fading a bit in magnitude as it recedes from Earth, its eastward motion carries it to within 3° of Regulus by the end of the month, pairing briefly with the Moon on the evening of May 19.
3. **Saturn** remains visible nearly all night. Look for it high in the southeast after sunset. Compare Saturn and Mars at the beginning of the month, when Mars is brighter, to the end of the month, when Mars is the dimmer of the two.
4. **Jupiter** is a morning object, poking over the eastern horizon by 4a.m. at the beginning of the month, and is 20° high by the same time at month's end.
5. **Mercury** is not visible during the first half of May, but during the last two weeks of the month, it lies very low in the east 30 minutes before sunrise.
6. On May 6, the **Eta Aquarid Meteor Shower** reaches its peak of activity. The Eta Aquarids consist of dusty debris from the famous Halley's Comet. Look east after sunset for meteors streaking over the eastern horizon, although the radiant, near Eta Aquarius, does not rise until the middle of the night.

2010 ROYAL ASTRONOMICAL SOCIETY HANDBOOKS AND CALENDARS ARE AVAILABLE

For many years, the China Lake Astronomical Society has provided the RASC Observer's Handbook to our membership. The retail price for a single copy (delivered) is \$32.45 US. We get them at a group rate, and share the savings with our members. If you buy in person from C.L.A.S., we are charging \$20.00 for the handbook, and \$12.00 for the calendar. Calendar and Handbook will be sold together for the combined price of \$30.00. If you picked up calendars at the December meeting, your handbook can be discounted.

Most of you know all about the handbooks and calendars. Suffice to say that the *Observer's Handbook* is 356 pages of astronomical data, which is presented as tables, charts and annual and daily information. The calendars present other useful data, along with great astronomical photographs.

The publications will be available at the April meeting, or you may contact Roger Brower at 760-375-1181 to pick up a copy.

A NOTEWORTHY ASTEROIDAL OCCULTATION by Carroll Evans

At our April club meeting, President Earl Wilson announced that in the early morning hours following the meeting there was to be an occultation of a naked-eye star (2.5 magnitude Zeta Ophiuchi) by the Asteroid 824 Anastasia. Earl and I decided to attempt the observation. One seldom gets a chance to observe an asteroidal occultation which, at least in theory, can be seen with the unaided eye.

We observed from my front yard, Earl used his video camera to record the event, and I used binoculars. The event was to occur at approximately 3:35 a.m., we sat there listening to WWV time signals, waiting for the effectively invisible (14.7 magnitude) asteroid to block out the star. After a while, it was clear to us that we had missed the event. There is some intrinsic uncertainty in the predictions; it turned out that we should have been somewhat more to the west to catch it. Here is a reference to a YouTube video of the happening. <http://www.youtube.com/watch?v=3jMJFHQyZno>. This may well be the least inspiring video that you have ever seen, but it does show the event.

NASA – THE MYSTERIOUS MOLASSES MARKINGS OF PLUTO

April 16, 2010: Lonely Pluto floats in the darkness at the edge of our solar system. It is so far away even the Hubble Space Telescope has trouble making out the details. Nevertheless, Pluto is so interesting, even fuzzy images of the dwarf planet are compelling.

A team of researchers led by Marc Buie of the Southwest Research Institute recently released the best Hubble images to date:

The data reveal an icy molasses-colored world with a surprising amount of activity. Buie compared Hubble images taken in 1994 vs. 2003 and discovered that Pluto's northern hemisphere has brightened while the southern hemisphere has dimmed. Ground-based observations suggest that Pluto's atmosphere doubled in mass during approximately the same time period. In addition, no one is certain what is causing the molasses-colored splotches on Pluto's surface.

"It's baffling," says dwarf planet expert Mike Brown of Caltech. "For now, we can only guess. Although these images are the best we have to date, they just aren't clear enough to answer all the questions they raise." For instance, what is happening to Pluto's atmosphere?

Pluto can get so cold, researchers believe, that its atmosphere can actually freeze and fall to the ground. If Earth's atmosphere did that, it would make a layer 30 feet thick, but Pluto has less to work with. When it is on the ground, Pluto's entire blanket of air is no more than a frosty film of nitrogen and methane.

You may see the Hubble image at this URL: http://science.nasa.gov/science-news/science-at-nasa/2010/14apr_molasses/

ULYSSES SPACECRAFT DATA REVEAL A COMET BIGGIE

PASADENA, Calif. - Using data from the completed ESA/NASA Ulysses mission, scientists have identified a new candidate for biggest comet. Results of these findings were presented today at the Royal Astronomical Society's National Astronomy Meeting in Glasgow by Ulysses science team member Geriant Jones of University College, London

The primary mission of the Ulysses spacecraft was to characterize the sun's heliosphere as a function of solar latitude. The heliosphere is the vast region of interplanetary space occupied by the sun's atmosphere and dominated by the outflow of the solar wind. To study the heliosphere, Ulysses was placed into a six-year orbit around the sun that carried it out to Jupiter's orbit and back. Covering such a vast expanse of space provided unique and unexpected opportunities for the spacecraft. During its more than 17-year mission, Ulysses had three unplanned encounters with comet tails. (See Ulysses Catches Record for Catching Comets by Their Tails: <http://www.nasa.gov/vision/universe/solarsystem/ulysses-20071019.html>)

The bottom line is that data gathered lead to the conclusion that comet McNaught is a very large comet, with a tail longer than that of comet Hyakutake, previously thought to be the record holder.

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.

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WESTERN AMATEUR ASTRONOMERS WEB SITE <http://www.waa.av.org/>

Meetings of the China Lake Astronomical Society are 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 MAY 3, 2010: “THE EXPLORATION OF EXOPLANETS”
AT THE MATURANGO MUSEUM, 100 EAST LAS FLORES AVE., RIDGECREST, CALIFORNIA**

CLAS WEB PAGE <http://www.chinalakeastro.org>

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