

Skywatchers

Newsletter of the China Lake Astronomical Society

Volume 46 No. 11

November 1, 2009

NEXT MEETING 7:30 p.m., Monday, November 2, 2009

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

PROGRAM FOR THE NOVEMBER 2 MEETING:

The November program will focus on near Earth objects (NEOs). These consist of asteroids, comets, large meteorites, and solar-orbiting spacecraft. By definition, they approach Earth at distances within a small percentage of the diameter of Earth's orbit. In recent decades, we have become aware of the significant role that extra-terrestrial impacts have had on our planet's history and the possible dangers that NEOs pose to us. A recent study concluded that the United States and China are the nations most vulnerable to impact. We will talk about the nature of these objects, the risks they represent, and possible ways to avoid an impact.

DATES TO KEEP IN MIND

Monday, November 2, 2009: Regular CLAS Meeting at the Maturango Museum, 7:30 p.m.

Friday, November 13, 2009: Next public star party, see details below.

Wednesday, November 25, 2009: Deadline for next Skywatchers Newsletter.

Monday, December 7, 2009: Regular CLAS Meeting at the Maturango Museum in Ridgecrest, 7:30 p.m.

Note: Annual elections will be held at the December meeting.

STAR PARTY SCHEDULE FOR THE 2009 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 6.2 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. **STAR PARTIES RESUME IN MARCH**

Friday, November 13: Signs out at 5:30 p.m., Star viewing at 6:00 p.m.

MEADE APOCHROMATIC TELESCOPE FOR SALE

I am offering a Meade 6" Apochromatic Refractor. It is a research grade telescope and it retailed for over 2800.00. Apochromats are known for their sharpness and clarity. When viewing the Orion Nebula, I see much finer detail in the 6" Apo than I do in my 16" reflector. There really is no comparison. This is the optical tube assembly only. I can e-mail images if anyone one is interested. I am asking \$1000.00. If you are interested, please contact me at:

John Gilbert 661.257.6159 LgtWaves@att.net

THE SKY IN NOVEMBER by Roger Brower

1. Venus remains in the morning sky this month. It rises in the east-northeast about 1 1/2 hours before the sun at the beginning of the month and just 1 hour earlier by the end of the month.
2. Saturn remains in the morning sky this month. Look for it low in the southeast just before sunrise. After a brief edge-on period, the rings will begin to open rapidly and will again become visible by month's end.
3. Mercury passes behind the sun, so will not be visible all month.
4. Jupiter remains a fine evening object. Look for it high in the south soon after sunset.
5. Mars rises just before midnight at the start of the month but by 9:30PM at the end of the month. Mars remains in Cancer and passes through M44 (the beehive cluster) at the beginning of the month, on through the rest of the constellation for the duration of the month.
6. The Leonid meteor shower peaks on the morning of November 17th.

FROM BBC NEWS: Astronomers have announced a haul of planets found beyond our Solar System.

The 32 newly discovered "exoplanets" range in size from five times the mass of Earth to 5-10 times the mass of Jupiter, the researchers said. They were found using a very sensitive instrument on a 3.6m telescope at the European Southern Observatory's La Silla facility in Chile. The discovery is exciting because it suggests that low-mass planets could be numerous in our galaxy. "From [our] results, we know now that at least 40% of solar-type stars have low-mass planets. This is really important because it means that low-mass planets are everywhere, basically," explained Stephane Udry from Geneva University, Switzerland. "What's very interesting is that models are predicting them, and we are finding them; and furthermore the models are predicting even more lower-mass planets like the Earth."

Size selection

The discovery now takes the number of known exoplanets - planets outside our Solar System - to more than 400. These have been identified using a range of astronomical techniques and telescopes, but this latest group was spotted as a result of observations made with the Harps spectrometer at La Silla. The High Accuracy Radial Velocity Planet Searcher instrument employs what is sometimes called the "wobble technique". This is an indirect method of detection that infers the existence of orbiting planets from the way their gravity makes a parent star appear to twitch in its motion across the sky. Astronomy is working right at the limits of the current technology capable of detecting exoplanets and most of those found so far are Jupiter-scale and bigger. Harps, however, has focused its efforts on small, relatively cool stars - so-called M-class stars - in the hope of finding low-mass planets, ones most likely to resemble the rocky planets in our own Solar System. Of the 28 planets known with under 20 Earth-masses, Harps has now identified 24 of them - and six of those are in the newly announced group. "We have two candidates at five Earth-masses and two at six Earth-masses," Professor Udry told BBC News.

Combined approach

Harps has previously identified an object which is only twice as massive as the Earth (announced in April). Scientists are confident this planet harbors no life, though, because it orbits so close to its parent star that surface temperatures would be scorching. In revealing the new collection of planets on Monday, the Harps team members said they expected to confirm the existence of another batch, similar in number, during the coming six months. The ultimate goal is to find a rocky planet in a star's "habitable zone", an orbit where

temperatures are in a range that would support the presence of liquid water. Scientists believe the introduction of newer, more sensitive technologies will allow them to identify such an object within just a few years. The US space agency (NASA) recently launched its Kepler telescope. This hopes to find Earth-size planets by looking for the tiny dip in light coming from a star as an object crosses its face as viewed from Earth. To properly characterize a planet, different observing techniques are required. The Kepler "transit" method reveals the diameter of an object, but a Harps-like measurement is needed to resolve the mass.

Jonathan.Amos-INTERNET@bbc.co.uk

A CONFERENCE OF POSSIBLE INTEREST PLUS TWO NEW BOOKS

Dear Astronomy Club Members,

It is my pleasure to: (1) invite your club members to the Hawaii 2010 International Conference on *Telescopes, Instrumentation, and Astronomical Research*; (2) point out two new books of interest—*Small Telescopes and Astronomical Research*, and *Lightweight Alt-Az Telescope Developments*; and (3) invite you to participate in the Alt-Az Initiative via its annual conferences, workshops, and Yahoo discussion group. All three items are described at www.AltAzInitiative.org. I have attached a flyer to distribute to your club members, and have also attached a description of the international Hawaii conferences—an article appearing in the current issue of *Amateur Astronomy* (for subscriptions see www.AmateurAstronomy.com). Please feel free to contact me via email or phone.

Cheers,

Russ

Russell M. Genet, PhD Research Scholar in Residence, California Polytechnic State University Adjunct Professor of Astronomy, Cuesta College
Associate Editor, *Amateur Astronomy* russmgenet@aol.com, (805) 438-3305

ASTRONOMY ON THE INTERNET

Check out this six minute and thirty-eight second YouTube video about the Hubble Deep Field and Ultra Deep Field exposures. The point could have been made in just 38 seconds, but you have to sit through the preceding six minutes. <http://www.youtube.com/watch?v=mcBV-cXVWFw&feature=rec-HM-r2>

PUT YOUR MIND AT EASE, NASA Refines Asteroid Apophis' Path Toward Earth

PASADENA, Calif. -- Using updated information, NASA scientists have recalculated the path of a large asteroid. The refined path indicates a significantly reduced likelihood of a hazardous encounter with Earth in 2036.

The Apophis asteroid is approximately the size of two-and-a-half football fields. Near-Earth object scientists Steve Chesley and Paul Chodas at NASA's Jet Propulsion Laboratory in Pasadena, California documented the new data. They will present their updated findings at a meeting of the American Astronomical Society's Division for Planetary Sciences in Puerto Rico on Oct. 8.

"Apophis has been one of those celestial bodies that has captured the public's interest since it was discovered in 2004," said Chesley. "Updated computational techniques and newly available data indicate the probability of an Earth encounter with Apophis on April 13, 2036, has dropped from one-in-45,000 to about four-in-a million."

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)

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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 2, 2009: “NEAR EARTH OBJECTS” 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/>