Skywatchers

Newsletter of the China Lake Astronomical Society

Volume 47 No. 9 September 1, 2010

NEXT MEETING 7:30 p.m., Monday, September 13, 2010
Maturango Museum, 100 East Las Flores Avenue, Ridgecrest, California

PROGRAM FOR THE SEPTEMBER 13 MEETING -- STAR VOYAGE VIDEO

The program will be a video of Christopher Butler, giving the keynote speech at a recent annual convention of the Society for Astronomical Sciences. Chris narrated "Our Little Corner of the Galaxy," his film popularizing astronomy for the public, imagining an interstellar probe traveling to nearby suns and their planets. Chris is an animator and an amateur astronomer. A major part of his career has been serving as an artist/astronomer/lecturer for the Griffith Planetarium and Observatory in Los Angeles. His talk is illustrated by space age animations, which he has supplied for clients such as National Geographic. The Western Amateur Astronomers recognized his efforts by awarding him the G. Bruce Blair Medal in 2006.

DATES TO KEEP IN MIND

Monday, September 13, 2010: Regular CLAS Meeting at the Maturango Museum, 7:30 p.m.
Thursday, September 9, 2010: Star Party at the Maturango Museum Observatory.
Friday, September 10, 2010: Regular CLAS Star Party, see below.
Tuesday, September 22, 2010: Deadline for next Skywatchers Newsletter.
Monday, October 4, 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, September 10: Signs out at 7:30 p.m., Star viewing 8:00 p.m.
Friday, October 8: Viewing moved to the annual Cerro Coso Community College Star Party and Barbeque.
Friday, November 5: Signs out at 6:30 p.m., Star viewing at 7:00 p.m.

MUSEUM STAR PARTIES

A public star party is scheduled, weather permitting, at 8:00 p.m. at the Maturango Museum's observatory, on Thursday evening September 9.

THE SKY IN SEPTEMBER by Roger Brower

1. Brilliant Venus and much dimmer Mars remain in the evening sky this month and remain relatively close. Look for them in the west-southwest after dusk.

2. Mercury moves to the morning sky and will be visible low in the east before sunrise from about September 12th to October 5th.

3. Jupiter is in the evening sky all month, reaching opposition on September 21st and so will be a fine evening object all night. Also, Uranus is less than 1.5 degrees from Jupiter. Using binoculars, look for a small blue-green disk near Jupiter.

4. Saturn moves ever closer to the sun and will not be visible after the middle of the month. Look for it in the west after sunset.

ANNUAL CERRO COSO COMMUNITY COLLEGE STAR PARTY AND BARBEQUE, OCTOBER 8

Mark your calendars now for the annual college star party and barbeque, scheduled to replace our China Lake Astronomical Society public star party. The college will again need our help operating the telescopes of the college observatory. Additionally, Carroll Evans, ancient CLAS member, will utilize ancient technology to present a slide show in the college library building, after the community dinner and raffle.

RICH EXOPLANET SYSTEM DISCOVERED by Victoria Gill, Science reporter, BBC News

http://www.bbc.co.uk/news/science-environment-11070991

Astronomers have discovered a planetary system containing at least five planets that orbit a star called HD 10180, which is much like our own Sun. The star is 127 light years away, in the southern constellation of Hydrus. The researchers used the European Southern Observatory (ESO) to monitor light emitted from the system and identify and characterize the planets.

They say this is the "richest" system of exoplanets - planets outside our own Solar System - ever found. Christophe Lovis from Geneva University's observatory in Switzerland was lead researcher on the study. He said that his team had probably found "the system with the most planets yet discovered". The discovery could provide insight into the formation of our own Solar System. "This also highlights the fact that we are now entering a new era in exoplanet research - the study of complex planetary systems and not just of individual planets," he said. The research has been submitted for publication to the journal Astronomy and Astrophysics.

ESO's High Accuracy Radial Velocity Planet Searcher (or Harps) instrument was responsible for the discovery. Harps measures the wobble of a star; this gives a measure of how much it is being tugged on by an orbiting planet.

"If there is one planet it will induce a little movement - the star will come towards us and move away, Dr Lovis explained to BBC News. "And what works for one [planet] works for many." With many planets orbiting the star, its movement becomes a very complex "superposition" of several different planet-induced movements.

Using Harp, Dr Lovis and his team were able to measure this and break it down, in order to calculate how many planets were in the system, how great each of their masses was, and even the path of each individual planet's orbit. The researchers said the system around HD 10180 is unique in several respects.

It has at least five "Neptune-like planets" lying within a distance equivalent to the orbit of Mars, making it more populated than our own Solar System in its inner region. In addition, all the planets seem to have almost circular orbits.

Dr Lovis said: "Studies of planetary motions in the new system reveal complex gravitational interactions between the planets and give us insights into the long-term evolution of the system."

False alarm? So far, the astronomers have picked up clear signals from five planets, along with two slightly "fuzzier" signals. One of these possible sixth and seventh planets was estimated to be just 1.4 times the mass of the Earth; if its presence in the system were confirmed, it would be the lowest mass exoplanet yet discovered. It is also predicted to be very close to its host star - just 2% of the Earth-Sun distance, so one year on this planet would last only 1.2 Earth days. Dr Lovis said he was 99% certain that this small planet was there. "There are five signals that are really strong where we have no doubt, but we have another two with a 'false alarm' probability of 1%," he said.

Martin Dominik, an astronomer and exoplanet hunter from the UK's University of St Andrews said the complexity and structure of this system made it an interesting discovery. "The richness of the system of planets around HD 10180 with its many characteristic features marks the way forward towards gathering the information that will put our own existence into cosmic context," he told BBC News. He cautioned against describing this as the "richest system" saying that it was not clear whether other systems that had already been detected hosted further planets. Dr Dominik added: "I am tempted to consider the detected system as one of the most 'informative' ones. Like most discoveries in science, the findings come with more questions than answers; but in my opinion, this is what really advances a field."

ASTRONOMICAL NEWS ON THE INTERNET

http://uanews.org/node/33078 Taking the Twinkle Out of the Night Sky. A breakthrough in adaptive optics allows astronomers to obtain space-telescope quality images over a wide field of view – here on Earth. University of Arizona astronomers are working on laser adaptive optics, to build an earthbound telescope to rival the Hubble Space Telescope.

http://www.bbc.co.uk/news/science-environment-10967292 Sun's 'quiet period' explained.

Solar physicists may have discovered why the Sun recently experienced a prolonged period of weak activity. The most recent so-called "solar minimum" occurred in December 2008.

Its drawn-out nature extended the total length of the last solar cycle - the repeating cycle of the Sun's activity - to 12.6 years, making it the longest in almost 200 years. During a solar minimum, the Sun is less active, producing fewer sunspots and flares. The new research suggests that the longer-than-expected period of weak activity may have been linked to changes in the way a hot soup of charged particles called plasma circulated in the Sun.

http://www.bbc.co.uk/news/science-environment-11030889 Fate of Universe revealed by galactic lens.

A "galactic lens" has revealed that the Universe will probably expand forever. Astronomers used the way that light from distant stars was distorted by a huge galactic cluster known as Abell 1689 to work out the amount of dark energy in the cosmos.

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 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
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FIRST CLASS

NEXT MEETING: 7:30 p.m., MONDAY SEPTEMBER 13, 2010 – STAR VOYAGE VIDEO, AT THE MATURANGO MUSEUM, 100 EAST LAS FLORES AVE., RIDGECREST, CALIFORNIA

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INDEX OF CLAS NEWSLETTERS http://www.ridgenet.net/~clevans/clas/