

Skywatchers

Newsletter of the China Lake Astronomical Society

Volume 43 No. 04

April 1, 2006

NEXT MEETING 7:30 p.m., Monday, April 3, 2006

Maturango Museum, 100 East Las Flores Avenue, Ridgecrest

PROGRAM FOR THE APRIL 3 MEETING

Mark Hodges, from the Owens Valley Radio Observatory, some miles north of us at Big Pine, will visit us to update us on the status of the new CARMA project. The following information is from the CARMA website of www.mmarray.org.

The Combined Array for Research in Millimeter-wave Astronomy (CARMA) will merge two university-based millimeter arrays – the Owens Valley Radio Observatory (OVRO) millimeter array -- to form a powerful astronomical tool for the new millennium. At a new high-altitude site in eastern California, CARMA will provide unparalleled sensitivity, broad frequency coverage, sub-arcsecond resolution and wide-field heterogeneous imaging capabilities, along with new innovative technologies and educational opportunities. OVRO and BIMA pioneered millimeter-wavelength interferometry over the last two decades, and CARMA will carry on that legacy by opening new windows through which to see the universe and by training the next generation of radio astronomers.

Water vapor in the lower parts of the Earth's atmosphere absorbs and distorts astronomical signals at millimeter wavelengths. By locating the new array approximately 8000 feet above sea level, these signals are greatly reduced, equivalent to increasing the collecting area of the array by 50-100% without building any new antennas. Once all the antennas from BIMA and OVRO are moved to this high site, CARMA will observe radio emission from molecules and dust throughout our universe. Some of the objects CARMA will observe include nearby starburst galaxies, blue dwarf galaxies, nearby molecular clouds forming clusters of stars, newly-born stars emerging from their present clouds, comets, and the cosmic radiation left-over from the Big Bang. During these observations, CARMA will be operated from a small control building adjacent to the antennas, typically by professional astronomers, university faculty, or students. Minor support and maintenance will be performed at the CARMA high site, while most CARMA operations will be based at OVRO. Further engineering and development will occur at OVRO and the university laboratories.

DATES TO KEEP IN MIND

Monday, March 6, 2006: Regular CLAS Meeting at the Maturango Museum in Ridgecrest, 7:30 p.m.

Wednesday, April 19, 2006: Deadline for next Skywatchers Newsletter

Friday, April 28, 2006: Public Star Party. See below.

Monday, May 3, 2006: Regular CLAS Meeting at the Maturango Museum in Ridgecrest, 7:30 p.m.

STAR PARTY SCHEDULE FOR THE 2006 SEASON:

Star Parties will be held on the dates listed below. Star Parties are an activity where members and guests join together to share views of the skies. If you have a telescope, bring it. If not, come and look through someone else's. Star parties are held at a site in the open desert south of Ridgecrest. To reach the star party 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. Watch for signs and cones, which 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, April 28: Signs out at 8:00 p.m., Star viewing at 8:30 p.m.

Friday, May 26: Signs out at 8:30 p.m., Star viewing at 9:00 p.m.

Friday, June 23: Signs out at 8:30 p.m., Star viewing at 9:00 p.m.

Friday, July 28: Signs out at 8:00 p.m., Star viewing at 8:30 p.m.

Friday, August 25: Signs out at 7:30 p.m., Star viewing at 8:00 p.m.

Friday, September 22: Signs out at 7:30 p.m., Star viewing 7:30 p.m.

Friday, October 20: Signs out at 7:00 p.m., Star viewing at 7:30 p.m.

Friday, November 17: Signs out at 6:00 p.m., Star viewing at 6:30 p.m.

THE SKY IN APRIL (Roger Brower)

1. Venus is in the morning sky and rises about 5 a.m. local daylight time. Look for it low in the east-southeast before dawn.
2. Mercury can be seen very low in the east before dawn in the morning. Look for it about 30 minutes before sunrise.
3. Jupiter rises in the evening, so after midnight it is clearly visible high in the south. Look for rising in the southeast before 11 p.m. on the 1st and only an hour after sunset by month's end.
4. Saturn is still well placed for observation most of the night. Look for it in the east at sunset and watch it move across the sky as night progresses. It is located in the constellation of Cancer just west of the beehive cluster of stars.
5. Mars continues to dim throughout the month but remains brighter than any stars around it. Look for it high in southwest after sunset.
6. On April 1st, no fooling, the crescent moon occults the Pleiades star cluster for those in the east and central US. It will be pretty much over by the time it reaches the west coast.
7. The Lyrid meteor shower peaks on the morning of April 22nd. Look for them in the east after midnight.

ASTRONOMICAL INFORMATION FROM EARL TOWSON

STARDUST SAMPLES INDICATE SOME COMETARY MATERIALS FORMED NEAR THE SUN:

Scientists have long thought of comets as cold, billowing clouds of ice, dust and gases formed on the edges of the solar system. But comets may not be so simple or similar. They may prove to be diverse bodies with complex histories. Comet Wild 2 seems to have had a more complex history than thought. "We have found very high-temperature minerals, which supports a particular model where strong bipolar jets coming out of the early sun propelled material formed near to the sun outward to the outer reaches of the solar system. "It seems that comets are not composed entirely of volatile rich materials but rather are a mixture of materials formed at all temperature ranges, at places very near the early sun and at places very remote from it." One mineral found in the material brought back by Stardust is olivine, a primary component of the green sand found on some Hawaiian beaches. It is among the most common minerals in the universe, but scientists were surprised to find it in cometary dust. Olivine is a compound of iron, magnesium and other elements. The Stardust sample is

primarily magnesium. Along with olivine, the dust from Wild 2 contains high-temperature minerals rich in calcium, aluminum and titanium. The grains are tiny, most smaller than a hair's width. Thousands of them appear to be embedded in the glass-like aerogel. A single grain of 10 microns, only one-hundredth of a millimeter (.0004 inches), can be sliced into hundreds of samples for scientists. For more information about Stardust on the Web, visit: <http://www.nasa.gov/stardust>

HST PLUTO PHOTOS SUPPORT ARGUMENT THAT ALL THREE MOONS FORMED AT SAME TIME: New photographs from the Hubble Space Telescope provide evidence that Pluto and its three moons probably formed at the same time, out of the same material. Scientists believe that the 4 objects were created when two Pluto-sized Kuiper Belt objects collided together. Hubble revealed that that Pluto and its moons have identical colors; exactly what you'd expect from this kind of an origin. The images are available on the Hubble Web site at

<<http://hubblesite.org/newscenter/newsdesk/archive/releases/2006/15/image/>>

JUPITER HAS A NEW RED SPOT: Backyard astronomers grab your telescopes. Jupiter is growing a new red spot. The official name of this storm is "Oval BA," but "Red Jr." might be better. It's about half the size of the famous Great Red Spot and almost exactly the same color. FULL STORY at

http://science.nasa.gov/headlines/y2006/02mar_redjr.htm?list25885

HUBBLE CREATES A COMPOSITE IMAGE OF M101: It's the largest and most detailed photo ever taken of this galaxy. The photo is actually composed of 51 separate Hubble exposures, stitched together on computer. M101 is one of the most popular galaxies for astronomers, because it's seen perfectly face on. You can see the incredible spiraling arms containing dust, stars and large regions of star forming nebulae. The final image is 16,000 by 12,000 pixels.

<http://hubblesite.org/newscenter/newsdesk/archive/releases/2006/10/image/a>

ITEMS FOR SALE

TWO FULL STARLIGHT XPRESS CCD SYSTEMS FOR SALE

MODEL ICX027

500 PIXELS PER LINE X 256 USABLE LINES SONY CHIP ICX027

WITH INTERFACE CARD FOR FRAME GRABBER AND INTERFACE BOX FOR PARALLEL PORT AND SOFTWARE PLUS THE COMPUTER WITH (THE SKY 5) PROGRAM FROM SOFTWARE BISQUE, PROGRAMS - ADOBY PHOTOSHOP, PSP, MAXDM DL, MS PICTURE IT, MADEREADEY, CCD SHARP, CCD OPS, AUTO GUIDER, REG STAR 2, NERO, STARRY NIGHT PRO, OUTLOOK EXPRESS AND 56K MODEM, MANUALS, CABLES. FRAME GRABBER MONITOR AND COMPUTER 15" CRT MONOTER.

ORIGINAL COST WAS OVER \$2000.00 (EACH). ASKING ONLY \$800.00 FOR BOTH. GIVING THE CLAS CLUB FIRST CHANCE AT THIS ONCE IN A LIFETIME INEXPENSIVE WAY TO GET INTO CCD IMAGERY..

JIM LEONARD

760-377-3474

FIRST LIGHT OBSERVATORY. INYOKERN

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	\$51.00 per year
Membership with Sky and Telescope magazine	\$53.00 per year
Membership with both S & T and Astronomy	\$84.00 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 bchurchill@atsecure.net)
SECRETARY – Ted Hodgkinson - 661- 824-2738 (email longeyes@antelecom.net)
TREASURER – Roger Brower - 760-375-1181 (email brower@iwvisp.com)
NEWSLETTER EDITOR – Carroll Evans Jr. - 760-375-5681 (email clevans@ridgenet.net)

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, APRIL 3, 2006: “Mark Hodges, Owens Valley Radio Observatory”

AT THE MATURANGO MUSEUM, 100 EAST LAS FLORES AVE.

CLAS WEB PAGE <http://www1.iwvisp.com/brower/clas.html>

INDEX OF CLAS NEWSLETTERS <http://www.ridgenet.net/~jebush/clas/>