July-August
2010
Volume 58
Issue 4

The Observer

The Newsletter of Central Valley Astronomers of Fresno

In this Issue:

CVA Calendar

July 9-10 –CVA star party at Courtright

July 10-CVA star party at Hensley Lake

July 16-17-CVA Glacier Point weekend

July 17-CVA public star party at RiverPark

July 24-CVA meeting CSUF -7pm

August 6-7-CVA star party at Courtright

August 7-CVA star party at Hensley Lake

August 14-CVA public star party at RiverPark

Astronomical Image of the Month
M13-the great globular in Hercules

M13 is always a wonderful object to view during the summer. One of the largest globular clusters known, it is easily found in the "keystone" in Hercules. See it this summer!

NASA image

Quote of the Month:

It is not from space that I seek my dignity, but from the government of my thought. By space the universe encompasses and swallows me up like an atom, By thought I comprehend the world.

-Blaise Pascal, 1661

● New Moon July 11 ○ Full Moon July 25 ● New Moon August 9 ○ Full Moon August 24

CVA Glacier Point Starwatch July 16-17, 2010!

The Observer is the newsletter of Central Valley Astronomers of Fresno
Established 1952

Web Address:
www.cvafresno.org
Webmaster
Aaron Lusk 559-332-3102
admin@caservers.net

Central Valley Astronomers of Fresno, est 1952

President's Message-

The Luis Mendoza Club Scope is back! Members of the club have wanted to have it for use at star parties for a long time. The scope is a beautiful piece of work. Re-crafted as a truss-scope by Dave Artis, it has become easier to transport. I used it on June 12th at Eastman Lake. Later this summer it will be use at RiverPark and later on at school star parties. If anyone would like to use it, it will be available. It fits in the back of a truck or should fit in a van. Imagine, 20 inches of magnifying power. It was a big hit for the campers at the campgrounds. Of course their first question was "how much does it cost?" Once the wind died down we had amazing dark skies. Using the scope with a dark sky made it one of the better star watching evenings

I am hoping that everyone is adjusting to the earlier times for Hensley Lake. The rangers tell us they can't adjust the gate timing or override the code. Hensley is still one of the best local sites for our club to use. The distance isn't that far from Fresno. We do have fairly decent dark skies. This means that the Milky Way is visible during the summer. There are excellent restroom facilities, no outhouses. Finally, most people know the way there. However we will entertain other sites if you suggest them.

This weekend is the first of our summer star parties. We had our choice of camping at Courtright Reservoir or Eastman Lake. According to Google Maps Eastman Lake is about one mile further from my house and maybe 5 minutes further driving time. The rangers and campers enjoy having use there. They even put a shut off switch on the single parking lot light.

California's Central Valley has two seasons, rain (with fog) and heat. It looks like we are finally settling in for some fine observing weather. I am looking forward to having splendid skies, time to relax and enjoy the skies.

Finally there are only two scheduled launches of the space shuttle program left for NASA. As you know, the aging shuttles are to be retired without having the new shuttle system ready to go. According to the NASA website STS-133 will launch Sept 14th and STS-134 will launch in November TBA. Don't miss these launches. They might be the last for a long time.

Clear skies,
Steve

A message to members of CVA from the editor-

Earlier this year, the CVA *Observer* switched from being a mail out newsletter to an e-newsletter, with only a few exceptions. When each new newsletter is posted on the CVA website, I send out a mass e-mail message informing members of its availability. Each time I've done this, I have a number of e-mails returned, with "no such e-mail address" given as the reason. If you think you have not received an e-mail message about the *Observer,* please send me your current e-mail address-mine is lanparmeter3@hotmail.com.

Many thanks-Larry Parmeter

Profiles in Astronomy

Robert Millikan 1868-1953

Robert Millikan was one of the world's premier physicists, a Nobel Laureate, and college administrator. He also contributed greatly to astronomy during his many years of research and discovery.

Millikan was born in Illinois, and raised in Iowa. He attended Oberlin College in Ohio, and later earned his doctorate in physics from Columbia University. As a professor of physics at the University of Chicago in 1909, Millikan and Harvey Fletcher, one of his doctoral students, conducted the now famous oil drop experiment, which showed that an electron had charge. Millikan had essentially made one of the first discoveries of the quantum revolution, and he won the Nobel Prize in Physics in 1923 for it.

Starting in 1906, Millikan also spent almost ten years studying Einstein's photoelectric effect, and eventually concluded(wrongly) that, although it was valid, it probably was not important in terms of physics theory. He was also the first person to measure the value of Planck's constant by using the photoelectric effect.

In 1917, George Ellery Hale lured Millikan away from Chicago to Pasadena, where he became a professor, and then president of Caltech, a position he would hold until 1945. While at Caltech, he made one of the seminal discoveries in astronomy: confirming the finding of Austrian physicist Victor Hess of mysterious particles raining down on Earth's atmosphere from space. Millikan coined them "cosmic rays." In 1935, he debated Arthur Compton over whether cosmic rays were photons or charged particles(Compton won by showing that they were in fact charged particles).

Millikan died in 1953. He won a number of prizes and honors for his many findings, and the main library at Caltech is named after him.

Source- en.wikipedia,org/wki/Robert_Andrews_Millikan

The CVA Online Store:
http://www.cafepress.com/CVAFresno

The CVA Treasury Report

CVA treasurer Bryan Spicci reports the following:

As of June 2010- in the CVA savings account-$995.98

In the CVA checking account-$304.20

Membership-as of June 2010-71 active paid-up members

CVA Calendar for July-August 2010

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 Cassini orbits Saturn-2004	2	3
4 Independence Day Pathfinder lands on Mars-1997	5	6	7	8	9 CVA Courtright Star Party Fri-Sun	10 CVA Star Party Hensley Lake
11 New Moon Total Solar Eclipse-Pacific Ocean	12	13	14 Mariner 4 flies by Mars-1965	15	16 Glacier Point Weekend begins at Yosemite	17 CVA Public star party at Riverpark
18	19	20 41st annivsary of Apollo 11 Moon walk-1969 Viking 1 lands on Mars-1976	21	22	23	24 CVA meeting at CSUF-7pm
25 Full Moon	26	27	28 Delta Aquarid meteor shower peaks	29	30	31
August 1	2	3	4	5	6 CVA Courtright star party Fri-Sun	7 CVA star party Hensley Lake
8	9 New Moon	10	11	12 Persid meteor shower peaks Ramadam begins for Muslims	13	14 CVA public star party at Riverpark
15	16	17 Phobos and Demos , moons of Mars, discovered in 1877	18	19	20	21
22	23	24 Full Moon Voyager 2 flies By Neptune-1989	25	26	27	28
29	30	31	Sept 1	2	3	4

What's New in Space

SpaceX's Falcon Rocket Launch a Success-and Maybe NASA's New Space "Taxi" by 2013

On June 4, SpaceX's Falcon rocket was successfully launched from Cape Canaveral Air Force Station in Florida. It was a major milestone for SpaceX, headed by Eldon Musk, the billionaire founder of PayPal, and also for NASA, which hopes to use the commercial company to lift cargo and astronauts to the International Space Station. The Falcon, named after Han Solo's spacecraft in the "Star Wars" movies, was launched on schedule, and nine minutes later put an unmanned capsule, named Dragon, into Earth orbit. The capsule is expected to remain in orbit for about a year, then fall back into the atmosphere. Another Falcon launch is now scheduled for August, and if that is successful, a third in December, in which an unmanned Dragon craft will dock with ISS.

The Falcon launch was a key event for NASA; with the ending of the Shuttle program, it is looking for commercial companies to send cargo and crews to the International Space Station over the next five to ten years. NASA currently has a contract with RKA, the Russian Space Agency, to launch astronauts to ISS through 2012. However, many in NASA, and also Congress and the Obama Administration, are concerned about relying on a foreign power for America's manned space ventures. President Obama's decision earlier this year to end the Constellation Program has left NASA without any manned spacecraft after 2010(although Shuttle flights may be extended into 2011). With the success of the Falcon launch, Musk says that if SpaceX gets a contract from NASA by the end of this year, it can start sending unmanned Dragon cargo capsules to ISS in 2011, and manned flights to the space station in 2013. It also plans to have commercial spaceflights for paying passengers by 2016.

SpaceX's Dragon capsule has been under development since 2005, and is the result of a grant from NASA to develop alternative manned and unmanned spaceflight capabilities. Slightly larger than the Apollo capsule of the 1960s and 70s, it consists of a cone shaped pressurized module which can be used for unmanned cargo or manned missions, and an unpressurized cylindrical service and engine module with extendible solar panels. In unmanned configuration, the capsule can hold up to 13,500 (Earth) pounds of cargo; in manned configuration, it can carry up to seven astronauts. It has lifting body aerodynamics, can make pinpoint Earth landings, and can be reused up to twenty times. It is designed to be fully autonomous and automatic for launch, orbital maneuvers, docking, and reentry, but will also have manual overrides if the crew needs to take over control during manned missions. The manned version will also have an emergency escape system in the event of a problem during launch. At present, Dragon is designed to splash down for water landings, but future versions may incorporate dry land touchdown capabilities.

The Falcon-Dragon spacecraft system is not intended for long duration missions, but for "taxi" flights lasting no more than a few days, and a week at the most, at a time. For now, it is designed to be used solely for LEO(low earth orbit) flights.

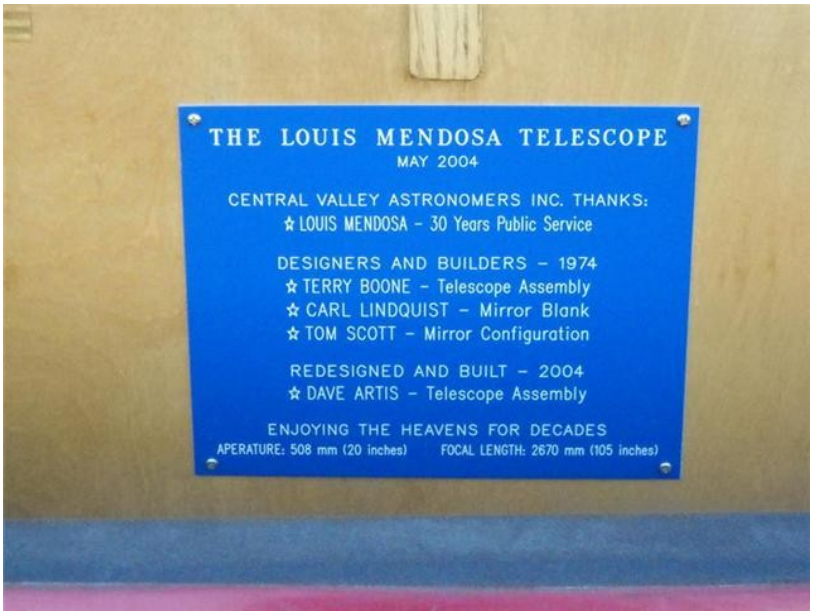
CVA Star Party at Eastman Lake, June 12, 2010-Along with the Louis Mendoza Telescope

On June 12, CVA hosted an outstandingly successful star party at Eastman Lake north of Madera, which is looking ore and more like a permanent star party site. Among the scopes there was the CVA club telescope, the 20" reflector which in recent years has gone by the name of "Big Blue." It has been renamed the Louis Mendoza Telscope in honor of Louis, who took care of it for many years. Here, then are some images of the telescope and that auspicious evening, which hopefully will be the first of many summer nights at Eastman.

Where's the other half? It's got to be around here somewhere!

Ah, there it is!! Just as I always remembered it!!

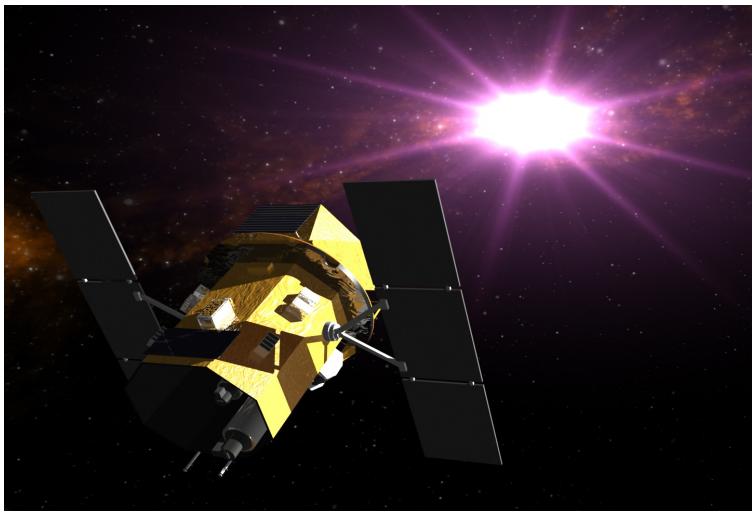
The plaque on the side honoring Louis for 30 years of service to CVA, and at least 20 as the guardian of the telescope



Set up and ready to go for many more years of viewing the heavens

Eastman Lake star party-getting set up for the night

NASA'S SWIFT SURVEY FINDS 'SMOKING GUN' OF BLACK HOLE ACTIVATION

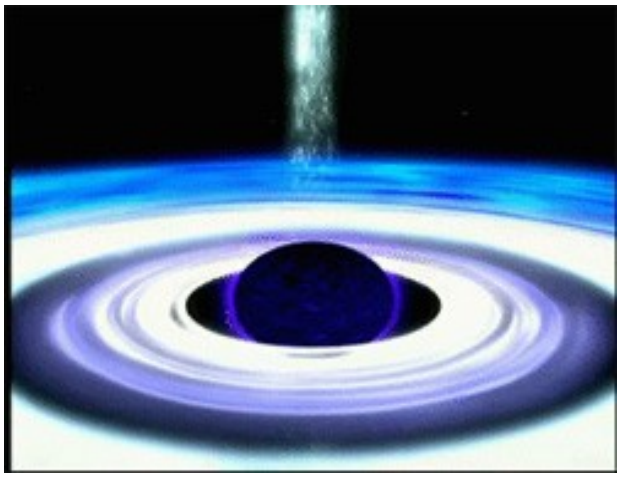


Data from an ongoing survey by NASA's Swift satellite have helped astronomers solve a decades-long mystery about why a small percentage of black holes emit vast amounts of energy.Only about one percent of supermassive black holes exhibit this behavior. The new findings confirm that black holes "light up" when galaxies collide, and the data may offer insight into the future behavior of the black hole in our own Milky Way galaxy. The study will appear in the June 20 issue of The Astrophysical Journal Letters.

The intense emission from galaxy centers, or nuclei, arises near a supermassive black hole containing between a million and a billion times the sun's mass. Giving off as much as 10 billion times the sun's energy, some of these active galactic nuclei (AGN) are the most luminous objects in the universe. They include quasars and blazars. "Theorists have shown that the violence in galaxy mergers can feed a galaxy's central black hole," said Michael Koss, the study's lead author and a graduate student at the University of Maryland in College Park. "The study elegantly explains how the black holes switched on."

Until Swift's hard X-ray survey, astronomers never could be sure they had counted the majority of the AGN. Thick clouds of dust and gas surround the black hole in an active galaxy, which can block ultraviolet, optical and low-energy, or soft X-ray, light. Infrared radiation from warm dust near the black hole can pass through the material, but it can be confused with emissions from the galaxy's star-forming regions. Hard X-rays can help scientists directly detect the energetic black hole. Since 2004, the Burst Alert Telescope (BAT) aboard Swift has been mapping the sky using hard X-rays.

"Building up its exposure year after year, the Swift BAT Hard X-ray Survey is the largest, most sensitive and complete census of the sky at these energies," said Neil Gehrels, Swift's principal investigator at NASA's Goddard Space Flight Center in Greenbelt, Md. The survey, which is sensitive to AGN as far as 650 million light-years away, uncovered dozens of previously unrecognized systems. "The Swift BAT survey is giving us a very different picture of AGN," Koss said. The team finds that about a quarter of the BAT galaxies are in mergers or close pairs. "Perhaps 60 percent of these galaxies will completely merge in the next billion years. We think we have the 'smoking gun' for merger triggered AGN that theorists have predicted."



Swift, launched in November 2004, is managed by Goddard. It was built and is being operated in collaboration with Penn State, the Los Alamos National Laboratory in New Mexico, and General Dynamics in Falls Church, Va.; the University of Leicester and Mullard Space Sciences Laboratory in the United Kingdom; Brera Observatory and the Italian Space Agency in Italy; plus additional partners in Germany and Japan. Other members of the study team include Richard Mushotzky and Sylvain Veilleux at the University of Maryland and Lisa Winter at the Center for Astrophysics and Space Astronomy at the University of Colorado in Boulder.

From NASA-gov

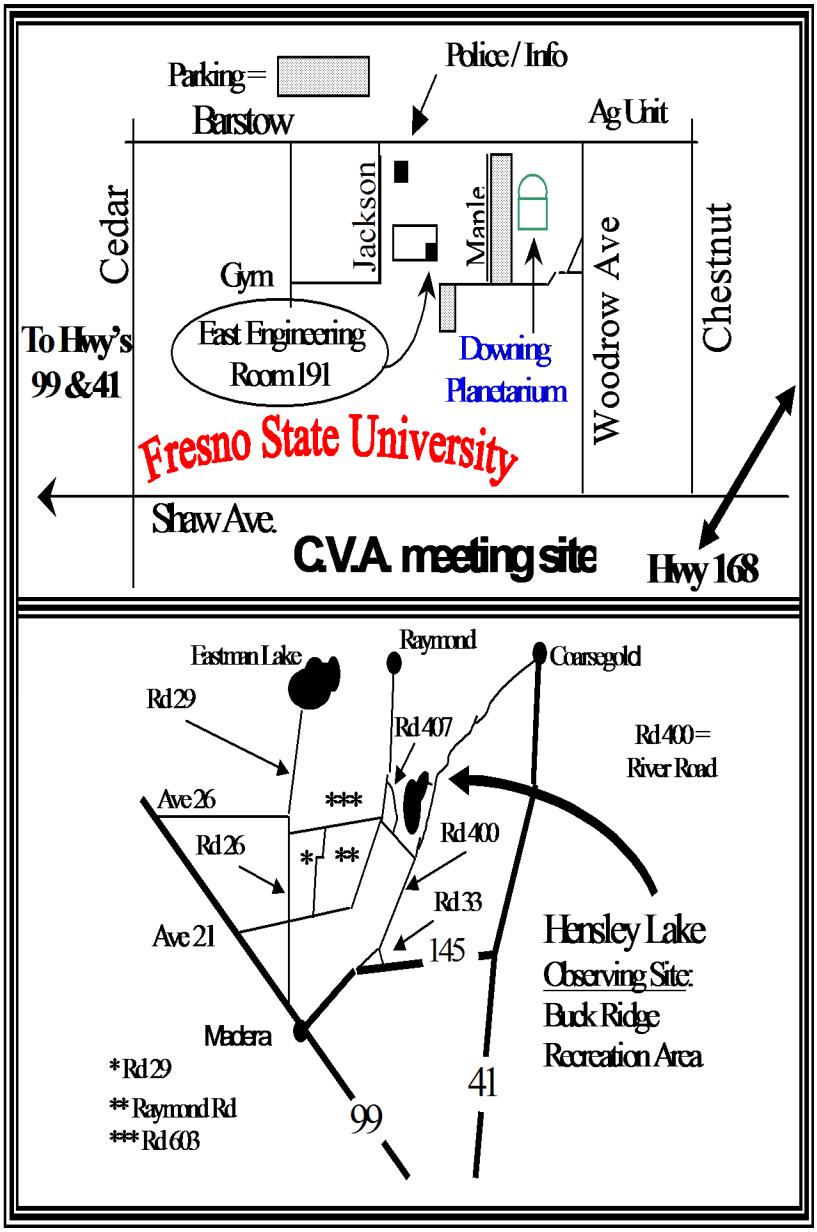
Number of extra-solar planets found as of June 1, 2010-455
How many more are out there?

Astronomical Trivia

Last issue's astronomical trivia question: What was the planet that the Greeks called Cytheria?

Steve Harness came up with the correct answer- Venus. Even today, when scientists want to refer to Venus in the adjective form, they will often use the word *Cytherian*. After all, it sounds better than Venerian or Venereal, with its hanky-panky implications.

This issue's trivia question-What was author Mark Twain's famous saying about his birthdate and possible death date?



Larry Parmeter is the editor of

The Observer

phone # 559-276-8753

E-mail lanparmeter3@hotmail.com

Deadline for articles submission for the September-October 2010 issue- October 15

A Tale of Hale

George Ellery Hale was a noted solar astronomer in his own right, and was responsible for the Yerkes 48" refractor telescope and the 100" Hooker reflector telescope at Mount Wilson in Southern California. But his greatest achievement was the 200" Palomar Telescope, which now bears his name. When Hale first conceived it in the 1920s, he wanted it to be 300", but realized that the technology of the time was not advanced enough to build such an instrument. He scaled it down to 200" and persuaded the Rockefeller Foundation to fund it. Then he ran into a problem: Hale wanted the 200" to be owned by the Mt. Wilson Observatory in Pasadena, which he directed. Mt. Wilson, though, was funded by the Carnegie Institution, and the Rockefellers were not about to give any money to a Carnegie project. Hale, who was also on the board of trustees of the nearby California Institute of Technology, eventually figured out a solution: Caltech would build and "own" the 200", and the Mt. Wilson Observatory could use it anytime it wanted. Furthermore, Hale had all the Mt. Wilson astronomers designated Caltech professors, although they were still paid by the Observatory, and none of them ever taught Caltech classes. However convoluted the hoop-jumping was, it worked. Hale got the money in 1928, the telescope was built between 1934 and 1948(work on it was stopped during WWII) and Mt. Wilson and Caltech shared it for many years. The arrangement was finally ended in 1978, when Caltech legally took over the telescope for good.