



# The Spectrum

Newsletter of the Western Colorado  
Astronomy Club



Members of the Astronomical  
League, MARS Region



Members of the International  
Dark-Sky Association

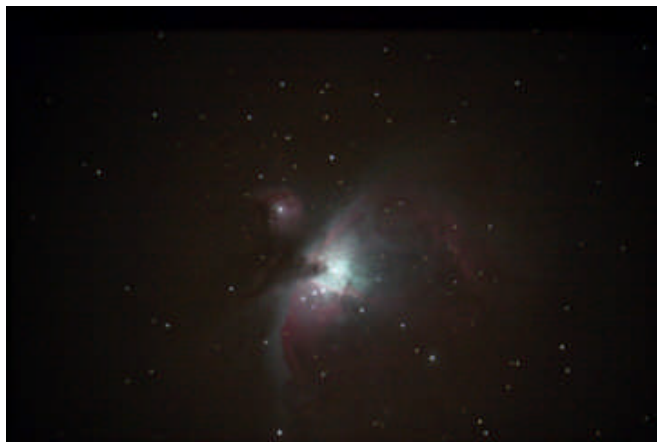
Volume 21, Issue 1

May - July 2009

## Eventful New Year

By David Copley

We are off to a fine start in '09. The Messier Marathon of Mar. 27<sup>th</sup> and 28<sup>th</sup> was our first event of the new year. On Friday, several of our members hosted the group from Brown University. Ricky was able to catch 109 of the 110 Messier objects with his 12 inch Meade SCT. Charlie also captured a nice view of M42, seen here. He also photographed several M's with his Canon DSLR.



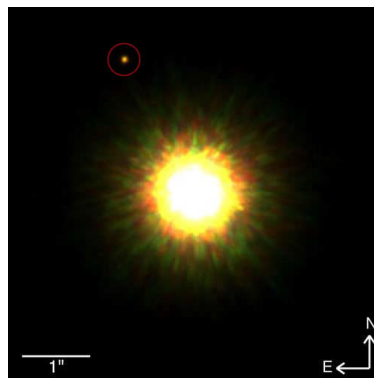
M42 by Charlie Liggett Stack of 4, 30 second exposures

Then on Saturday, a few members tried to repeat the success of the previous night but the weather deteriorated after 10 PM. Hank captured seventeen Me's doing it the old fashioned way of using the setting circles on his telescope and searching the area until he located his quarry.

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## Gemini North telescope captures first picture of likely planet

Three University of Toronto scientists used the Gemini North telescope on Mauna Kea in Hawaii to take images of the young star IRXS J160929.1-210524 (which lies about 500 light-years from Earth) and a candidate companion of that star. They also obtained spectra to confirm the nature of the companion, which has a mass about 8 times that of Jupiter, and lies roughly 330 times the Earth-Sun distance from its star. For comparison, the most distant planet in our solar system, Neptune, orbits the Sun at only about 30 times the Earth-Sun distance. The parent star is similar in mass to the Sun, but is much younger.



"This is the first time we have directly seen a planetary mass object in a likely orbit around a

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## **WESTERN COLORADO ASTRONOMY CLUB**

The Western Colorado Astronomy Club formed in 1989 as a non-profit organization for the purpose of astronomy education. Members have a wide range of skill levels from beginner to advanced. Club activities include observing, astrophotography, telescope making, and discussion and lectures related to astronomy. Meetings are held at 7:00 PM on the first Tuesday every month at Mesa State College in the Weldon room of the Horace Wubben science building. Monthly observing sessions are held throughout the Western Slope, including an annual star party lasting several days and nights including camping and observing. Club members visit schools in District #51 at various times to give telescope viewing time to the students, and to lecture on astronomy-related science and current events. Several times a year we visit the Colorado National Monument and Highline Lake Park for observing and public outreach events. The club also presents an annual program at Mesa Mall to recognize astronomy day in our community.

Membership is open to anyone interested in astronomy and the night sky -- no telescope is required! Several loaner telescopes are available for members who complete the requisite training in their use. We are members of the IDA (International Dark-Sky Association) and the AL (Astronomical League). Membership benefits include discounted astronomical publications, AL services, and newsletters. Also an annual national event takes place in various areas of the United States. For current events log onto the internet and visit the WCAC web site, at:

[www.wcacastronomy.org](http://www.wcacastronomy.org)

### **WCAC OFFICERS for 2008-2009**

President	David Copley	434-4364
Vice President	Jim McSheehy	243-2887
Treasurer	Blanche Godel	241-1482
Secretary	Dave Bertrand	434-6055
Community Liaison	Jeff Dershem	243-1351
Newsletter Editor	David Copley	434-4364
Web Master	Jim Maddox	243-2353
ALCor Representative	Jim McSheehy	243-2887

## **Upcoming Events**

Please note that all event dates and times are subject to change. Check our web site at:

<http://www.wcacastronomy.org>

or for the latest information please visit our Yahoo group calendar at:

<http://groups.yahoo.com/group/WCAC-Group/cal>

May 16<sup>th</sup> Public Viewing Event at Highline Lake State Park, Starts at 9 PM

June 19 – 21 Annual WCAC Star Party at the Saddlehorn camp ground in the Colorado National monument

July 25<sup>th</sup> Public Viewing Event at Highline Lake State Park, Starts at 9 PM

August 22<sup>nd</sup> CNMA volunteer event at Saddlehorn, Starts at sundown

Sept. 19<sup>th</sup> CNMA volunteer event at Saddlehorn, Starts at sundown

Oct. 17<sup>th</sup> CNMA volunteer event at Saddlehorn, Starts at sundown

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Our Colorado National Monument Association events were clouded out on both the April 4<sup>th</sup> and April 25<sup>th</sup> dates. Hopefully we will have more luck for our next CNMA events starting on August 22<sup>nd</sup>.

On April 28<sup>th</sup> we were invited to Loma Elementary for an observational program for a group of third graders on the Constellations. This time the atmosphere cooperated and we were able to give the students some great views of Saturn and various other celestial eyecandy. Thanks to all the members who attended. \*

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## Gemini North...

star like our Sun," said David Lafrenicre, lead author of a paper submitted to the *Astrophysical Journal Letters* and also posted online.

"If we confirm that this object is indeed gravitationally tied to the star, it will be a major step forward."

Until now, the only planet-like bodies that have been

directly imaged outside of the solar system are either free-floating in space (i.e. not found around a star), or orbit brown dwarfs, which are dim and make it easier to detect planetary-mass companions.

The existence of a planetary-mass companion so far from its parent star comes as a surprise and poses a challenge to theoretical models of star and planet formation. "This discovery is yet another reminder of the truly remarkable diversity of worlds out there, and it's a strong hint that nature may have more than one mechanism for producing planetary mass companions to normal stars," said Ray Jayawardhana, team member and author of a forthcoming book on extrasolar planets titled *Worlds Beyond*. He's also a contributing editor to *Astronomy* magazine.

The team's Gemini observations took advantage of adaptive optics technology to dramatically reduce distortions caused by turbulence in Earth's

atmosphere. The near-infrared images and spectra of the suspected planetary object indicate that it is too cool to be a star or even a more massive brown dwarf, and that it is young. Taken together, such findings confirm that it is a very young, very low-mass object at roughly the same distance from Earth as the star.

Even though the likelihood of a chance alignment between such an object and a similarly young star is rather small, it will take up to 2 years to verify that the star and its likely planet are moving through space together. "Of course, it would be premature to say that the object is definitely orbiting this star, but the evidence is extremely compelling. This will be a very intensely studied object for the next few years!" said Lafrenicre.

Team member Marten van Kerkwijk described the group's search method. "We targeted young stars so that any planetary mass object they hosted would not have had time to cool, and thus would still be relatively bright," he said. "This is one reason we were able to see it at all."

The Jupiter-sized body has an estimated temperature of about 1800 Kelvin (about 1500° C), much hotter than Jupiter, which has a temperature of about 160 Kelvin (-110° C). Its likely host is a young star of type K7 with an estimated mass of about 85 percent that of the Sun.

The work that led to this discovery is part of a survey of more than 85 stars in the Upper Scorpius association, a group of young stars formed about 5 million years ago. It uses the Gemini telescope's high-resolution adaptive optics capabilities to determine the different types of companions that can form around young stars: stars, brown dwarfs, or planetary mass objects. "This discovery certainly has us looking forward to what other surprises nature has in stock for us," said Van Kerkwijk. \*

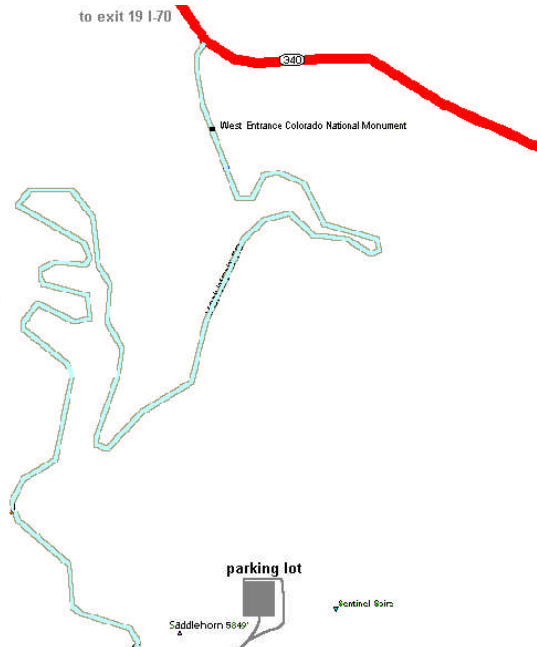
## WCAC Star Party 2009

Our annual star party is set for June 19<sup>th</sup> through the 21<sup>st</sup>. It will be in Loop C at the Saddlehorn Camp Ground in the Colorado National Monument. This year may be a bit lean on the raffle items due to the economy but we always have a great time!

You do not need to camp or to bring a telescope. You do need to bring your eyes, children, red flashlight and a dish for our annual pot luck dinner on Saturday night.

To get there just take the Fruita Exit off of I-70 (Exit 19) and head south in a “round-a-bout” way! Head south on SR 340 for about 2.9 miles and turn right onto the Colorado National Monument Rim Rock Drive. Stop at the entrance booth, pay the attendant \$7 and then drive 4 miles up Rim Rock Drive until you get to the entrance to the Saddlehorn Camp Ground. The entrance is at the top of a hill so be prepared for a left turn. Turn left towards the campground if you are camping, go straight down Saddlehorn Road if you are not staying the night and park in the Saddlehorn Picnic area. If you are camping, continue down the Saddlehorn Road on the left (this is two left turns off of rim Rock Road) and look for Loop C. There will be signs posted as of Friday afternoon so you shouldn't get lost.

Since we are guests in the National Monument, we ask that you observe their rules and regulations. As of this writing, it was not clear as to whether they were going to allow loaded guns in the Monument but we ask that neither you nor your gun be loaded during our Party!



There are toilets available as well as water and trash cans. There are no electrical hookups or sanitary facilities for RV's. As the saying goes, pack out what you pack in! There are no open fires or fireworks allowed but barbeque pits and grills are provided. We ask that only red flashlights be used after dark (that means the beam is red, not the outside coloring of the flashlight!) and that only driving lights be used after dark. Drive slow so you do not run over any budding astronomers!

It can get pretty warm during the day and cool at night. Temperatures range from the upper 80's down to the lower 30's. Dress appropriately. Sunbathing is permitted. Just remember that some of us have mammoth binoculars!

Come join us for our one and only WCAC Annual Star Party 2009! You will have some fantastic views of an edge-on Saturn, a bunch of galaxies, star clusters and even a comet!



Pot luck dinner



Setting up at the parking lot

# Colorado West Star Party 2009 Registration

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_  
State \_\_\_\_\_ Zip \_\_\_\_\_  
e-mail \_\_\_\_\_  
Affiliation \_\_\_\_\_

Please select your preference:

Camp Site (limited availability)  
 Open observing area  
Number in Party \_\_\_\_\_

Suggested Donation is \$20 per attendee,  
additional family members are free. WCAC  
is a non-profit organization and your  
donation may be tax deductible.

\$20 or  Other \$ \_\_\_\_\_

*Note: All attendees must purchase a Colorado National  
Monument Park Pass for \$7 per vehicle (valid at CNM  
for seven days). Park Service staff at the entrance gate  
will collect this fee. please do not send it with your star  
party registration form.*

Please make checks payable to WCAC,  
And mail to:

WCAC SP09 Registration  
P.O. Box 40537  
Grand Junction, CO 81504

**Thanks!**

## • Spacewalkers to Begin Final Task of First Spacewalk

Thu, 14 May 2009 12:07:00 PM MDT

The spacewalkers have successfully completed the installation of the new SIC&DH into the telescope and the old unit into its carrier in the space shuttle's payload bay. Grunsfeld also installed a soft capture mechanism, which will allow future vehicles to attach to the telescope. The mechanism was attached to the flight support system that connects the shuttle to the telescope.

Their final scheduled task for the day will be to install three latch-over-center kits that will allow for faster opening and closing of the telescope doors during the third spacewalk.

Mission specialists John Grunsfeld and Drew Feustel kicked off STS-125's first spacewalk at 8:52 a.m. EDT.

During the 6½ hour excursion, the pair will remove the Wide Field Planetary Camera 2 and replace it with a new wide-field camera. The new camera will allow the telescope to take large-scale, clear and detailed photos over a wide range of colors.

The spacewalkers' next major task will be the replacement of the Science Instrument Command and Data Handling Unit. The computer sends commands to Hubble's science instruments and formats science data for transmission to the ground.

If time permits, Feustel and Grunsfeld will install a soft capture mechanism, which will allow future vehicles to attach to the telescope.

Their final scheduled task for the day will be to install three latch-over-center kits that will allow for faster opening and closing of the telescope doors during the third spacewalk.



Application for Membership in the Western  
Colorado Astronomy Club

New \_\_\_\_\_ Renewal \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

TEL: Home ( ) \_\_\_\_\_ Work ( ) \_\_\_\_\_

E-mail: \_\_\_\_\_

Other Interests: \_\_\_\_\_

How did you hear about the club? \_\_\_\_\_

**Please Circle all that apply:**

Regular Membership: \$35 \$ \_\_\_\_\_

Associate: (age 22 and younger) \$15 \$ \_\_\_\_\_

Sky and telescope Magazine \$32.95 \$ \_\_\_\_\_

Astronomy Magazine \$34.00 \$ \_\_\_\_\_

Donation to Colorado Astronomy \$ \_\_\_\_\_

Day events at Lincoln Park \$ \_\_\_\_\_

TOTAL \$ \_\_\_\_\_

Please make checks payable to Western Colorado  
Astronomy  
Club (WCAC) and mail with form to: WCAC Treasurer, PO  
Box 40537, Grand Junction, CO 81504

***Don't miss our monthly  
meetings!***

The Western Colorado Astronomy Club meets on the first Tuesday of every month at 7 PM, and all members, invited guests, and visitors are welcome. Meetings are held at Wubben lecture hall on the Mesa State College downtown campus (1175 Texas Ave.). For additional information and directions, please visit our web site at:

<http://www.wcacastronomy.org/>

Western Colorado Astronomy Club  
PO Box 40537  
Grand Junction CO 81504

Address Correction Requested