

IO - February 2011

Issue 2011-02
Eugene Astronomical Society

Eugene Astronomical Society
Annual Club Dues \$25
President: Sam Pitts - 688-7330
Secretary: Jerry Oltion - 343-4758
Additional Board members:
Jacob Strandlien, Tony Dandurand,
John Loper.

www.eugeneastro.org

EAS is a proud member of:

The Astronomical League
The World's Largest Federation of Amateur Astronomers



Next Meeting: Thursday, February 24th

Seeing the Unseen: The Discovery of Dark Matter and Dark Energy

Bernard W. Bopp

Astronomers, both amateur and professional, savor the visible splendor of the stars, nebulae and galaxies. The twentieth century extended the observable spectrum toward longer and shorter wavelengths, revealing a universe of even greater marvels and beauty.

But this is only the tip of the iceberg. Our twenty-first century understanding of the universe reveals that observable matter is a tiny fraction of the total mass of the universe. Over 90% of all that exists is, quite literally, “unseen,” consisting of “dark matter” and “dark energy” whose composition and behavior is not yet understood.

This presentation will summarize our current understanding of dark matter and energy. How can we know such matter exists if it is invisible? What is the observational evidence for dark matter and energy? Finally, what does the existence of dark matter and energy imply for the future evolution of the universe itself?

In addition to Bernard’s talk, Jacob Strandlien will present the astronomical news of the month. We also encourage people to bring any new gear or projects they would like to show the rest of the club. The meeting is at 7:00 on February 24th at EWEB’s Community Room, 500 E. 4th in Eugene.

Next First Quarter Friday: February 11th

Our January star party was clouded out. Let’s hope for better luck this month.

First Quarter Fridays are laid-back opportunities to do some observing and promote astronomy at the same time. Mark your calendar and bring your scope to the College Hill Reservoir (24th and Lawrence in Eugene) and share the view with whoever shows up.

Here are the dates for First Quarter Fridays through December of 2011:

February 11	May 13	August 5	November 4
March 11	June 10	September 2	December 2
April 8	July 8	October 7	December 30

January Meeting Report

Our January 27th meeting was our annual telescope workshop. Two people brought telescopes to learn how to set up and use, and two others came to just talk with EAS members and learn about astronomy. We had a lively discussion and much fun setting up the telescopes (a small refractor and a small reflector). The sky was clear enough to let us go outside with the scopes and actually point them at something. We were able to see Jupiter and its moons and its one atmospheric band in the refractor and we were able to see the Orion Nebula in the reflector — a significant feat considering the light pollution surrounding the EWEB grounds. You can definitely tell that we meet on the campus of an electric company.

Tony Dandurand brought a new addition to our telescope lending library. He took a 4.5" reflector that had been on a shaky equatorial mount and turned it into a nice, smooth-running Dobsonian scope. This is about as grab-and-go as you can get, and yet its 4.5" aperture provides a decent view of the planets and the Moon and many deep-sky objects. All the Messier objects are within easy reach of a scope this size, as are most of the Caldwell's and many NGCs.

This scope is great for kids. It's just the right height for them to wrap their arms around while looking through the finder in what Tony calls the "hug and point" system.

The scope is finished and ready to be loaned out to club members. Contact Tony at [tdandurand at comcast.net] or by phone at 541-726-8147 if you'd like to borrow it.



Our next meeting will be on Thursday, February 24th, at 7:00 PM in the EWEB north building's Community Room. This is the first room in the semicircular building to the north of the fountain at EWEB's main campus on the east end of 4th Avenue.

Meeting dates for 2011: (All meetings are at 7:00 in the Community Room)

February 24

May 26

August 25

November 10

March 24

June 23

September 22

December 22

April 28

July 28

October 27





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Thank You Castle Storage

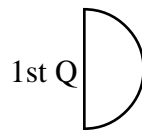
For the last three years, Castle Storage has generously provided EAS a place to store its telescopes and equipment. EAS would like to thank Castle Storage for their generosity and support for our group. Please give them a call if you need a storage space, and tell your friends. They are great people and offer secure and quality storage units.



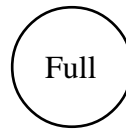
Observing in February



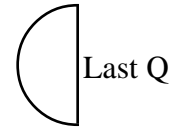
New



1st Q



Full



Last Q

February 2	February 10	February 18	February 24
Mercury Rise: 6:52 AM	Mercury Rise: 7:02 AM	Mercury Behind Sun	Mercury Behind Sun
Venus Rise: 4:37 AM	Venus Rise: 4:46 AM	Venus Rise: 4:53 AM	Venus Rise: 4:56 AM
Mars Behind Sun	Mars Behind Sun	Mars Behind Sun	Mars Behind Sun
Jupiter Set: 9:33 PM	Jupiter Set: 9:10 PM	Jupiter Set: 8:47 PM	Jupiter Set: 8:30 PM
Saturn Rise: 10:41 PM	Saturn Rise: 10:09 PM	Saturn Rise: 9:36 PM	Saturn Rise: 9:11 PM
Uranus Set: 9:12 PM	Uranus Set: 8:43 PM	Uranus Set: 8:13 PM	Uranus Set: 7:51 PM
Neptune Set: 6:34 PM	Neptune Set: 6:05 PM	Neptune Behind Sun	Neptune Rise: 6:46 AM
Pluto Rise: 5:03 AM	Pluto Rise: 4:33 AM	Pluto Rise: 4:02 AM	Pluto Rise: 3:39 AM

All times: Pacific Standard Time (Nov 7, 2010-March 12, 2011) = UT -8 hours or U.S. Pacific Daylight Time (March 14-November 6, 2010) = UT -7 hours.

Date	Moonrise	Moonset	Sunrise	Sunset	Twilight Begin	Twilight End
2/2/2011	06:33	16:21	07:30	17:22	05:51	19:02
2/2/2011	07:03	17:26	07:29	17:24	05:50	19:03
2/3/2011	07:29	18:29	07:28	17:25	05:49	19:04
2/4/2011	07:52	19:30	07:27	17:27	05:48	19:05
2/5/2011	08:13	20:31	07:25	17:28	05:47	19:06
2/6/2011	08:34	21:31	07:24	17:29	05:46	19:08
2/7/2011	08:56	22:32	07:23	17:31	05:45	19:09
2/8/2011	09:19	23:34	07:22	17:32	05:44	19:10
2/9/2011	09:45		07:20	17:34	05:43	19:11
2/10/2011	10:16	00:36	07:19	17:35	05:41	19:13
2/11/2011	10:54	01:38	07:18	17:36	05:40	19:14
2/12/2011	11:40	02:40	07:16	17:38	05:39	19:15
2/13/2011	12:35	03:37	07:15	17:39	05:38	19:16
2/14/2011	13:40	04:29	07:13	17:40	05:36	19:18
2/15/2011	14:52	05:14	07:12	17:42	05:35	19:19
2/16/2011	16:10	05:53	07:10	17:43	05:34	19:20
2/17/2011	17:29	06:27	07:09	17:45	05:32	19:21
2/18/2011	18:49	06:57	07:07	17:46	05:31	19:23
2/19/2011	20:08	07:25	07:06	17:47	05:29	19:24
2/20/2011	21:27	07:54	07:04	17:49	05:28	19:25
2/21/2011	22:45	08:24	07:03	17:50	05:26	19:26
2/22/2011		08:57	07:01	17:51	05:25	19:28
2/23/2011	00:01	09:35	07:00	17:53	05:23	19:29
2/24/2011	01:12	10:19	06:58	17:54	05:22	19:30
2/25/2011	02:16	11:11	06:56	17:55	05:20	19:31
2/26/2011	03:11	12:09	06:55	17:57	05:19	19:33
2/27/2011	03:57	13:10	06:53	17:58	05:17	19:34
2/28/2011	04:35	14:14	06:51	17:59	05:15	19:35

Items of Interest This Month

Last chance at Jupiter and Uranus for the next few months.

Saturn becomes visible before midnight this month. Look directly above Spica.

2/3 Europa shadow transit starts 7:29 PM

2/6 Jupiter near Moon in evening

2/8-10 Venus near Vesta in morning sky

2/11 First Quarter Friday Star Party

2/16 Io shadow transit 5:14 - 7:26 PM

End of month: Good time to look for zodiacal light above Jupiter an hour or so after sunset.



For Current Occultation Information

Visit Derek C. Breit's web site

"BREIT IDEAS Observatory"

<http://www.poyntsource.com/New/Regions/EAS.htm>

Go to Regional Events and click on the Eugene, Oregon section. This will take you to a current list of Lunar & asteroid events for the Eugene area. Breit continues to update and add to his site weekly if not daily. This is a site to place in your favorites list and visit often.

All times are for Eugene, Oregon, Latitude 44° 3' Longitude 123° 06' for listed date

Observing Highlight: Schiller Crater

Most lunar craters are round. That's because nearly everything that hits the Moon strikes with such force that it creates an explosion rather than simply gouging out a hole. A few craters, however, are elongated. These are assumed to be from impacts that were so oblique that the asteroid smeared itself across the surface while it disintegrated, creating a linear explosion that left an elongated crater.

Schiller, in the southwest quadrant of the Moon, is perhaps the best example of such a crater. It appears to be a double impact, perhaps when an approaching asteroid was torn apart by tidal forces just before it struck. (There would be time for that to happen with an oblique impact, unlike with a straight-on hit.)

Schiller shares a feature common to many craters: a central mountain peak caused by rebounding crustal material. Only in Schiller's case, that peak is elongated, too, creating a central ridge instead. The southern half of Schiller is flooded with lava, erasing any peak that might have been there right after the impact.

The best time to observe Schiller is during the waxing gibbous or the waning crescent phases, when the terminator is near Mare Humorum. The crater changes its appearance over several days around this time, so check it out on more than just one night.

There are several other elongated craters on the Moon. See if you can find some on your own, but if you get stumped, here's a website with a list: <http://the-moon.wikispaces.com/Oblique+Impact+Craters>

Happy hunting!

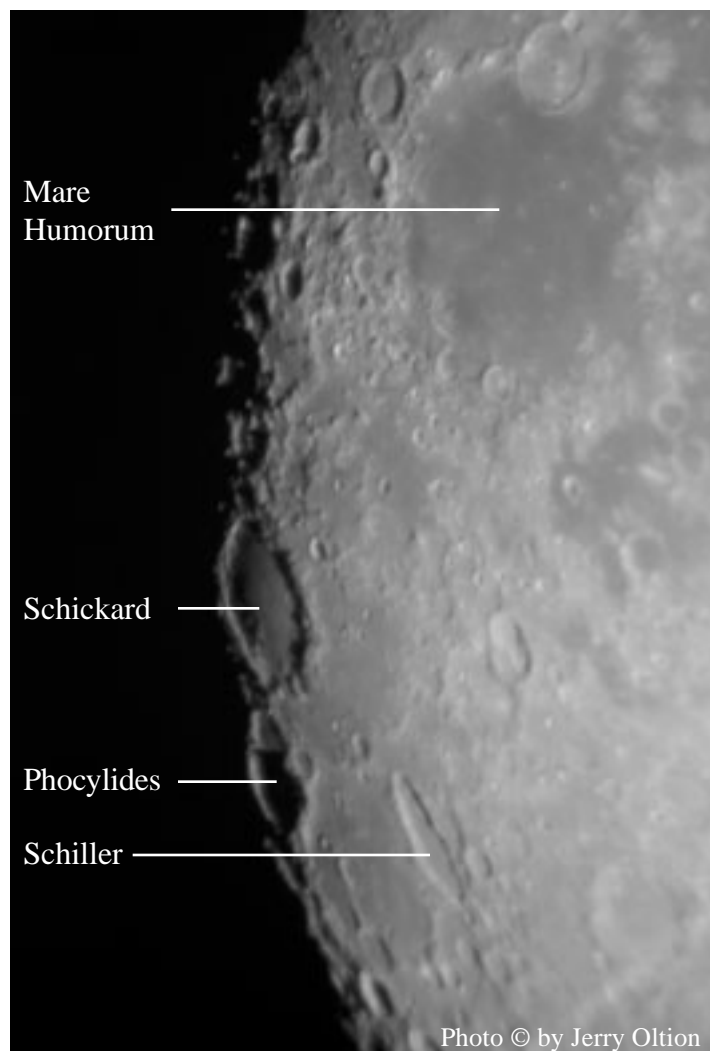


Photo © by Jerry Oltion

Schiller and environs

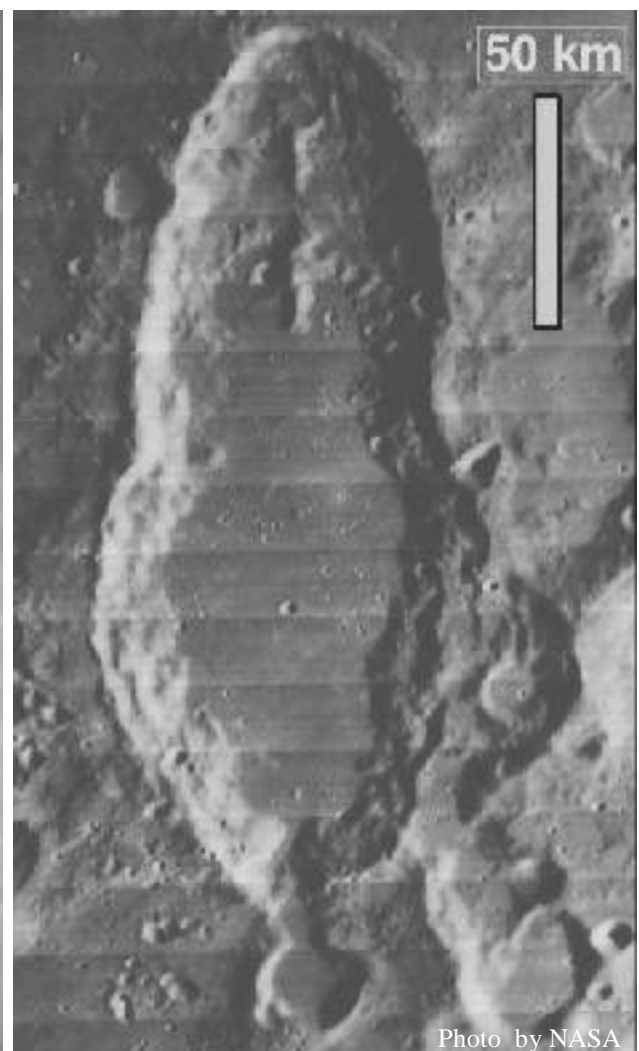


Photo by NASA

Schiller from overhead

EAS Reflectors Range from Little to...Not So Little

Quick-Deploy Club Scopes Available

by Tony Dandurand

The winter of 2010 -11 has, so far, turned out to be a real winter, often with only occasional, fleeting night sky viewing opportunities. Most of my viewing this winter has been in little snippets of 5 - 20 minutes. If you're missing the grand winter sights because setting up takes too long, consider checking out one of your club's smaller (4.5 - 10") dobs or the 10" trackball.

Most of these scopes can be carried out, set up, and viewing in a couple of minutes. Even a few minutes of checking out Jupiter, the Orion Nebula, the Double Cluster, and other easy-to-find winter targets helps keep the winter blues away. Contact Tony Dandurand [tdandurand at comcast.net] to have one of your club scopes put on stand-by at your house.



The club's 18" and 4.5" scopes. We have several inbetween sizes, too. Check one out!

Call for Articles

This is one of the smallest issues of the *Io* in recent memory. Help us fill next month's issue with more articles written by our own club members. Write about your favorite aspect of astronomy, be it observing, tinkering with the equipment, favorite tricks for setting up your scope, or whatever else you think others might find interesting. Do you have a special area of knowledge or an unusual astronomical experience that others would like to hear about? Write about it for the *Io*!

Send your articles to the *Io* editor, Jerry Olton, at [j.oltion at sff.net].