

IO - December 2010

Issue 2010-12
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, December 23rd

Swap Meet & Potluck Get-Together

Our December meeting will be a chance to visit and share a potluck dinner with fellow amateur astronomers, plus swap extra gear for new and exciting equipment from somebody else's stash. Bring some food to share and any astronomy gear you'd like to sell, trade, or give away.

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 December 23rd at EWEB's Community Room, 500 E. 4th in Eugene.

Next First Quarter Friday: December 10th

Our November 12th star party went well despite some high clouds. The Moon and Jupiter burned through them, and Jupiter put on a nice show with three of its moons drifting past one another over the course of a couple of hours. We also found open and globular clusters and double stars in the gaps between clouds; enough to entertain the 30-40 visitors we had. Let's hope for equal or 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:

December 10	January 14	February 11	March 11
April 8	May 13	June 10	July 8
August 5	September 2	October 7	November 4
December 2	December 30		

Call For Equipment Donations

The EAS was recently given a beautiful orange-tube Celestron 8 SCT telescope (see p.6). It didn't come with a visual back, diagonal, or eyepieces. It also needs a 12-volt battery pack to run the drive. If you have spares of any of these items you would like to donate to accompany this scope in our lending library, contact Tony Dandurand or Jerry Oltion (tdandurand at comcast.net or j.oltion at sff.net). Thanks!

November Meeting Report

Our November 24th meeting focused on “How to Buy a Telescope.” Sam Pitts gave a talk on the basics of telescope design, and many EAS members brought their telescopes for examples of what and what not to buy. We had a perfect example of a hobby killer on hand, and many examples of better scopes, too. We only had a few non-members in attendance, but that did include a couple of very interested would-be telescope buyers, so they at least went away with a better impression of what they could get for their money.

We also gave away a fabulous door prize: a copy of *Cosmos*, the huge coffee-table book of Hubble telescope photos of the Universe. John Walley won the drawing and took home the prize. Many thanks to Bill Oakley for donating the book for the drawing.

Our next meeting will be on Thursday, December 23rd, 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)

January 27
February 24
March 24

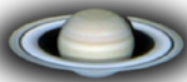
April 28
May 26
June 23

July 28
August 25
September 22

October 27
November 10
December 22

Dues are Past Due!

EAS membership runs from October thru September. If you haven’t renewed already, please mail your dues to the Eugene Astronomical Society, PO Box 7264, Eugene, OR 97401. Dues are \$25. Make your checks payable to Eugene Astronomical Society, or just EAS if your pen is low on ink.



Telescope Lending Library

The EAS has several telescopes available for members to borrow. Check out the telescope lending page on our website to see the many scopes in our lending program, and contact Tony Dandurand, our lending coordinator, to arrange to check out one of these excellent scopes.

Tony can be reached via email at tdandurand at comcast.net or by phone at 541-726-8147.

CASTLE STORAGE

Unit _____
Code _____

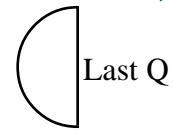
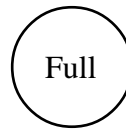
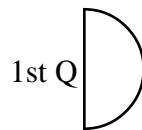
120 S. Danebo • Eugene, OR 97402 • 541.607.3800

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 December



December 5	December 13	December 21	December 27
Mercury Set: 5:49 PM	Mercury Set: 5:28 PM	Mercury Behind Sun	Mercury Rise: 6:26 AM
Venus Rise: 3:59 AM	Venus Rise: 3:52 AM	Venus Rise: 3:51 AM	Venus Rise: 3:54 AM
Mars Set: 5:27 PM	Mars Set: 5:23 PM	Mars Set: 5:19 PM	Mars Set: 5:18 PM
Jupiter Set: 12:45 AM	Jupiter Set: 12:17 AM	Jupiter Set: 11:46 PM	Jupiter Set: 11:26 PM
Saturn Rise: 2:26 AM	Saturn Rise: 1:58 AM	Saturn Rise: 1:29 AM	Saturn Rise: 1:07 AM
Uranus Set: 1:01 AM	Uranus Set: 12:29 AM	Uranus Set: 11:54 PM	Uranus Set: 11:31 PM
Neptune Set: 10:18 PM	Neptune Set: 9:47 PM	Neptune Set: 9:16 PM	Neptune Set: 8:54 PM
Pluto Set: 6:18 PM	Pluto Set: 5:48 PM	Pluto Set: 5:18 PM	Pluto Behind Sun

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
12/1/2010	02:53	13:46	07:27	16:35	06:44	19:19
12/2/2010	04:09	14:18	07:28	16:35	06:45	19:18
12/3/2010	05:24	14:56	07:30	16:35	06:46	19:18
12/4/2010	06:36	15:41	07:31	16:35	06:47	19:18
12/5/2010	07:41	16:34	07:32	16:34	06:48	19:18
12/6/2010	08:38	17:34	07:33	16:34	06:49	19:18
12/7/2010	09:24	18:39	07:34	16:34	06:50	19:18
12/8/2010	10:02	19:44	07:35	16:34	06:50	19:18
12/9/2010	10:33	20:49	07:35	16:34	06:51	19:18
12/10/2010	11:00	21:52	07:36	16:34	06:52	19:18
12/11/2010	11:23	22:54	07:37	16:34	06:53	19:19
12/12/2010	11:44	23:54	07:38	16:34	06:54	19:19
12/13/2010	12:05		07:39	16:34	06:54	19:19
12/14/2010	12:26	00:55	07:40	16:35	06:55	19:19
12/15/2010	12:49	01:56	07:40	16:35	06:56	19:20
12/16/2010	13:16	02:59	07:41	16:35	06:56	19:20
12/17/2010	13:47	04:04	07:42	16:35	06:57	19:20
12/18/2010	14:25	05:09	07:42	16:36	06:58	19:21
12/19/2010	15:13	06:13	07:43	16:36	06:58	19:21
12/20/2010	16:10	07:13	07:44	16:37	06:59	19:22
12/21/2010	17:16	08:06	07:44	16:37	06:59	19:22
12/22/2010	18:29	08:51	07:45	16:38	07:00	19:23
12/23/2010	19:44	09:29	07:45	16:38	07:00	19:23
12/24/2010	21:00	10:01	07:46	16:39	07:01	19:24
12/25/2010	22:15	10:30	07:46	16:39	07:01	19:24
12/26/2010	23:30	10:56	07:46	16:40	07:01	19:25
12/27/2010		11:22	07:47	16:41	07:02	19:26
12/28/2010	00:43	11:49	07:47	16:42	07:02	19:26
12/29/2010	01:57	12:19	07:47	16:42	07:02	19:27
12/30/2010	03:11	12:54	07:47	16:43	07:03	19:28
12/31/2010	04:22	13:35	07:47	16:44	07:03	19:28

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

Items of Interest This Month

- 12/1 Europa shadow transit 8:00-10:39 PM
- 12/5 Ganymede shadow transit 4:24-7:14 PM
- 12/10 First Quarter Friday Star Party**
- 12/13 Geminid meteor shower peaks
- 12/18 Moon near Pleiades
- 12/20 Total Lunar Eclipse (begins 10:33 PM)**
- 12/21 Winter solstice
- 12/23 Io shadow transit 8:16-10:29 PM
- 12/29 Jupiter gains an extra moon (20 Piscium)
- 12/31 Io shadow transit 10:12 PM - 12:25 AM



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.

Jupiter's Band May Be Returning

Story courtesy NASA

New NASA images support findings that one of Jupiter's stripes that disappeared last spring is now showing signs of a comeback. Earlier this year, amateur astronomers noticed that a longstanding dark-brown stripe known as the South Equatorial Belt had turned white. In early November, amateur astronomer Christopher Go of Cebu City, Philippines, saw an unusually bright spot in the white area that was once the dark stripe. This phenomenon piqued the interest of scientists at NASA's Jet Propulsion Laboratory, Pasadena, Calif., and elsewhere.

After follow-up observations in Hawaii with NASA's Infrared Telescope Facility, the W.M. Keck Observatory and the Gemini Observatory telescope, scientists now believe the vanished dark stripe is making a comeback.

"The reason Jupiter seemed to lose this band – camouflaging itself among the surrounding white bands – is that the usual downwelling winds that are dry and keep the region clear of clouds died down," said Glenn Orton, a research scientist at JPL. "One of the things we were looking for in the infrared was evidence that the darker material emerging to the west of the bright spot was actually the start of clearing in the cloud deck, and that is precisely what we saw."

This white cloud deck is made up of white ammonia ice. When the white clouds float at a higher altitude, they obscure the brown material, which floats at a lower altitude. Every few years, the South Equatorial Belt turns completely white for perhaps one to three years, an event that has puzzled scientists for decades. This extreme change in appearance has only been seen with the South Equatorial Belt, making it unique to Jupiter and the entire solar system.

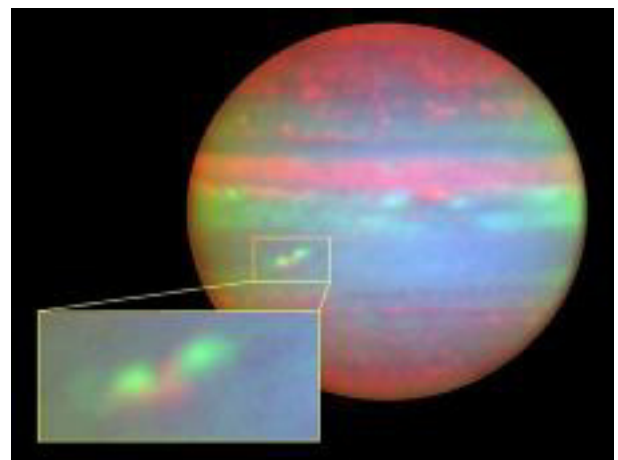
The white band wasn't the only change on the big, gaseous planet. At the same time, Jupiter's Great Red Spot became a darker red color. Orton said the color of the spot – a giant storm on Jupiter that is three times the size of Earth and a century or more old – will likely brighten a bit again as the South Equatorial Belt makes its comeback.

The South Equatorial Belt underwent a slight brightening, known as a "fade," just as NASA's New Horizons spacecraft was flying by on its way to Pluto in 2007. Then there was a rapid "revival" of its usual dark color three to four months later. The last full fade and revival was a double-header event, starting with a fade in 1989, revival in 1990, then another fade and revival in 1993. Similar fades and revivals have been captured visually and photographically back to the early 20th century, and they are likely to be a long-term phenomenon in Jupiter's atmosphere.



A false-color composite image of Jupiter and its South Equatorial Belt shows an unusually bright spot, or outbreak, in this image made from data obtained by the W.M. Keck telescope in Hawaii on Nov. 11, 2010.

Image credit: NASA/JPL-Caltech/W. M. Keck Observatory/UC Berkeley



A composite of three color images taken on Nov. 16, 2010, by NASA's Infrared Telescope Facility in Mauna Kea, Hawaii. Image credit: NASA/JPL-Caltech/IRTF/UC Berkeley

Total Lunar Eclipse Party December 20

On the night of December 20th, the Moon will pass through Earth's shadow, producing a total eclipse that will be visible from start to finish here in the western half of the U.S. The EAS will host an eclipse party at the College Hill Reservoir that night. Come join us for a grand spectacle that we only see every few years!

The Moon's orbital trajectory during this eclipse takes it through the northern half of Earth's umbral shadow. Although the eclipse is not central, the total phase still lasts 72 minutes. The Moon's path through Earth's shadow as well as the timings of the major eclipse phases are shown below. Note that the Moon passes from right to left through Earth's shadow. That's because it's moving eastward in its orbit.

All times local (Pacific time zone)

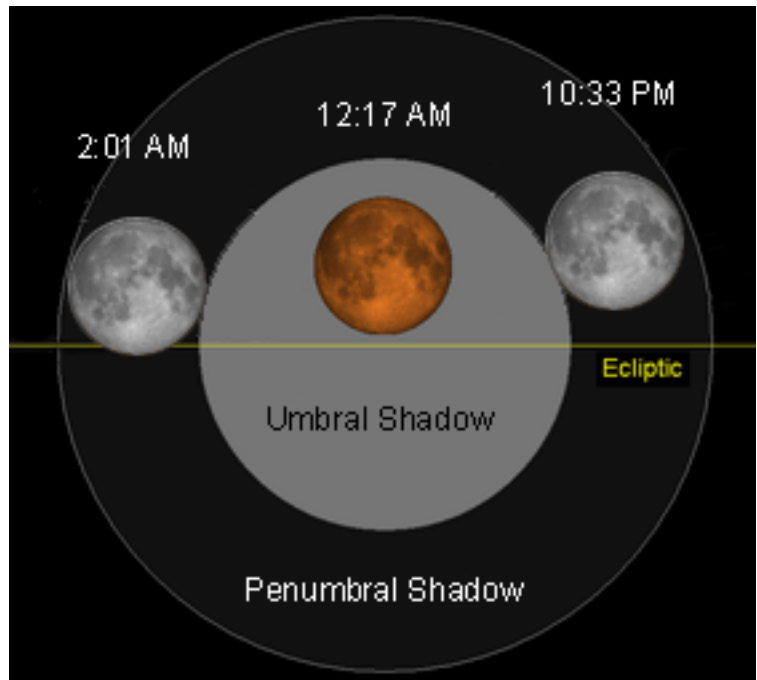
Penumbral Eclipse Begins:	09:29:17 PM
Partial Eclipse Begins:	10:32:37 PM
Total Eclipse Begins:	11:40:47 PM
Greatest Eclipse:	12:16:57 AM
Total Eclipse Ends:	12:53:08 AM
Partial Eclipse Ends:	02:01:20 AM
Penumbral Eclipse Ends:	03:04:31 AM

The eclipse occurs at the Moon's descending node in eastern Taurus, just hours before the winter solstice and four days before perigee. At the time of greatest eclipse (12:17 AM) the Moon will be halfway between the Crab Nebula and M35, and it will also be at its highest point in our sky. At this time, the southern half of the Moon will appear much darker than the northern half because it lies deeper in the umbra. Since the Moon samples a large range of umbral depths during totality, its appearance will change dramatically with time. It should turn reddish orange from the sunlight refracted through the Earth's atmosphere (essentially a ring of sunsets around the Earth) unless our atmosphere is full of smoke or volcanic dust, in which case the eclipsed Moon may be nearly invisible.

The timing of this eclipse is nearly ideal for observers on the west coast. The full Moon is always highest in the sky at the winter solstice, and totality happens through the midnight hour, placing the Moon as high as possible for us. The entire event will be visible, even the penumbral stages which typically show little effect.

People elsewhere in the world are less lucky. Observers along South America's east coast will miss the late stages of the eclipse because they occur after moonset. Likewise much of Europe and Africa experience moonset while the eclipse is in progress. Only northern Scandinavians can catch the entire event from Europe. For observers in eastern Asia the Moon rises in eclipse. None of the eclipse is visible from south and east Africa, the Middle East or South Asia.

Eugene is just about perfectly placed for this one, so all we have to do is order up some clear sky for the event. If we're so lucky, then get out your scopes, binoculars, and/or lawn chairs, bundle up warmly, and join us on the deck of the College Hill Reservoir for a Moon party. We'll probably start gathering by 9:00 or 9:30, if not earlier. See you there!



EAS Receives Classic Celestron SCT

Last August at the Oregon Star Party, a member of the Rose City Astronomers asked Jerry if the EAS could use a classic orange Celestron Schmidt-Cassegrain telescope for our lending library. The RCA had been given one, but already had one in their library.

The EAS had once owned just such a scope, but it had vanished into the ozone during a long period of storage at the planetarium. We happily accepted the donation...but a few weeks later the RCA member apologetically contacted us to say that the scope had failed to materialize as promised. Nobody knew what had happened to it: it had vanished into the ozone.

Fast forward a month. The same Rose City Astronomer emailed to say that *another* orange-tube Celestron 8 had been donated, and he actually had this one in hand. Would we like it?

“Don’t let go of it until we get there,” we said.

Jerry resisted the urge to drive to Portland that very night to get it. Tony Dandurand’s son lived just a few miles away from the RCA member, and he volunteered to pick it up for us and bring it down to Eugene when he came for Thanksgiving.



He did that, and Tony currently has the scope in his shop, awaiting a few bolts and cables and accessories to make it a mechanically complete setup. Jerry has seen it and verified its existence. This scope is real as rocks, and is going into our lending program just as soon as we can tune it up and round out its equipment package.

To that end, we need a visual back, diagonal, eyepieces, and a 12-volt battery pack. If any of you have extras that you would like to donate to complete this fabulous classic scope, please contact Tony or Jerry. (tdandurand at comcast.net or j.oiltion at sff.net)

And once we get it ready to loan, consider checking it out for a few nights. This is the telescope that made Celestron famous for high quality, compact optics and launched the Schmidt-Cassegrain revolution. It’s a little bit of history in a great telescope.

The scope comes with an equatorial wedge and an “Accutrack” drive control system. This was made by Gieseler Electronics before they became Orion Telescopes, and it works like a charm. It lets the scope be mounted in true polar alignment so it tracks without field rotation; great for photography. It’s also great for visual use. This is a point-it-yourself scope, but its motion is smooth and sure, and once you find your object, the drive will keep it centered as long as you like. Want to count the stars in M13? This is your chance.

Many thanks to the Rose City Astronomers for thinking of us — twice! — for this fabulous scope.

Two Families Receive Donated Scopes

In late summer an old 4.5" Tasco reflector on an equatorial mount was donated to EAS. Since the club already has a similar scope in its lending library, the board decided to give it to a family with a youngster interested in astronomy. Tony Dandurand cleaned up the OTA and build a little dob base for it. A couple of decent eyepieces were acquired, and a red dot finder replaced the original 5X plastic one. Testing on Jupiter and Luna showed a decent view. On Christmas, a certain 8 1/2 year old will be getting a little red telescope to call his own.

In November a family in Salem contacted the EAS about donating a scope to a youngster or to a family with youngsters interested in astronomy. The scope had belonged to their son, who had died, and the parents wanted the scope to benefit some other young person.



It turned out to be quite a telescope: an 8" Celestron NexStar GPS. Not a kid's toy! This scope clearly needed someone in their teens or older to handle it.

The EAS board discussed where it might go, and Jerry suggested a family he knew who had been partially responsible for Jerry getting into astronomy in the first place. (Their father had bought a sky atlas on the bargain table at B. Daltons and told Jerry he was going to teach his kids the constellations, which prompted Jerry to buy a copy and learn them himself.) This family has four teenagers and plenty of enthusiasm, but no telescope.

The family happily accepted the donation, and plans to use the scope as much as the weather will allow. It's very likely that we'll see them at star parties and out-of-town observing sessions.

This is one of the many things that makes an organization like the EAS so much fun. There's nothing quite like the feeling of giving people the tools they need to turn an interest into a full-blown hobby, one that will give a new generation of kids a real appreciation of the night sky. We can all smile a bit wider this holiday season, knowing that two families in particular will be very happy because of the EAS and two generous donors.



Christmas Dobs Sale

Give the Moon and stars this Christmas.
EAS members-only pricing. Limited time special* !!

4.5" Dob - \$99

6" Dob - \$199

Each includes finder as pictured, and 25 & 10mm eyepieces.

Contact Tony Dandurand at tdandurand at comcast.net or 541-726-8147

* Scopes are on Eugene Craigslist & Astromart so don't wait ;-)



4.5" Dob - \$99



6" Dob - \$199

For ongoing discussion of astronomical topics and impromptu planning of telescope outings, join the EAS mail list at <http://eugeneastro.org/mailman/listinfo/org.eugeneastro.general>