

IO - September 2011

Issue 2011-09
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, September 22nd

Unusual Telescopes by Jerry Oltion

You're probably familiar with the Newtonian optical system, the basis for the popular Dobsonian telescope. You've probably seen a standard refractor, too. You may have even looked through a Schmidt-Cassegrain or a Maksutov. But what about a Gregorian? A Yolo? A Schiefspiegler? How about a telescope with a liquid mirror? There are dozens of telescope designs, each with their own advantages and disadvantages. Come to our September meeting and learn about some of the more unusual designs that people have come up with in their quest for optical perfection.

In addition to Jerry'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 September 22nd at EWEB's Community Room, 500 E. 4th in Eugene.

Next First Quarter Friday: September 2nd

Our August star party was clear and well attended. We had half a dozen or more telescopes and maybe 50+ observers, including a class of curious and well-behaved school kids. We started the evening with Saturn and the Moon in the west, and we ended with Jupiter rising in the east, stopping at many summer clusters and double stars and galaxies along the way. It was just the sort of night we hope for every 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, along with the percentage of the Moon's disk that's lit on each night so we can consider in advance what other sights will be visible to show people. Since the star party seldom falls right on the first quarter, some of the phases are over 50% and some under.

September 2 (33% lit)

November 4 (74% lit)

December 30 (39.7% lit)

October 7 (86% lit)

December 2 (57% lit)

August Meeting Report

At our August 25th meeting, Mel Bartels talked about the effects of aperture and exit pupil on what we can see through a telescope. He discussed how the eye responds to differences in contrast and showed us how selecting the proper eyepiece can have nearly the same effect as increasing aperture. Magnification has little to do with the eye's ability to see objects; it's the contrast between the object and background that matters. Therefore, observing under darker sky, dark-adapting your eyes, and using the right eyepiece to optimize your contrast can be just as important as an increase in aperture and/or magnification. Mel gave us plenty to think about and plenty of data to back up his argument.

After Mel's talk, Jacob Strandlien gave us the astronomical news for the month. Then we gathered around one of the part-Unitron refractors that were recently donated to the club and admired its classic design. See more about these refractors on p.3.

Our next meeting will be on Thursday, September 22nd, 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)

September 22

November 10 (Note this is earlier in the month than usual!)

October 27

December 22

Dues are Due!

EAS membership runs from October 1 through September 31, so it's time to renew. We'll be collecting dues at our September 22nd meeting. Dues are still just \$25/year, and include membership in the Astronomical League as well as the EAS. (That's where your *Reflector* magazine comes from, and where our observing awards come from.) Your dues help us pay our liability insurance and to keep our telescope lending program going. We have over 50 members at the moment, and it would be great to see all of us renew for another year.

If you can't make it to the meeting, please send your \$25 dues to the Eugene Astronomical Society, P.O. Box 7264, Eugene, OR 97401. Make checks payable to Eugene Astronomical Society.



Thank You Castle Storage

For the last four 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.



EAS Receives Refractors, Equipment

In August the EAS received a generous donation of several refractors and various other equipment from James Parker, a retired astronomer from the Mt. Wilson observatory and the University of California, Berkeley. It took three vehicles to carry it all, and the board of directors is still going through everything to determine just what we have and how best to put it into service. What looked at first glance to be several Unitron refractors now appears to be homemade scopes with some Unitron parts and some parts from other manufacturers. We haven't yet gotten light through them all to see how well they perform, but we hope to do so soon. There are several finished mirrors, mirror blanks, and lenses that might make good scopes as well. The board will definitely report more to the club when they know more about what all was given to us.

Many thanks to Mr. Parker and his family for such a generous donation!



Correction to Understanding Twilight Article

by Jerry Olton

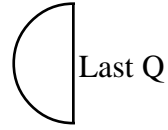
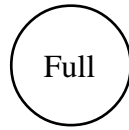
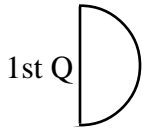
In last month's *Io*, I attributed the length of twilight to the setting angle of the Sun, saying that the Sun approaches the horizon more steeply in winter than in summer. John Hartman pointed out that it's

not so simple as that. The length of twilight is actually due to a combination of setting angle and other factors, including the amount of planet between the setting point and North.

Consider the twilight times for the equinoxes and the solstices. Twilight at the equinoxes lasts for 1:37, while it's 1:45 at the winter solstice and 2:26 at the summer solstice. Longer in winter than in June or September! That's because at the equinoxes every place on Earth (except the poles) is moving into shadow as fast as possible. At the solstices, every place is moving into shadow more slowly, but in winter there's more of a planetary bulge for the Sun to duck behind, so twilight comes faster than in summer.



Observing in September



September 4	September 12	September 20	September 27
Mercury Rise: 5:05 AM	Mercury Rise: 5:32 AM	Mercury Rise: 6:18 AM	Mercury Behind Sun
Venus Set: 8:01 PM	Venus Set: 7:50 PM	Venus Set: 7:39 PM	Venus Set: 7:30 PM
Mars Rise: 2:12 AM	Mars Rise: 2:06 AM	Mars Rise: 1:59 AM	Mars Rise: 1:54 AM
Jupiter Rise: 9:53 PM	Jupiter Rise: 9:20 PM	Jupiter Rise: 8:48 PM	Jupiter Rise: 8:19 PM
Saturn Set: 9:05 PM	Saturn Set: 8:36 PM	Saturn Set: 8:06 PM	Saturn Set: 7:41 PM
Uranus Rise: 8:25 PM	Uranus Rise: 7:53 PM	Uranus Rise: 7:21 PM	Uranus Set: 7:03 AM
Neptune Set: 5:40 AM	Neptune Set: 5:07 AM	Neptune Set: 4:35 AM	Neptune Set: 4:07 AAM
Pluto Set: 1:26 AM	Pluto Set: 0:54 AM	Pluto Set: 0:23 AM	Pluto Set: 11:51 PM

All times: Pacific Standard Time (Nov 6, 2011-March 10, 2012) = UT -8 hours or U.S. Pacific Daylight Time (March 13-November 5, 2011) = UT -7 hours.

Date	Moonrise	Moonset	Sunrise	Sunset	Twilight Begin	Twilight End
9/1/2011	11:16	21:29	06:35	19:49	04:52	21:31
9/2/2011	12:31	22:10	06:37	19:47	04:54	21:29
9/3/2011	13:43	22:57	06:38	19:45	04:55	21:27
9/4/2011	14:47	23:52	06:39	19:43	04:57	21:25
9/5/2011	15:42		06:40	19:41	04:58	21:22
9/6/2011	16:28	00:52	06:41	19:40	05:00	21:21
9/7/2011	17:06	01:56	06:42	19:38	05:01	21:18
9/8/2011	17:38	03:01	06:43	19:36	05:03	21:16
9/9/2011	18:05	04:06	06:45	19:34	05:04	21:14
9/10/2011	18:30	05:10	06:46	19:32	05:06	21:12
9/11/2011	18:53	06:12	06:47	19:30	05:07	21:10
9/12/2011	19:16	07:14	06:48	19:29	05:09	21:07
9/13/2011	19:39	08:14	06:49	19:27	05:10	21:05
9/14/2011	20:04	09:15	06:50	19:25	05:11	21:03
9/15/2011	20:31	10:15	06:51	19:23	05:13	21:01
9/16/2011	21:02	11:15	06:53	19:21	05:14	20:59
9/17/2011	21:39	12:15	06:54	19:19	05:16	20:57
9/18/2011	22:23	13:12	06:55	19:17	05:17	20:55
9/19/2011	23:13	14:05	06:56	19:16	05:18	20:53
9/20/2011		14:54	06:57	19:14	05:20	20:51
9/21/2011	00:11	15:37	06:58	19:12	05:21	20:49
9/22/2011	01:16	16:15	06:59	19:10	05:22	20:47
9/23/2011	02:26	16:49	07:01	19:08	05:24	20:45
9/24/2011	03:39	17:20	07:02	19:06	05:25	20:43
9/25/2011	04:54	17:50	07:03	19:05	05:26	20:41
9/26/2011	06:12	18:19	07:04	19:03	05:27	20:39
9/27/2011	07:31	18:50	07:05	19:01	05:29	20:37
9/28/2011	08:51	19:25	07:06	18:59	05:30	20:35
9/29/2011	10:10	20:05	07:08	18:57	05:31	20:33
9/30/2011	11:26	20:51	07:09	18:55	05:33	20:31

Items of Interest This Month

- 9/2 First Quarter Friday Star Party**
- 9/2 Io shadow transit 11:34 pm - 1:43 am 9/3
- 9/3 Moon close to Delta Scorpii
- 9/16 Moon near Jupiter
- 9/18 Io shadow transit 9:50 - midnight
- 9/22 Europa shadow transit 9:44 - 12:13
- 9/23 Autumn begins
- 9/25 Uranus at opposition – up all night
- 9/25 Io shadow transit 11:44 pm - 1:54 am 9/26



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