IO - August 2015

Issue 2015-08
Eugene Astronomical Society

Eugene Astronomical Society
Annual Club Dues $25
President: Diane Martin 541-554-8570
Secretary: Jerry Oltion 541-343-4758
Additional Board members:
Jacob Strandlien, John Loper, Mel Bartels.

PO Box 7264
Springfield, OR 97475
www.eugeneastro.org

EAS is a proud member of:

Next Meeting Thursday, August 20th
What I Did on My Summer Vacation
by All of Us

This has been a busy summer for star parties, astronomy conferences, and just going out observing in general. Many of us haven't been able to attend them all, so this is our chance to bring each other up to speed on what we missed. It's also a good opportunity to share our experiences, impressions, and maybe even a few photos with the rest of the group. It'll be a very informal program, open to discussion and commentary.

Diane would like to get an impression ahead of time of how many of us will be speaking, so if you have anything to add to the meeting give her a heads-up at clearskydi AT yahoo.com. Impromptu additions at the meeting will be welcome, too, but it would be nice to have a few people committed to speak before the meeting starts.

At our meetings 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 Thursday, August 20th at the Science Factory planetarium.

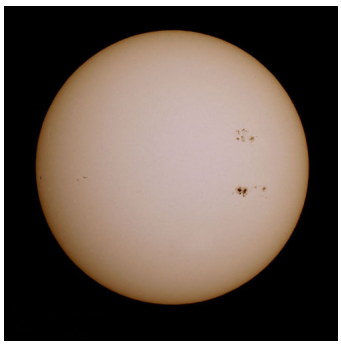
Next First Quarter Friday: August 21st

Our July 24th First Quarter Friday fell in the midst of a string of star parties, but it was pretty well attended even so. We had maybe 50 people and half a dozen scopes, so it was a good mix. The sky was pretty good for most of the evening, clouding up a little toward the end. The Moon was just past first quarter, giving us a good view of the Ptolemaeus-Alphonsus-Arzachel-Purbach-Walter chain of craters, as well as the Straight Wall in Mare Nubium and the isolated peaks sticking up above the lava plain near Plato. Saturn was in good form, too, as were the many clusters and nebulae in the steam rising from the Sagittarius teapot. The temperature was mild and the seeing was good. It was just about all you could ask for from a summer star party.

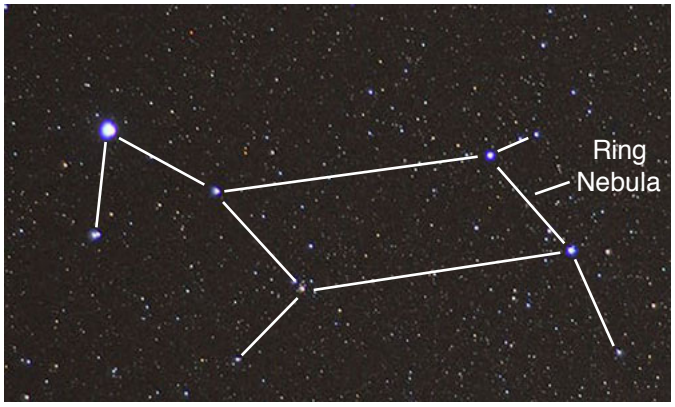
Our next First Quarter Friday is on August 21st. First Quarter Fridays are laid-back opportunities to do some observing and promote astronomy at the same time. Mark your calendar and bring your scope to the College Hill Reservoir (24th and Lawrence in Eugene) and share the view with whoever shows up. Here's the schedule for the rest of 2015. Star parties start at dusk or 6:00, whichever is later.

August 21 (43% lit)	September 18 (28% lit)	October 23 (84% lit)
November 20 (70% lit)	December 18 (55% lit)	

July 16th Meeting Report: Solar Viewing and What's Up in Summer



At our July 16th meeting, Mike Curtin and Jerry & Kathy Oltion brought solar scopes and set them up outside the planetarium for a look at the Sun before the meeting started. Mike's scope used a white-light filter made of Baader Solar Film, and Jerry & Kathy's used a dedicated hydrogen-alpha etalon. The Baader-filtered scope did better on sunspots, showing more spots and the aureolae around the spots to greater advantage, while the H-alpha scope showed prominences on the solar limb, filaments across the solar disk, granulation, and faculae around the sunspots.



When we convened inside for the meeting proper, Jerry talked a little about the technology behind both kinds of filters, then he switched gears to talk about what's visible in the summer sky at night. He showed us why we should think of Lyra as a Scottie dog rather than as a lyre, and how to remember where the Ring Nebula is (just where you'd expect something round on a dog). From there he did a walkabout around the summer sky, pointing out highlights both familiar and less so.

A few notable things to look for:

Struve 2470 & 2474 in Lyra, a much better double-double than epsilon Lyrae for star parties.

NGC 7789, also known as Caroline's Rose, in Cassiopeia. Compare it to nearby M52 to see examples of a fine and a coarse open cluster.

M23, an often overlooked open cluster near the Lagoon, Triffid, and Swan nebulae, with long streamers of stars in it and bonus dark nebulae scattered all around it.

Also at our meeting Del Smith brought a 5" Celestron Newtonian scope that he'd converted from a shaky equatorial mount to a tall Dobsonian mount, turning it from a hobby killer into a useful instrument. We all admired his handiwork and hoped to see the scope out at a star party soon.

Boy Scout Star Party Report

Our July 8th star party for the Boy Scouts was an abbreviated affair. Clouds rolled in just about dusk and obscured all but Venus, Jupiter, Saturn, and a few of the brightest stars. Wade Richardson gave a good talk to the Scouts, with help from Rick Kang, while the sky darkened enough to use the telescopes. Bob Andersen, Steve Frankel, and Jerry Oltion used the time to find all the planets in the deepening twilight so we could show them to the kids when the talk wound down. Everyone got a look at the planets and some double stars and even a couple of globular clusters through gaps in the clouds, but we weren't able to systematically go through the astronomy merit badge requirements as we'd hoped. The Scouts enjoyed what we could show them, though, and asked a lot of good questions, so we did at least fulfill our basic goal of showing them how much fun and how rewarding amateur astronomy can be.

Dark-Sky Star Party Report

Our seventh annual Dark Sky Star Party was scheduled for Saturday, July 11th at Dexter State Park, but clouds rolled in and we had to cancel. Then the park service cancelled our July 18th star party at Cascara Campground, so we rescheduled our Dexter Star Party for the 18th, only to learn a few hours later that Dexter State Park was already booked for the 18th. The 17th was free, though, so we re-rescheduled for the 17th and that one did actually happen under clear sky.

Nikki Frank and Rick Kang set up the welcome table while others set up scopes. Photo © by Jerry Oltion

It was well worth the trouble to reschedule. We had about 10 telescopes on the field and about 40 people who came to look through them. The sky co-operated beautifully, with only minimal wispy clouds and good transparency. We were able to see a lot of good dark-sky objects even in the smaller scopes.

Our giveaway telescope, an 8" Orion dob, went to 18-year-old Jordan Whiting of Eugene. Jordan is a recent graduate of Baker Charter School, and was there with her family, all of whom were very excited by her win. Steve Frankel showed them how to use her new telescope, and they had a good time looking around the sky with it.

Several people took photographs during the star party, both of the star party itself and of the sky overhead. Shan Rimmey used a Canon T3 camera on an Ioptron Skytracker mount to get a wonderful shot of the party with the Milky Way arching overhead, and to get an incredible shot of the Andromeda Galaxy. The latter reveals a more extensive disk and more

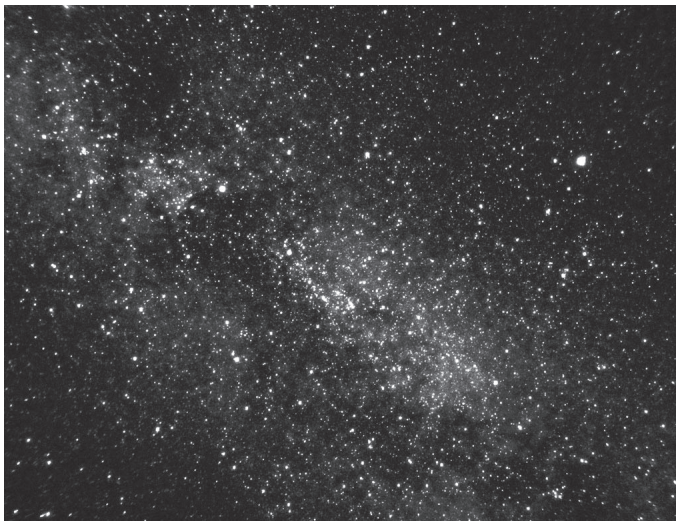

Jordan Whiting (in blue), telescope winner, with family and friends. Steve Frankel (left) taught them how to use Jordan's new scope. Photo © by Jerry Oltion

detail in the dust lanes than most photos taken through telescopes. Both photos are reproduced here at fairly high resolution; zoom in for a closer look!

Dexter Star Party with Milky Way. Photo © by Shan Rimmey

Andromeda Galaxy. Photo © by Shan Rimmey

Alan Gillespie got this shot of Cygnus overhead, showing the Great Rift and the North America and Pelican nebula complex.



Cygnus and Milky Way. Photo © by Alan Gillespie

Bill Basham set up his camera on one of the club's 8" Schmidt-Cassegrain scopes and projected images on a screen for people to see. Many people got a neat look at astrophotography in action. It was especially neat that Bill used this particular scope, because the person who donated it to the club a couple years ago was in attendance and got to see his donation in use. Bill got some great photos through it, too, as the two below demonstrate.

It was a great star party, made all the better for nearly not happening. Thanks to everyone who made it happen after all, and who came to enjoy it with us. We're seven for seven and going strong, and have every intention of doing it again next year.

Ring Nebula. Photo © by Bill Basham

Dumbbell Nebula. Photo © by Bill Basham

EAS Receives 8" Meade LX200 Donation

At our July 16th meeting, Tim Holmes of Eugene donated an 8" Meade LX200 telescope to the club. This is a complete setup with eyepieces, a go-to mount, power tank, filters, and everything.

It has an electric microfocuser for precise focus control, very useful for astrophotography. It comes with a Canon EOS adapter.

This is a fully computerized scope. It even has a built-in GPS for setting your location during initialization. The hand controller will allow you to select thousands of objects from built-in menus, and the precise tracking will keep those objects in view for as long as you want.

The Lumicon Ultra High Contrast filter will bring out emission nebulae even under city skyglow, and the adjustable polarizing Moon filter will allow for a great view of the Moon during any phase.

This scope is in like-new condition. It will make a great addition to our lending library. That means it's available for *you* (provided you're a club member in good standing) to check out. It's not a beginner's scope, but for someone with a little experience who wants to try a top-of-the-line go-to system, this is your chance. If you want to check it out, contact Frank Szczepanski, our telescope lending coordinator, at frszcz AT gmail.com or Jerry Oltion at j.oltion AT sff.net.

Peterson Barn Star Party Report

by Rick Kang

The public star party at the Peterson Barn Community Center Park out in the Bethel District of Eugene, evening of July 23rd, was well attended by EAS members and by the public. Bob Andersen, Rick Kang, Bill Murray, Jerry Oltion, and Frank Szczepanski had telescopes set up. About 70 adults and children, mostly families, viewed the Moon, Venus, Saturn, and several deep sky objects. There were a lot of young children in the mix; they and their parents asked a lot of great questions and did a pretty good job of getting a view through a telescope eyepiece probably for their first time. I asked a lot of the young people why Venus appeared as a crescent and enjoyed helping them work out the answer. Very few people realized that the Moon orbits the Earth which is why it appears to change phase and location/time visible in sky yet appears approximately the same diameter. Many "teachable moments"!

I expected a somewhat darker sky; the skyglow all around was quite bright after sunset, so finding deep sky objects with a small scope was fairly futile. The event was in a location fairly easy to get to and bring telescopes into and drew a big crowd so I'd call it a success, and would support doing it in subsequent years when we have several planets visible.

Astronomy at County Fair July 24-26

by Rick Kang

Thanks to the following EAS members for staffing our exhibit at the County Fair:

Bob Andersen, Randy Beiderwell, Richard Boyd, Larry Hill, Bruce Hindrichs, Rick Kang, Jim Kiely, Jim Kiely Jr., Al LePage, Kathy Oltion, Jerry Oltion, Wes Reynolds, Shade Rose, Jeff Phillips, and Bill Basham for use of his great images.

Many of the members attended for two or more shifts, giving us coverage of at least four people all shifts and five to wind things up on Sunday afternoon.

Kathy Oltion at the solar viewing station.

I'm estimating we worked with about 75 public Friday, 45 on Saturday, and then at least 125 on Sunday, mostly families with young children, but also some adult astronomers and several local teachers. We distributed 110 info packets (about EAS, local astro resources, Pluto info, plus a sky map), and distributed over 140 First Quarter Friday calendar cards.

Jim Kiely had a very nice large diorama of the current evening sky showing major constellations, and we continuously ran either Bruce Hindrichs's overview powerpoint or a similar intro-to-space powerpoint that showed Bill Basham's images.

Jerry and Kathy Oltion provided H-alpha filtered solar viewing on Friday. The other two days we got clouded out. The 100-yard-long scale solar system walk featured fantastic large photo murals of the planets created by Debi Bennett at Pacific Cascade Federal Credit Union downtown (much thanks also to Debi and PCFCU for donating their time and materials). The walk was behind all the other info booths at the Discovery Park so didn't get as much attendance as we'd hoped, but we had another smaller scale model set up inside Wheeler Pavilion. We also had a gravity well demo, some Moon Rocks for children to heft, and telescopic views of Pluto inside Wheeler. (Wes posted a photo across the hall!)

The Sun and first four planets in the planet walk.

Thanks again for everyone's support. It will be interesting to see if we gain some new members and have greater attendance at our First Quarter Fridays.

July 14th Flyby of Pluto

It worked! On the morning of July 14th, the New Horizons spacecraft flew past Pluto, snapping photos all the while. The photos showed way more than the dead, cratered surfaces that we expected. Instead, Pluto and Charon both show exotic terrain and active geologic processes. This was quite likely the last major planetary probe in our lifetimes, so it was a great joy to see it succeed so well. The photos and data will continue to trickle in over the next year, so stay tuned for even more exciting new discoveries.

Pluto. Photo by NASA


Charon. Photo by NASA

Observing in July

We had a bunch of star parties this month, but we also had some opportunities to get out on our own and several of us took photos to prove it.

Alan Gillespie took this photo of the Moon on July 3rd.


Full Moon July 3. Photo © by Alan Gillespie

On the 14th, Frank Szczepanski took his brand-new binocular scope out for a test run under dark sky at Eagle's Ridge. He calls this scope "Popeye" because it has two different sized mirrors: 10" and 12". The 12" mirror casts its light across the 10" mirror's light path, with both mirrors sending their focused images to eyepieces just like any Newtonian scope, which removes the requirement for the tertiary mirrors


Frank Szczepanski with "Popeye"

found on most binocular scopes. It's an innovative design and it works very well!

On the 18th Randy Beiderwell, Cory Walker, Bill Basham, and Jerry Oltion went up to Eagle's Ridge again. That was the night of the conjunction with the Moon and Venus very close together and Jupiter off to the right. Jerry got this photo of that at sunset. Bill took a time lapse of it, which is viewable here: https://www.youtube.com/watch?v=cYS2oUU2fvM


Conjunction at Sunset. Photo © by Jerry Oltion

After dark, Bill took some great astrophotos through his telescope. Below are his shots of the Lagoon Nebula and the Andromeda Galaxy.


Photo © by Jeff Phillips

Even July's cloudy nights were productive: Jeff Phillips took the opportunity to go over some data he collected in February to come up with this fabulous image of Jupiter and Europa.

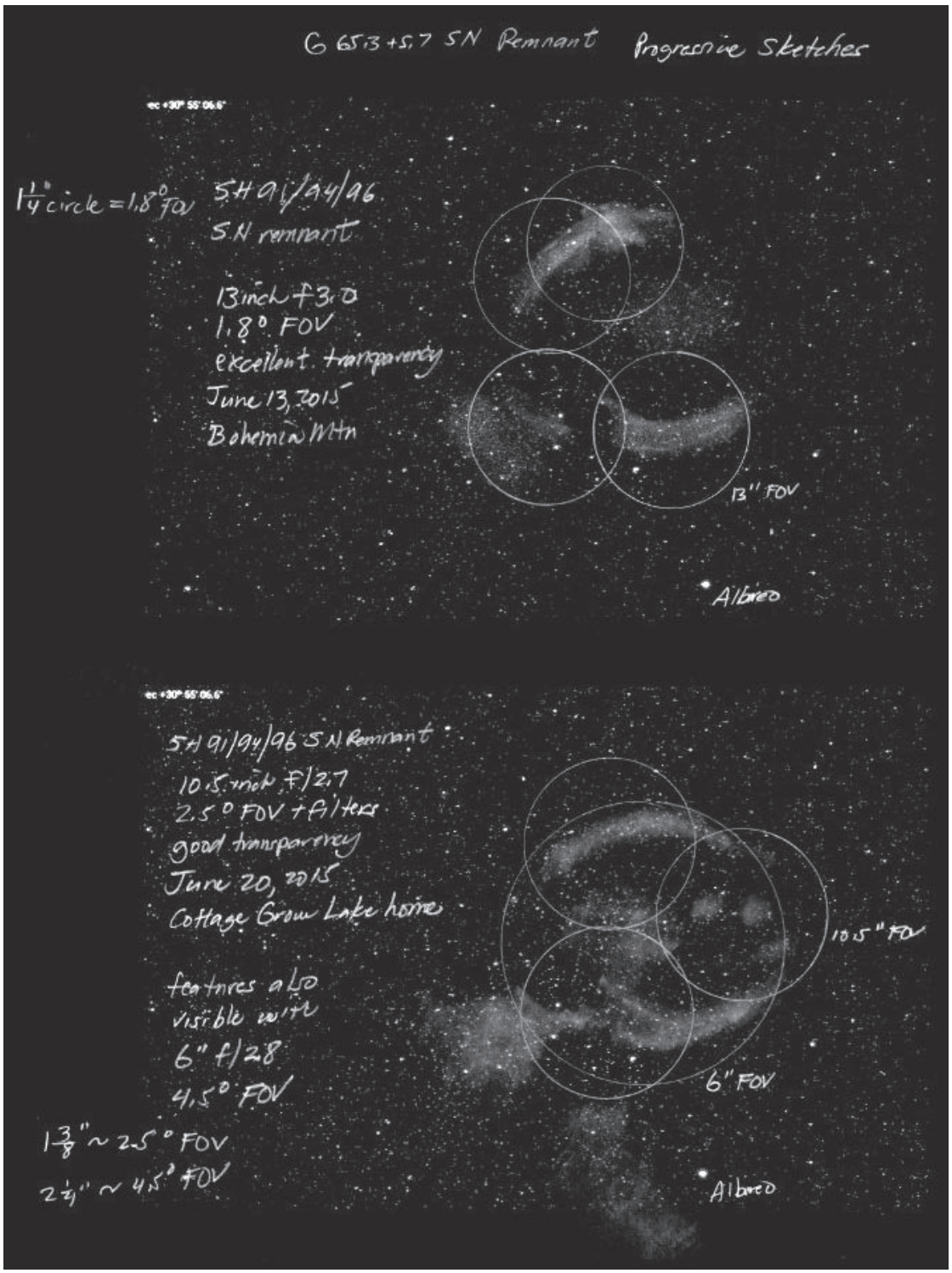
July was very good to us! Here's hoping for an equally good August.


Lagoon Nebula. Photo © by Bill Basham.


Andromeda Galaxy. Photo © by Bill Basham.

Sketching a Faint Supernova Remnant

by Mel Bartels

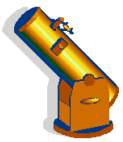


Our July outings weren't just for photography. Mel Bartels made this great sketch of supernova remnant G 65.3 5.7. About his sketching process, Mel writes:

"Here are two sketches showing how I progressively sketch a difficult object. Each sketch is about 1.5 hours of effort at the eyepiece.

"As I observe, features brighten into view, more extensions and graduations are noticed. The subsequent night, aided by my initial sketch, I remember visually what I saw and gradually see more of the supernova remnant.

"Surprisingly, I cannot see the short arcs visible in Howard Banich's 28 inch [71cm]. Instead I see broad featureless strokes of varying brightness and thickness. I am able to see the SN's features with scopes from 6 inches [15cm] to 13.2 inches [34cm]."



Observing in August

Last Q | New | 1st Q | Full

August 6, 7:03 PM	August 14, 7:54 AM	August 22, 12:31 PM	August 29, 11:35 AM
Mercury Set: 9:13 PM	Mercury Set: 9:07 PM	Mercury Set: 8:56 PM	Mercury Set: 8:42 PM
Venus lost in Sun	Venus lost in Sun	Venus Rise: 5:52 AM	Venus Rise: 5:09 AM
Mars Rise: 4:43 AM	Mars Rise: 4:39 AM	Mars Rise: 4:34 AM	Mars Rise: 4:30 AM
Jupiter Set: 9:10 PM	Jupiter Set: 8:43 PM	Jupiter lost in Sun	Jupiter lost in Sun
Saturn Set: 12:51 AM	Saturn Set: 12:20 AM	Saturn Set: 11:45 PM	Saturn Set: 11:18 PM
Uranus Rise: 10:55 PM	Uranus Rise: 10:24 PM	Uranus Rise: 9:52 PM	Uranus Rise: 9:24 PM
Neptune Rise: 9:26 PM	Neptune Rise: 8:55 PM	Neptune Rise: 8:23 PM	Neptune Rise: 7:55 PM
Pluto Set: 3:49 AM	Pluto Set: 3:17 AM	Pluto Set: 2:45 AM	Pluto Set: 2:16 AM

All times Pacific Daylight Time (March 8 – October 31, 2015 = UT -7 hours) or Pacific Standard Time (November 1, 2015 – March 12, 2016 = UT -8 hours)

Date	Moonrise	Moonset	Twilight Begin	Sunrise	Sunset	Twilight End
8/1/2015	21:21	07:37	03:58	06:00	20:36	22:38
8/2/2015	21:57	08:51	04:00	06:01	20:35	22:36
8/3/2015	22:32	10:05	04:02	06:02	20:34	22:34
8/4/2015	23:07	11:17	04:04	06:04	20:33	22:32
8/5/2015	23:43	12:29	04:06	06:05	20:31	22:30
8/6/2015		13:38	04:08	06:06	20:30	22:27
8/7/2015	00:21	14:45	04:09	06:07	20:29	22:25
8/8/2015	01:03	15:47	04:11	06:08	20:27	22:23
8/9/2015	01:49	16:45	04:13	06:09	20:26	22:21
8/10/2015	02:39	17:37	04:15	06:10	20:24	22:19
8/11/2015	03:32	18:23	04:17	06:11	20:23	22:17
8/12/2015	04:29	19:04	04:18	06:13	20:21	22:15
8/13/2015	05:27	19:40	04:20	06:14	20:20	22:13
8/14/2015	06:26	20:12	04:22	06:15	20:18	22:11
8/15/2015	07:24	20:42	04:24	06:16	20:17	22:08
8/16/2015	08:23	21:10	04:26	06:17	20:15	22:06
8/17/2015	09:20	21:37	04:27	06:18	20:14	22:04
8/18/2015	10:18	22:04	04:29	06:19	20:12	22:02
8/19/2015	11:15	22:33	04:31	06:21	20:11	22:00
8/20/2015	12:13	23:04	04:32	06:22	20:09	21:58
8/21/2015	13:11	23:39	04:34	06:23	20:07	21:56
8/22/2015	14:09		04:36	06:24	20:06	21:53
8/23/2015	15:07	00:18	04:38	06:25	20:04	21:51
8/24/2015	16:03	01:03	04:39	06:26	20:02	21:49
8/25/2015	16:57	01:55	04:41	06:27	20:01	21:47
8/26/2015	17:46	02:54	04:42	06:29	19:59	21:45
8/27/2015	18:32	04:00	04:44	06:30	19:57	21:42
8/28/2015	19:13	05:11	04:46	06:31	19:56	21:40
8/29/2015	19:52	06:26	04:47	06:32	19:54	21:38
8/30/2015	20:29	07:41	04:49	06:33	19:52	21:36
8/31/2015	21:05	08:57	04:50	06:34	19:50	21:34

All times are for Eugene, Oregon Latitude 44º 3' Longitude 123º 06'

Items of Interest This Month

Saturn is the only well-placed bright planet this month. (Neptune and Pluto are well placed, but dim.) Saturn is at quadrature this month (on the 21st), which makes its shadow especially visible on the rings. (This will be visible all month, not just on the 21st.)

8/6 Jupiter-Mercury conjunction. Good opportunity to see both in daylight.

8/7 Jupiter and Mercury within 1° of Regulus. Good opportunity to see a star by day.

8/11-8/16 Oregon Star Party. Enormous star party in the Ochoco Mountains east of Prineville. Join 400+ amateur astronomers for as many fun-filled nights (and days) as you can stand in the high desert. Some of the best sky left in the nation is right here in eastern Oregon. Enjoy it while it lasts! Visit www.oregonstarparty.org for more information.

8/12-13 Perseid Meteor shower. No Moon to interfere this year. Get out and look!

8/21 First Quarter Friday Star Party