

# IO - August 2012

Issue 2012-08  
Eugene Astronomical Society

Eugene Astronomical Society  
Annual Club Dues \$25  
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## Next Meeting: Thursday, August 23rd Finders: How They Work and How to Use Them by Jerry Oltion

Nearly every telescope comes with a finder. They're supposed to help you aim the scope so you don't have to hunt around the sky with the main scope's tiny field of view. But there are a bewildering variety of finders, and some are better than others at various aspects of locating objects in the sky. At our August meeting, Jerry Oltion will talk about the myriad styles of finders available, how they work, and which ones are best for what. He'll have examples available for hands-on experience, and a short slide show delving into the optical theory behind their operation.

Come to our August meeting and learn how to get the most from that thingy on top of your scope.

In addition to Jerry's finder program, 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 August 23rd at EWEB's Community Room, 500 E. 4th in Eugene. Note that this month we're back in our usual room (the first one in the circular building north of the fountain.)

## Next First Quarter Friday: August 24th

Our July 27th star party was a great success. We had clear sky, moderate temperatures, a dozen or so telescopes, a great crowd, and perhaps most happily, access to the north end of College Hill Reservoir after many months confined to a tiny portion of southern end. With the better south view from there we could show people the sights down in Scorpius and Sagittarius, as well as the more northerly objects visible anywhere. The crowd seemed especially appreciative to have us back in business after so many cloudy FQF's in a row, sticking around until nearly midnight and peppering us with requests for favorite objects. EAS members helped several newcomers learn to use their telescopes, and they in turn began showing people the sights they had just learned to find themselves. This is the way star parties ought to be. Let's hope the remainder of the summer goes as well.

Our next First Quarter Friday will be August 24th, with a backup date of Saturday, August 25th if the 24th is cloudy. 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 2012:

August 24 (57% lit)

September 21 (43% lit)

October 19 (28% lit)

November 16 (15% lit)

December 21 (69% lit)

## July Meeting Report

At our July 26th meeting, Rick Kang talked about galactic collisions. Stars seldom collide because the distance between them is so great compared to their size, but galaxies are often only separated by distances a few times their diameters. They're colliding all the time, and the results are amazing. While the individual stars that make up the galaxies slide right past one another, the clouds of gas and dust that stars are made of plow into one another at high speed, compressing one another into bursts of new star formation. At the same time, gravity distorts both galaxies into many different forms, depending on the collision geometry. We see long streamers of stars called tidal tails, the destruction or development of spiral arms, even the creation of perfect rings.

The Milky Way and the Andromeda Galaxy are due to collide in just a few billion years. Plan to be watching from dark sky when that happens. It'll be spectacular.

Our next meeting will be on Thursday, August 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.

Here's our meeting schedule for 2012. Note that we don't get regular Thursdays anymore, nor are we in the same room every time. EWEB has had trouble scheduling its meeting space to meet all the demand, so we've had to take what we can get.

August 23 (Thursday, Community Room)

September 19 (Wednesday, Community Room)

October 17 (Wednesday, Community Room)

November 21 (Wednesday, Community)

December 20 (Thursday, Training Room)

## Relay For Life Star Party Report

Right after our First Quarter Friday, the EAS put on another star party in the wee hours of Saturday morning, July 28th, for the participants of the Relay for Life, a cancer-awareness event at Willamette High School. Three EAS members made the trek from the first star party to the second, setting up in a grassy field behind the grandstand where the relay and associated events were taking place.

The organizers had turned off the stadium lights, but unfortunately there were still dozens of bright lights all around us, plus all the light of northern Eugene. The sky was lit to about 3rd magnitude, making it difficult to see even the constellations, much less find anything within them. We were able to show people Albireo, Mizar, the core of the Andromeda Galaxy, and the Ring Nebula was surprisingly good straight overhead, but M13 was nearly lost in the skyglow and things like the Lagoon Nebula and the Swan Nebula — staples at any summer star party — were completely invisible.

Interest from the public was, perhaps not surprisingly, scant. Adults were nearly absent. We had two groups of maybe a dozen kids each, most of whom took one look through one scope and headed back to the glitz of the relay event. There were a couple of young girls who seemed really interested, and a couple of boys in the second group, and a father and son near the end of the star party who were very excited to see what little we could show them, but for the most part we felt like we were wasting our time there.

Then at 2:00 they turned on the stadium lights and we were without a doubt wasting our time. We visited for a while longer with father and son, inviting them to our First Quarter Fridays to see what a real star party was like, then packed up and headed home. When we got to our house at the southern edge of town and I could see the wisp of Milky Way stretching overhead, I nearly kissed the ground. Instead I took a few minutes to stare up into the sky, thanking my lucky stars that I don't live in an area as light-polluted as that around Willamette High.

# Dark Sky Star Party

Our July 14th dark sky star party at Dexter State Park went off without a hitch. We had beautiful weather, lots of scopes, and lots of people eager to look through them. Attendance was down a bit from previous years, whether due to the Oregon Country Fair being the same weekend, the Beach Boys concert the same night, or less promotion on our part is hard to say; but we had a great time under sky dark enough to reveal the Milky Way stretching overhead.



The highlight of the evening had to be the telescope giveaway. We gave away a brand new Orion 8" Skyquest Dobsonian in a drawing open to youngsters ages 8-18. We hit upon an ingenious plan to make sure the winner was present at the drawing: we didn't give out tickets until all the kids who were interested were right there, then we handed each kid a ticket and immediately drew the winner. Except there was no winner! We examined every ticket twice, but it turned out we'd pulled one more ticket than we had kids, and of course that was the one we drew. Once we figured that out and drew another ticket, we had a winner: Lily Wells of Oakridge. She was very excited to have won such a great telescope.

Steve Frankel helped her and her family learn how to use it, and by the end of the evening they were finding deep-sky objects like pros.

The rest of us were doing pretty well ourselves. The Milky Way is full of wonderful sights this time of year, and we were pointing them out one after another to interested observers all night.

Of course Saturn and Mars were favorites, too. People kept coming around for another look until both planets went behind the trees. Likewise the Andromeda Galaxy rising in the east: it just got better and better and people kept asking to have another look. Not even M82 would pull them away for long.

The party wound down around 12:30. A few stalwarts stayed to enjoy the dark sky on their own, but the sky clouded up around 2:30 and that was it.

This was our fourth time hosting a star party at Dexter State Park, and all four have been wonderful. Let's do it again next year!



Lily Wells with her new telescope



# EAS Members Visit Pine Mountain Observatory

## by Rick Kang

On Friday, July 20<sup>th</sup>, and Saturday, July 21<sup>st</sup>, several EAS members brought telescopes to Pine Mountain Observatory (PMO), the dark sky site of UO's professional facility, 34 miles SE of Bend, in central Oregon. PMO is open from Memorial Day to the end of September on Friday and Saturday evenings for public drop in visits, and encourages amateur astronomers to bring telescopes to use and to share with the public. The Observatory features a 24" Cassegrain telescope for visitors to view through.

We had David Davis and George Henderson from Toledo. David brought the EAS's 18" Dob plus his own 10" Dob. Both telescopes were big hits with the approximately 70 visitors, including three groups of UO Science Students getting their first taste of telescopic viewing.

David noted that he and George viewed and showed Saturn, M4, M81/82, M13, M93 (other Hercules globular cluster), M51, M101, Albireo, Mizar/Alcor, and, of course, M31, the Great Andromeda Galaxy after Andromeda rose after midnight.

Alan Gillespie brought a small scope but attached his digital camera and took some great wide field images of the Milky Way. Alan's goal was to create data for a mosaic of the Milky Way.

Nelson Farrier brought a 13" Dob, and went on a deep sky hopping expedition starting with M51 and progressing to the Milky Way objects. Nelson found quite a few star clusters and nebulas on his own for the first time.

Rick Kang brought the wide-field Dob-mounted CCD Camera and took a variety of images of starfields. One goal was to measure the field width, which appears to be about 4x3 degrees. Visitors could view the images in real time and were fascinated by how many stars there are.

The weather was very cold on Friday night, temperature probably dropping well below freezing. Skies were fairly clear although there was a haze around the horizon, and after midnight the mysterious skyglow showed up in the eastern sky well before dawn. This has appeared many nights over the years. There aren't any settlements for many miles east of PMO, so the source of the glow remains in question.

Saturday night was about 20 degrees warmer, and skies were clear with good seeing. We viewed a handful of bright meteors.

Several Bend astronomers brought telescopes, plus a friend of Allan Chambers, Alston, from Boise, brought a 20-inch go-to Dob that was the other major telescope (besides David's 18). Gary, Jim, and one more Central Oregon person (sorry, didn't get their name) brought scopes, so we had eight telescopes plus the wide-field CCD set up at the upper deck Friday night and seven on Saturday.

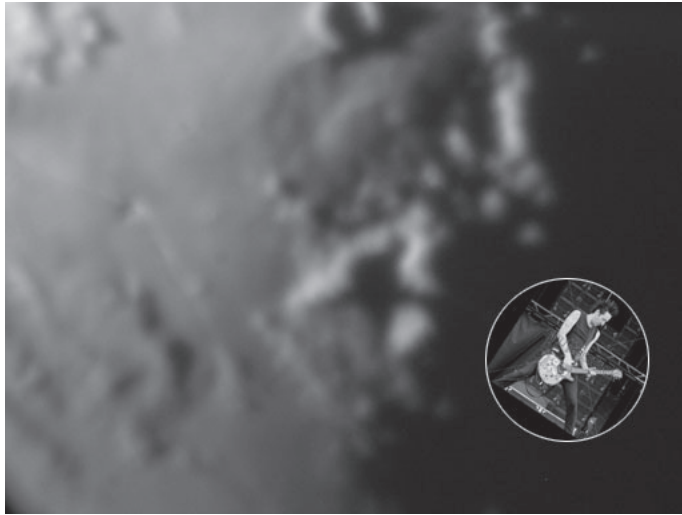
PMO will remain open Fridays and Saturdays through the end of September, so come on up if you have a chance; just bring warm clothing and plenty of flashlight batteries. The crowds thin out by midnight and the Observatory becomes a quiet location filled with collaborating dedicated observers searching for dim quarry in the very dark sky.



The Big Dipper over Pine Mountain Observatory.  
Photo © 2012 by Alan Gillespie

## Observing Highlight: The Rock Guitarist on the Moon

The Moon is filled with visual oddities. There's a two-lane bridge from Maurolycus to an adjacent crater. There's an ankh near Plato. And there's a rock guitarist near the Hyginus Rille. I showed this feature to several EAS members on July 25, but a couple who will remain unnamed (but whose names start with "B") were skeptical, so I dug through some of my old photos and found one with the guitarist in it.



The Lunar Rock Guitarist. Photo © by Jerry Olton

It's right next to the Hyginus Rille, which is just visible on the left in this admittedly blurry image. I've included an inset of a real guitarist to show you the orientation of the lunar feature. It's real, baby.

To see the rock guitarist for yourself, look at the moon just a couple hours shy of first quarter. Right along the terminator, just above the Moon's center, you'll find the Hyginus Rille (which is pretty cool on its own). Look toward the shadows from there, and voila! Rock guitarist extraordinaire. And if you listen really hard, you can even hear him play "Bad Moon Rising."

## Bonus Observing Highlight: Enif, The Pendulum Star

The nose of Pegasus, Epsilon Pegasi, also known as Enif, is a double star. With a separation of 144 arc-seconds, it's easily split in any telescope. Normally such a wide double wouldn't provide much excitement, but Enif has a trick: If you wiggle your telescope perpendicular to the line between the two stars, the dimmer, bluer companion seems to swing back and forth around the yellow primary as if it were swinging on the end of a pendulum. This effect seems to work best at 60-100x.

What's happening? Sir John Herschel, one of the first to describe the Pendulum Star, theorized that the oscillations are due to the longer time it takes light from the faint star to affect the retina. We detect the motion of the bright primary right away, so the companion seems to lag behind.

Whatever the cause, it's a pretty neat effect. Next time you're out, give it a try.



### Thank You Castle Storage

For the last five 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.



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# Golden State Star Party, 2012 Edition

by Mel Bartels

I enjoyed this year's GSSP. While there were some problems with clouds and rain, not to mention the afternoon winds, I managed to observe most of my target list of dark nebulae. The star party certainly has its own flavor; only in California will one see people standing in the BBQ dinner line holding expensive bottles of wine and wine glasses. The site is picturesque with Shasta in the distance. Still, it is a grazing cow field so there were lots of dried cow pies and grass seed that tried to get into everything.

My presentation on The Nature of Telescope Design went over well. I explained how Holcombe in 1820 and Dobson 150 years later created the same design in spirit, and more importantly, used the same design process. The seminal question I asked the audience was, "Could the Dobsonian have been invented before John Dobson?" I illustrated the shortcomings of the common 'extrapolation' design process and the successes of the new 'design thinking.' I ended by reminding the audience of Seneca's words penned two thousand years ago, "There will come a time when our descendants will be amazed that we did not know things that are so plain to them. . . . Nature does not reveal her mysteries once and for all." We are much closer to the beginning of telescope design than the end point.



Mt Shasta in the background



The constellation car.



A CAD designed elegant cook station



My ZipDob



Golden State Star Party continued...



A ball scope



A travel scope



A split-ring scope



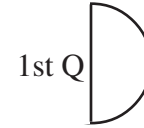
A quartz mirror scope

All photos copyright © 2012 by Mel Bartels





# Observing in August



August 1 (& 31)*	August 9	August 17	August 24
Mercury Rise: 5:47 AM	Mercury Rise: 4:59 AM	Mercury Rise: 4:45 AM	Mercury Rise: 5:03 AM
Venus Rise: 2:46 AM	Venus Rise: 2:41 AM	Venus Rise: 2:41 AM	Venus Rise: 2:43 AM
Mars Set: 12:30 AM	Mars Set: 12:10 AM	Mars Set: 11:45 PM	Mars Set: 11:22 PM
Jupiter Rise: 1:34 AM	Jupiter Rise: 1:08 AM	Jupiter Rise: 12:40 AM	Jupiter Rise: 12:16 AM
Saturn Set: 11:35 PM	Saturn Set: 11:05 PM	Saturn Set: 110:35 PM	Saturn Set 10:08 PM
Uranus Rise: 10:46 PM	Uranus Rise: 10:14 PM	Uranus Rise: 9:42 PM	Uranus Rise 9:14 PM
Neptune Rise: 9:27 PM	Neptune Rise: 8:55 PM	Neptune Rise: 8:23 PM	Neptune Set: 6:34 AM
Pluto Set: 3:46 AM	Pluto Set: 3:14 AM	Pluto Set: 2:42 AM	Pluto Set: 2:14 AM

All times: Pacific Standard Time (Nov 4, 2012-March 10, 2013) = UT -8 hours or U.S. Pacific Daylight Time (March 11-November 3, 2012) = UT -7 hours.

Date	Moonrise	Moonset	Sunrise	Sunset	Twilight Begin	Twilight End
8/1/2012	20:06	05:38	06:01	20:36	04:00	22:36
8/2/2012	20:38	06:50	06:02	20:34	04:02	22:34
8/3/2012	21:07	07:59	06:03	20:33	04:03	22:32
8/4/2012	21:33	09:07	06:04	20:32	04:05	22:30
8/5/2012	21:59	10:12	06:06	20:30	04:07	22:28
8/6/2012	22:26	11:15	06:07	20:29	04:09	22:26
8/7/2012	22:54	12:17	06:08	20:28	04:11	22:24
8/8/2012	23:25	13:17	06:09	20:26	04:13	22:22
8/9/2012		14:16	06:10	20:25	04:14	22:20
8/10/2012	00:01	15:13	06:11	20:23	04:16	22:18
8/11/2012	00:41	16:06	06:12	20:22	04:18	22:15
8/12/2012	01:27	16:55	06:13	20:20	04:20	22:13
8/13/2012	02:19	17:39	06:15	20:19	04:22	22:11
8/14/2012	03:16	18:18	06:16	20:17	04:23	22:09
8/15/2012	04:18	18:54	06:17	20:16	04:25	22:07
8/16/2012	05:23	19:25	06:18	20:14	04:27	22:05
8/17/2012	06:31	19:55	06:19	20:13	04:29	22:03
8/18/2012	07:40	20:24	06:20	20:11	04:30	22:00
8/19/2012	08:50	20:52	06:21	20:09	04:32	21:58
8/20/2012	10:01	21:23	06:23	20:08	04:34	21:56
8/21/2012	11:13	21:56	06:24	20:06	04:35	21:54
8/22/2012	12:25	22:34	06:25	20:05	04:37	21:52
8/23/2012	13:37	23:18	06:26	20:03	04:39	21:50
8/24/2012	14:44		06:27	20:01	04:40	21:47
8/25/2012	15:46	00:10	06:28	19:59	04:42	21:45
8/26/2012	16:39	01:09	06:29	19:58	04:44	21:43
8/27/2012	17:25	02:14	06:31	19:56	04:45	21:41
8/28/2012	18:04	03:23	06:32	19:54	04:47	21:39
8/29/2012	18:37	04:33	06:33	19:53	04:48	21:36
8/30/2012	19:07	05:42	06:34	19:51	04:50	21:34
8/31/2012	19:34	06:50	06:35	19:49	04:52	21:32

## Items of Interest This Month

### 8/6 Star Party at Cottage Grove Library

8/11-12 Perseid Meteor Shower peaks early a.m. on 12th

8/13 Moon occults Venus 1:10 - 2:30 p.m.

8/13-8/14 Mars slides between Saturn and Spica

### 8/15 Star Party at Camp Wilani

8/21 Moon near Mars, Saturn, and Spica in evening

8/23 Best night for spotting Lunar Guitarist

### 8/24 First Quarter Friday Star Party

\*Times in Full Moon column above are for August 1st



## 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