

IO - May 2014

Issue 2014-05
Eugene Astronomical Society

Eugene Astronomical Society
Annual Club Dues \$25
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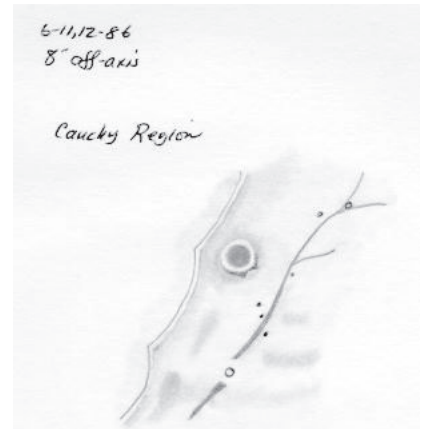
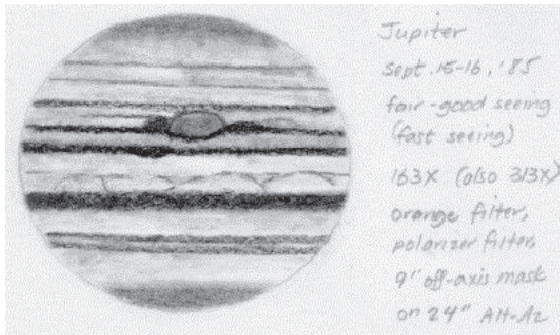
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Next Meeting Thursday, May 15th “Sketching at the Eyepiece” by Mel Bartels

Long before photography, astronomers sketched what they saw in the eyepiece. Even after photography, sketching remains a valuable skill, not only for recording what you see but also for helping you see more to record. Want to learn how to sketch nebulae and planets? Come to the May Eugene Astronomical Society meeting for an evening with Mel Bartels. Sketch along with him as he demonstrates techniques and equipment. Pencils and paper will be supplied if you don't have your own. Don't miss the opportunity to learn a skill that will last you a lifetime at the eyepiece.



At our meetings we also encourage people to bring any new gear or projects they would like to show the rest of the club. Remember we no longer meet at EWEB. The meeting is at 7:00 on Thursday, April 17th at the Science Factory planetarium. Come early to visit before the program starts.

(Sketches copyright © 2014 by Mel Bartels)

Next First Quarter Friday: May 2nd

Our April 4th First Quarter Friday was rained out. Our next FQF will be on May 2nd. Here's hoping for a clearer night.

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 2014. Note that we've scheduled some of the star parties a week earlier than the calendar would normally dictate in order to have less moon in the sky.

May 2 (15% lit)*

August 1 (32% lit)

October 31 (61% lit)

June 6 (63% lit)

August 29 (18% lit)*

November 28 (46% lit)

July 4 (47% lit)

September 26 (8% lit)*

December 26 (31% lit)

*These star parties are a week earlier than normal to provide less moon glare.

April Meeting Report: “What Can You See for \$50?”

At our April 17th meeting, Jeff Phillips gave a talk on inexpensive telescopes. Popular wisdom says that “dimestore” scopes are junk, and they often are, but there are a few exceptions, and Jeff called some to our attention.

He spoke first about the Celestron PowerSeeker 70 AZ, a 70mm f/10 refractor that’s available for as little as \$37 on Black Friday sales the day after Thanksgiving. It has an air-spaced doublet objective lens that isn’t perfectly corrected but does well enough at the magnifications that a small refractor is capable of. It will show Saturn’s rings and Jupiter’s bands, but not the Cassini division or the Red Spot. It comes with a 20mm Huygens eyepiece, which has a very narrow field of view, and a 4mm plossl eyepiece that has short eye relief but a better apparent field of view. The scope would definitely benefit from better eyepieces, but the provided ones are adequate for starting out. And it comes with a correct-image diagonal for terrestrial viewing.

Jeff also showed a Celestron Firstscope, a 3-inch f/4 reflector that comes with the same eyepieces. Since it’s a reflector, it doesn’t have any of the chromatic aberration problems the PowerSeeker has, but its short focal ratio and spherical mirror create a little coma. Fortunately (?) the secondary mirror is small enough to vignette the primary, so the eyepiece only sees about 2" of the primary anyway, reducing the coma.

We set these two scopes up on one side of the planetarium and looked across the room to the other side, and the view was surprisingly crisp in both. For low-medium power observation, they’re decent scopes.

Jeff also showed us a pair of Barska 10 x 50 binoculars that goes on sale relatively often at the Big 5 Sporting goods store for under \$20. Like the above telescopes, they’re far from top-of-the-line optics, but they’re pretty good. They’ll split Albireo, show Jupiter’s Moons, and work fine on clusters like the Pleiades and the Beehive.

The primo under-\$50 telescope, however, is probably a 4.5" reflector. You won’t be able to buy one of those new for that price, but they show up surprisingly often in garage sales or on Craigs List for as low as \$15. They often come with equatorial mounts that are best used for lawn sculpture (which is why the scopes are selling for \$15), but the scopes themselves generally have decent optics. Build a Dobsonian base for them and you’ve got good beginning/intermediate scope for very little money.

Jeff showed us several examples of photographs he’s taken through his 70mm refractor and compared them to what can be seen through larger apertures. The results were impressive: lots of detail on the Moon, decent planetary images, and birds close enough to count feathers. He proved that you can indeed get a decent scope for under \$50.



Jeff Phillips with three low-cost telescopes

Eclipse Party Report

The total lunar eclipse on April 14th was a nail-biter, with clouds threatening and relenting and threatening again most of the day. The sky opened up beautifully near dusk and remained clear right up to about 10:00, when the clouds returned. They weren't thick enough to hide much, and there were lots of clear patches, so we set up our scopes at the College Hill Reservoir along with about 150 other people who came to watch.

And the evening did not disappoint. The Moon dipped into Earth's shadow right on schedule at 10:58, and totality began (with a big group howl to mark it) at 12:07. Spica shone brightly about two degrees to the right and Mars shone even brighter about nine degrees above. The Moon turned a nice orange during totality, evidence of clear air here on Earth to refract sunset light onto the Moon.

KEZI TV provided live coverage of the eclipse's beginning on their 11:00 news, interviewing Jerry Oltion (again) and showing off Bruce Hindrichs's new 6" refractor (because it was the most classic-looking telescope there). Many, many people took photographs through the telescopes, through long lenses, and directly. The number of flash photos slowly diminished over time as people got the hang of it.

The clouds kept gliding past, sometimes covering the Moon, but we would just shift our attention to Jupiter, Mars, or Saturn until the Moon came back. Several people were more excited by Saturn than by the eclipse. The Reservoir seemed to be in a sweet spot: people elsewhere in town reported solid clouds during totality.

Totality lasted until 1:25 a.m. and that's about as long as our weather luck held out. The clouds rolled in for good just as the first hint of sunlight was creeping onto the Moon's eastern limb. We packed up and went home, happy to have seen the eclipse and happy to have shared it with so many people.



23 minutes into the partial phase. Photo © by Jerry Oltion



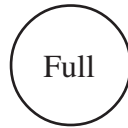
Moon and Spica just before totality. Photo © by Alan Gillespie



Totality midpoint. Photo © by Jerry Oltion



Observing in May



May 6	May 14	May 21	May 28
Mercury Set: 9:32 PM	Mercury Set: 10:18 PM	Mercury Set: 10:38 PM	Mercury Set: 10:36 PM
Venus Rise: 4:28 AM	Venus Rise: 4:18 AM	Venus Rise: 4:09 AM	Venus Rise: 4:01 AM
Mars Set: 4:47 AM	Mars Set: 4:12 AM	Mars Set: 3:43 AM	Mars Set: 3:15 AM
Jupiter Set: 1:04 AM	Jupiter Set: 12:38 AM	Jupiter Set: 12:15 AM	Jupiter Set: 11:49 PM
Saturn Rise 8:25 PM	Saturn Set: 5:58 AM	Saturn Set: 5:29 AM	Saturn Set: 5:00 AM
Uranus Rise: 4:46 AM	Uranus Rise: 4:16 AM	Uranus Rise: 3:49 AM	Uranus Rise: 3:22 AM
Neptune Rise: 3:27 AM	Neptune Rise: 2:55 AM	Neptune Rise: 2:28 AM	Neptune Rise: 2:01 AM
Pluto Rise: 12:33 AM	Pluto Rise: 12:01 AM	Pluto Rise: 11:29 PM	Pluto Rise: 11:01 PM

All times Pacific Daylight Time (March 9 – November 1, 2014 = UT -7 hours) or Pacific Standard Time (November 2, 2014 – March 7, 2015 = UT -8 hours)

Date	Moonrise	Moonsset	Sunrise	Sunset	Twilight Begin	Twilight End
5/1/2014	07:54	22:56	06:04	20:16	04:10	22:11
5/2/2014	08:42	23:45	06:02	20:17	04:07	22:13
5/3/2014	09:34		06:01	20:18	04:05	22:15
5/4/2014	10:28	00:29	06:00	20:19	04:03	22:16
5/5/2014	11:24	01:08	05:58	20:21	04:01	22:18
5/6/2014	12:21	01:42	05:57	20:22	03:59	22:20
5/7/2014	13:19	02:13	05:56	20:23	03:57	22:22
5/8/2014	14:18	02:42	05:54	20:24	03:55	22:24
5/9/2014	15:18	03:10	05:53	20:25	03:53	22:26
5/10/2014	16:19	03:38	05:52	20:26	03:51	22:28
5/11/2014	17:22	04:06	05:51	20:28	03:49	22:30
5/12/2014	18:28	04:37	05:49	20:29	03:47	22:32
5/13/2014	19:34	05:12	05:48	20:30	03:45	22:34
5/14/2014	20:41	05:52	05:47	20:31	03:44	22:35
5/15/2014	21:45	06:38	05:46	20:32	03:42	22:37
5/16/2014	22:45	07:32	05:45	20:33	03:40	22:39
5/17/2014	23:39	08:33	05:44	20:34	03:38	22:41
5/18/2014		09:40	05:43	20:35	03:36	22:43
5/19/2014	00:25	10:49	05:42	20:36	03:34	22:45
5/20/2014	01:06	12:00	05:41	20:37	03:33	22:47
5/21/2014	01:43	13:11	05:40	20:38	03:31	22:49
5/22/2014	02:16	14:21	05:39	20:39	03:29	22:50
5/23/2014	02:48	15:29	05:38	20:40	03:28	22:52
5/24/2014	03:19	16:37	05:38	20:41	03:26	22:54
5/25/2014	03:52	17:43	05:37	20:42	03:24	22:56
5/26/2014	04:27	18:48	05:36	20:43	03:23	22:57
5/27/2014	05:05	19:49	05:35	20:44	03:21	22:59
5/28/2014	05:47	20:46	05:35	20:45	03:20	23:01
5/29/2014	06:34	21:38	05:34	20:46	03:19	23:02
5/30/2014	07:24	22:25	05:33	20:47	03:17	23:04
5/31/2014	08:18	23:06	05:33	20:48	03:16	23:05

Items of Interest This Month

- Good month for Mercury after Sunset.
 5/1–5/2 Comet PANSTARRS 2° from M51 (Whirlpool Galaxy). Both about 8th mag.
5/2 First Quarter Friday Star Party.
 5/5 Ganymede shadow transit 7:07– 10:31.
 5/10 Saturn at opposition. Seeliger Effect makes the rings noticeably brighter for a few days before and after.
 5/15 Io shadow transit 7:42 – 10:00.
 5/17 Jupiter 3-moon pileup sunset – midnight.
 5/22 Io shadow transit 9:38 – 11:55 next to Great Red Spot.
 5/23–24 New “Camelopardalid” meteor shower possible from 10:00 pm – 2:00 am. Fireballs possible! Radiant near Polaris, but meteors can appear anywhere in the sky.
 5/25 Mercury at greatest eastern elongation.
 5/25 Callisto enters eclipse well away from Jupiter 9:41.
 5/25–31 Comet 209P LINEAR (parent body to above meteor shower) passes within 0.06 AU of Earth. (That’s *close!*) Comet is near Gamma Leonis on night of 5/25.
 5/27 Ganymede & Europa very close all night.
 5/30 Europa shadow transit 8:50 – 11:36.

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