

# IO - November 2011

Issue 2011-11  
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.

PO Box 7264  
Springfield, OR 97475  
[www.eugeneastro.org](http://www.eugeneastro.org)  
EAS is a proud member of:

**The Astronomical League**  
The World's Largest Federation of Amateur Astronomers



## NOVEMBER MEETING CANCELLED

### Next Meeting: Thursday, December 22nd

EWEB overbooked our meeting room for November, and other options for meeting space haven't panned out, so we've had to cancel our meeting. We've postponed our program by John Hartman on "Sun Position Fun: Observing and Understanding the Sun's Position and Movement, Indoors and Outdoors, Day and Night" until early 2012.

Our next meeting will be on December 22nd, and will be our annual potluck get-together and swap meet. More on that in next month's *Io*.

In lieu of a meeting in November, maybe we can have an impromptu star party some clear night around the same time. We'll keep an eye on the weather and announce any plans as the opportunity arises.

### Next First Quarter Friday: November 4th

Our October star party was clouded out, along with a good deal of the month afterward. Looks like Autumn is here in force already. Here's hoping for a lucky break in the weather for our November star party.

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:

November 4 (74% lit)

December 2 (57% lit)

December 30 (39.7% lit)

## Dues are Past Due!

EAS membership runs from October 1 through September 31, so it's past time to renew if you haven't already. 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 also help us pay our liability insurance and to keep our telescope lending program going. We had over 50 members last year, and it would be great to see all of us renew for another year.

If you haven't renewed already, please send your \$25 dues to the Eugene Astronomical Society, P.O. Box 7264, Springfield, OR 97475. Make checks payable to Eugene Astronomical Society.

# October Meeting Report

At our October 27th meeting, Bernard Bopp gave a talk on extrasolar planets (planets circling stars other than our Sun). His talk was originally subtitled “Over 500 and Counting” when he put it together just a month or two ago, but he had to revise that to “Over 600 and Counting” by the time of our meeting. Astronomers are finding new planets at a phenomenal rate, and that rate will only increase as the data from the Kepler mission becomes confirmed. (There are currently over 1200 candidates awaiting confirmation, and that represents just the tip of the iceberg.)

At first we were finding only large planets close to their parent stars, but that was because our search techniques couldn't distinguish smaller planets farther out. This selection bias is dropping as the sensitivity of our instruments improves. We're finding smaller and smaller planets farther out from their parent stars, so the average size and orbit of these extrasolar planets is starting to look more and more like our own solar system. We haven't yet found the holy grail of an Earth-sized planet in its star's habitable zone, but it's clearly only a matter of time before we do. From there, using spectroscopy to examine the chemical composition of the planet's atmosphere, it's a distinct possibility that we could confirm the existence of life outside our solar system within a few years. It's an exciting search, one that offers new discoveries on an almost daily basis, and might ultimately provide the defining moment of the 21st century: when we learn that we aren't alone in the Universe.

Our next meeting will be on Thursday, December 22nd, at 7:00 PM in the EWEB north building's Community Room. This is the first room in the semi-circular building to the north of the fountain at EWEB's main campus on the east end of 4th Avenue.

## “Big Blue” Refurbished

A thoroughly refurbished “Big Blue” telescope was presented to the EAS at the October meeting by Tony Dandurand. Formerly known as “Big White,” this split tube, dodecagon (12-sided) dobsonian is perhaps the Club's oldest scope, built by Frank Szczepanski in 1991. Indeed, according to Mel Bartels, this is at least the third structure these optics have been in, the first being a massive 300-pound, club-built structure thought to be the first dobsonian in Eugene (late '70s).

The main “ease of use” upgrade is the addition of wheels. Once latched upright, this 12.5" F6 telescope can now be stored & rolled around fully (or partially) assembled. Ten draw latches now connect the tube sections, and can only be latched with the upper tube correctly oriented. A new secondary holder and hand knobs on the primary mirror cell allow tool-less collimation. A telrad finder joins the



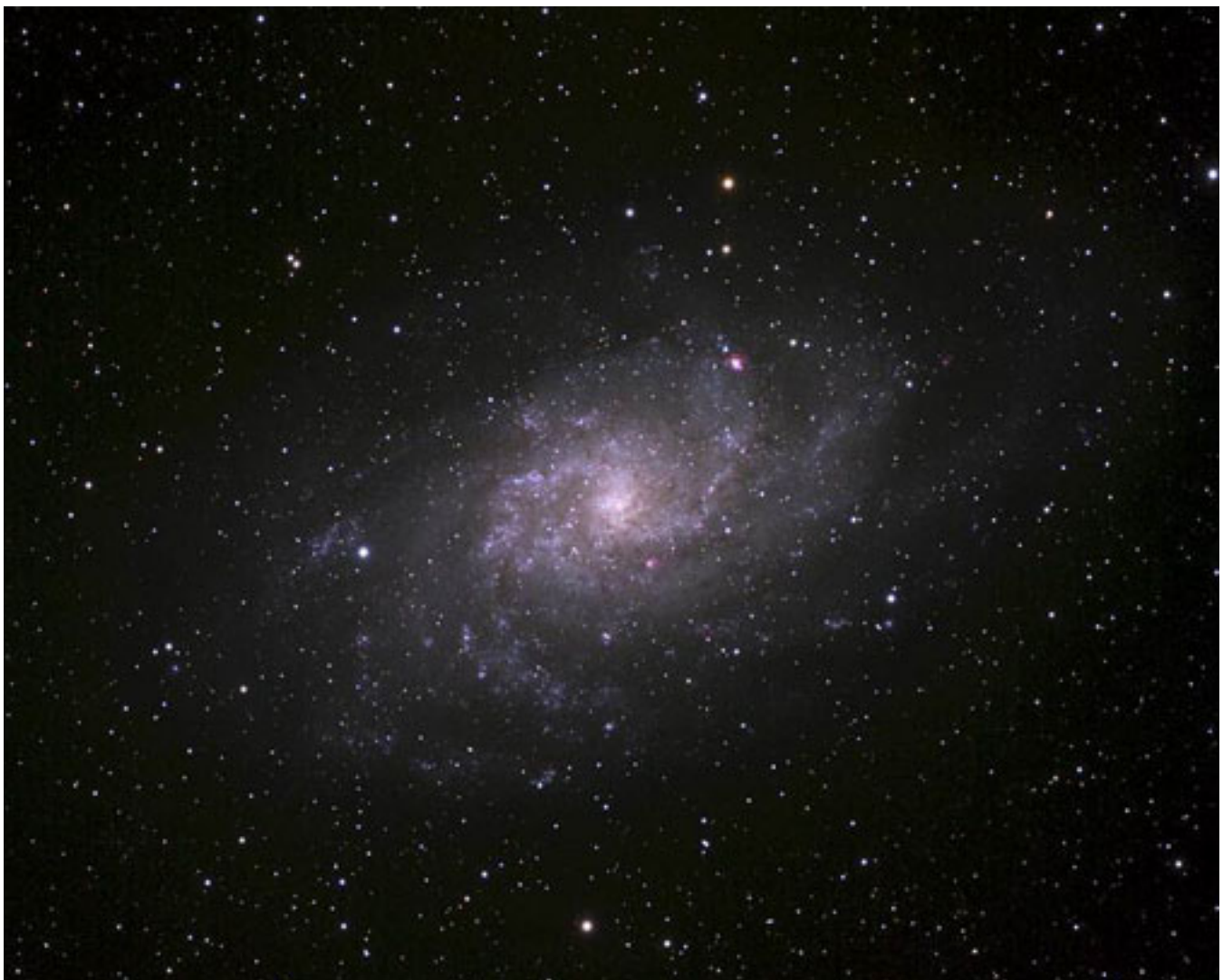
8 X 50 optical finder. A fan (w/battery pack) helps cool the main mirror. Fresh coatings on both mirrors are ready to reflect lots of light.

A new paint job gives this classic scope a whole new look. John Dobson's original signature from 1994 was retained, now under layers of clear urethane. Tony stated that only after purchasing the light blue paint did he learn it is called "Celestial blue." Here's hoping this grand old Celestial "Big Blue" continues showing people the celestial wonders for more decades to come.

## Brandt Schram Captures M33

EAS member Brandt Schram recently shared one of his first photographic triumphs with the club. Brandt says: "We have a cabin in La Pine and I spent my free-time this summer building a roll-off roof observatory. I thought I'd share one of the first images from the site. This shot of M33 was taken the 21st and 22nd of this month with a Takahashi TOA 150 and STL11000M. Exposures were L(15x5 min binned 1:1) RGB(5x5 min 2:2) processed with MaximDL and PS. The seeing was poor and I know next to nothing about image processing but I'm learning!"

For a high-resolution look at the photo, go to: <http://astrohack.net/Latest%20Images/M33-LRGB.jpg>



## Fred Domineack Visits Eugene

EAS members from 2006 or earlier will remember Fred Domineack, former president of the club and avid observer and photographer at star parties. Fred was a major part of our club for years, but he suffered a stroke in the summer of 2006 and had to move to Ohio where his family could help care for him.

In September, Fred and several family members were able to come back to Eugene and visit old friends and attend a star party held just for them at the College Hill Reservoir. We kicked off the festivities on the evening of September 16th with a pizza party at the Willamette St. Pizza Hut, where a dozen or so of us got to renew our connection with Fred and meet his family.



Fred Domineack, left, and his family and friends at Pizza Hut

Photo © by Alan Gillespie

Fred's stroke affected his speech center, making it difficult for him to get his words out, but he clearly knows what's being said around him and has become very expressive with gestures and facial expressions. We had a lively conversation and wiped out several pizzas in the process.

From there we went up to the College Hill Reservoir, where Jerry Olton and Bill Murray had set up their telescopes. Fred has to use a wheelchair to get around, but he was able to roll under Jerry's trackball and lean into the eyepiece for a look at quite a few of his favorite objects. His favorite was clearly M13, the great globular cluster in Hercules. He had no trouble saying "Oh, wow!" when he saw that in the eyepiece, nor with asking for another look a little while later.

The evening was cold and Fred's family wasn't dressed for the weather, so we broke out blankets from our cars and had an impromptu toga party as well as a star party. Bill and Jerry both stayed busy showing people the sights, and we all agreed that the evening ended too early as the falling temperature penetrated our togas and sent everyone indoors for warmth.

It was great to see Fred again, meet his family, and give everyone a look at the stars Fred loves so much. We're already looking forward to the next time.



Fred, his sister Faye, niece Belinda, and Jerry

## EAS Gets New Zip Code

The Gateway post office where the EAS keeps its mailbox is changing its zip code. EAS's official address is now PO Box 7264, Springfield, OR 97475.


### 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.



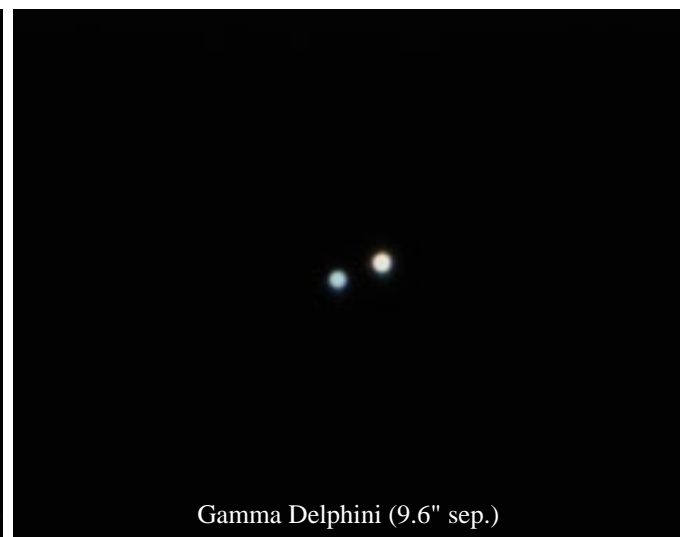
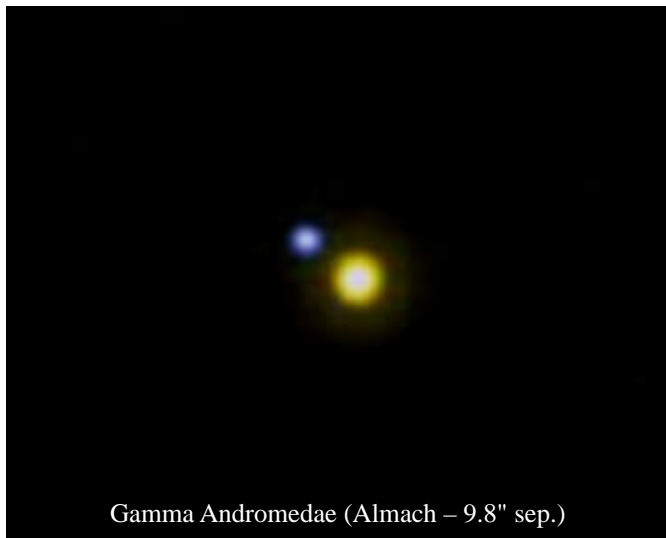
# Observing Highlight: Gamma Everything

Double stars are ubiquitous. Over half the stars in the sky are doubles. Most are spectroscopic, which means they're too close to split in an amateur telescope, but there are hundreds of visual doubles. Which ones are they, though?

If you look at a good star chart you'll see doubles marked with lines through them, like so:  You could just dive in and look at every one in your chart, but you'll soon be disappointed when you find that most catalogs don't distinguish between easy splits and difficult ones. Probably 3/4 of the doubles listed in most catalogs won't show you two stars unless you've got the Keck in your back yard.

Fortunately, random chance has served up a nice coincidence for double-lovers: nearly every constellation's "gamma" star is an easily split double. No kidding! There's no reason why this should be, but it's true. Check it out sometime. Gamma Andromeda? Double. In fact, it's a mini Albireo, with one gold star and one green. Gamma Arietes? Double. It's an even pair of headlights way, way off in the distance. Gamma Delphini? The nose of the dolphin is double, with one nostril a little greener than the other. Gamma Ceti? Double. Gamma Aquarii? Not double, but Zeta, right next to it in the center of the water jar, is.

And so on throughout the sky. The Gamma star of practically every constellation is double, or serves as a pointer to a nearby star that is. Go forth and gander at a Gamma!



## Asteroid Buzzes Earth November 8th

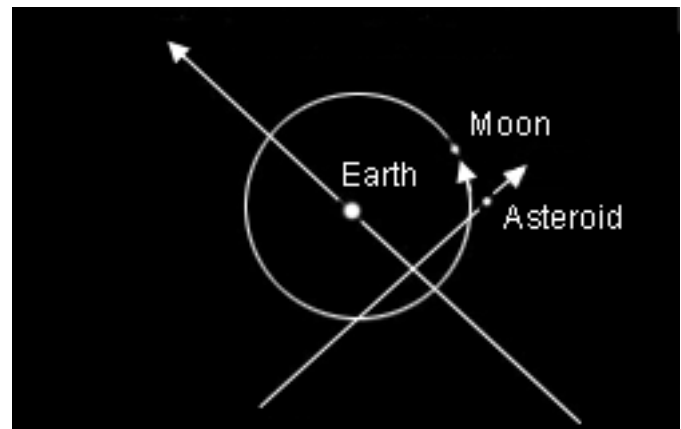
Near-Earth asteroid 2005 YU55 will pass within 0.85 lunar distances from the Earth on November 8, 2011. This is a relatively large 400 meter-sized, C-type asteroid and will reach a visual brightness of 11th magnitude, which should make it possible to observe through a modest-sized telescope. The closest approach to Earth will be 0.00217 AU (202,000 miles) on November 8 at 23:28 UT (3:28 pm Pacific time).

Discovered December 28, 2005 by Robert McMillan of the Spacewatch Program near Tucson Arizona, the object has since been observed by Mike Nolan, Ellen Howell and colleagues with the Arecibo radar on April 19-21, 2010 and shown to be a very dark, nearly spherical object 400 meters in diameter.

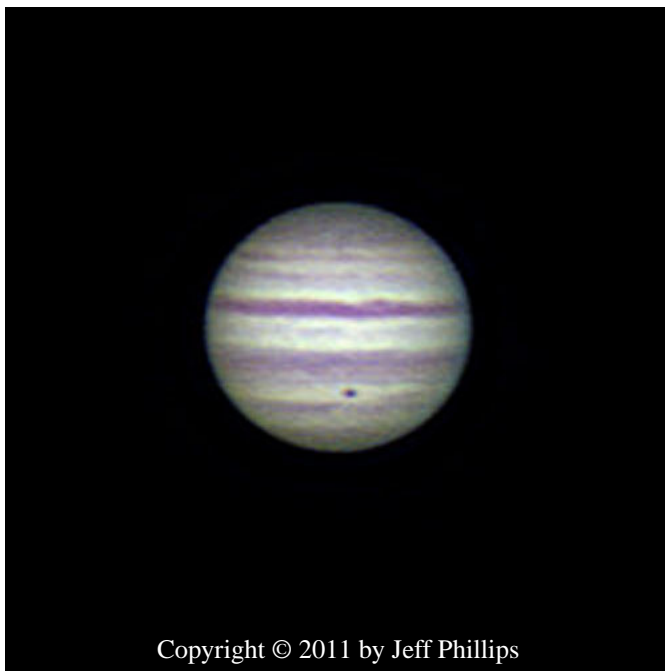
Since the asteroid will approach the Earth from the sunward direction, it will be a daylight object until the time of closest approach. The best time for ground-based optical observations will be on the evening of November 8. A few hours after its close Earth approach, it will become generally accessible for optical observations but will provide a challenging target because of its rapid motion across the sky.

See the November issue of *Sky & Telescope* magazine, p.53, for a detailed chart of where to look for the asteroid.

This will be the closest approach to date by an object this large that we know about in advance. Another event of this type will not happen again until 2028 when asteroid (153814) 2001 WN5 will pass to within 0.6 lunar distances. Unless of course we discover another between now and then. Don't push your luck: get out and observe this one!



Path of Asteroid 2005YU55 past Earth and the Moon.  
(Actual path is above the plane of the Earth-Moon system.)



Copyright © 2011 by Jeff Phillips

## Europa Shadow Transit

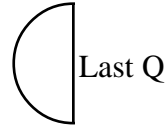
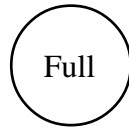
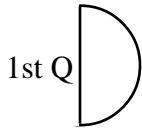
Jeff Phillips caught this transit of Europa and its shadow across the face of Jupiter at about 11:00 pm on October 24th. The photo was taken with a 102mm achromatic refractor on a motorized equatorial mount. Jeff shot a 200-second video with a Neximage webcam and an Ultima 2x barlow at 5 frames per second. He used Registax-5 to align and stack the best 300 frames from his 1000-frame video.

Jeff says, "A shadow transit is a good time to take webcam pictures of Jupiter because the moon-shadow is very helpful as a focusing target."

Shadow transits are also great fun to watch visually. The progress of the shadow across the planet is easy to discern, offering an excellent opportunity to watch orbital motion in real time.



# Observing in November



November 2	November 10	November 18	November 24
Mercury Set: 6:45 PM	Mercury Set: 5:46 PM	Mercury Set: 5:44 PM	Mercury Set: 5:33 PM
Venus Set: 6:57 PM	Venus Set: 5:57 PM	Venus Set: 6:02 PM	Venus Set: 6:08 PM
Mars Rise: 1:19 AM	Mars Rise: 12:09 AM	Mars Rise: 11:57 PM	Mars Rise: 11:48 PM
Jupiter Set: 7:27 AM	Jupiter Set: 5:51 AM	Jupiter Set: 5:14 AM	Jupiter Set: 4:47 AM
Saturn Rise: 6:16 AM	Saturn Rise: 4:50 AM	Saturn Rise: 4:23 AM	Saturn Rise: 4:02 AM
Uranus Set: 4:35 AM	Uranus Set: 3:02 AM	Uranus Set: 2:30 AM	Uranus Set: 2:06 AM
Neptune Set: 1:43 AM	Neptune Set: 12:11 AM	Neptune Set: 11:36 PM	Neptune Set: 11:12 PM
Pluto Set: 9:32 PM	Pluto Set: 8:01 PM	Pluto Set: 7:30 PM	Pluto Set: 7:07 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
	Begin Standard Time	-----	-----	-----	-----	-----	-----
	11/1/2011	13:40	23:50	07:49	18:02	06:11	19:40
	11/2/2011	14:11		07:50	18:01	06:12	19:39
	11/3/2011	14:38	00:55	07:52	18:00	06:14	19:38
	11/4/2011	15:02	01:58	07:53	17:58	06:15	19:37
	11/5/2011	15:25	03:00	07:54	17:57	06:16	19:35
	11/6/2011	14:48	03:00	06:56	16:56	05:17	18:34
	11/7/2011	15:12	04:00	06:57	16:55	05:18	18:33
	11/8/2011	15:38	05:00	06:58	16:53	05:19	18:32
	11/9/2011	16:07	06:00	07:00	16:52	05:21	18:31
	11/10/2011	16:41	07:00	07:01	16:51	05:22	18:30
	11/11/2011	17:20	07:59	07:02	16:50	05:23	18:30
	11/12/2011	18:06	08:55	07:04	16:49	05:24	18:29
	11/13/2011	18:59	09:46	07:05	16:48	05:25	18:28
	11/14/2011	19:58	10:32	07:06	16:47	05:26	18:27
	11/15/2011	21:01	11:12	07:08	16:46	05:27	18:26
	11/16/2011	22:07	11:47	07:09	16:45	05:28	18:26
	11/17/2011	23:16	12:18	07:10	16:44	05:30	18:25
	11/18/2011		12:47	07:12	16:43	05:31	18:24
	11/19/2011	00:26	13:14	07:13	16:42	05:32	18:23
	11/20/2011	01:39	13:42	07:14	16:42	05:33	18:23
	11/21/2011	02:53	14:12	07:15	16:41	05:34	18:22
	11/22/2011	04:10	14:46	07:17	16:40	05:35	18:22
	11/23/2011	05:28	15:26	07:18	16:39	05:36	18:21
	11/24/2011	06:45	16:14	07:19	16:39	05:37	18:21
	11/25/2011	07:57	17:10	07:20	16:38	05:38	18:20
	11/26/2011	09:00	18:14	07:22	16:38	05:39	18:20
	11/27/2011	09:53	19:23	07:23	16:37	05:40	18:20
	11/28/2011	10:35	20:33	07:24	16:37	05:41	18:19
	11/29/2011	11:10	21:41	07:25	16:36	05:42	18:19
	11/30/2011	11:39	22:46	07:26	16:36	05:43	18:19

## Items of Interest This Month

11/3 Io shadow transit 10:15 - 12:25 PM

**11/4 First Quarter Friday Star Party**

11/6 Daylight savings time ends early AM

**11/8 Asteroid flyby!** See November *Sky & Telescope* p.53 for details.

11/9 Venus, Mercury, & Antares line up at dusk

11/9-12 Mars within 1.5° of Regulus before dawn

10/17-18 Leonid Meteor shower peaks before dawn on 18th.

10/18 Europa shadow transit 5:30 - 8:00 PM

10/19 Io shadow transit 7:00 - 9:09 PM

10/26 Crescent Moon near Venus just after sunset

## 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