

IO – September 2006

Issue 2006-9

Eugene Astronomical Society,
Annual Club Dues \$25, Board Members:
President: Richard Boyd- checkerkit@comcast.net,
Stephen Caruana, Fred Domineack,
Jacob Stranlien Sam Pitts

www.eugeneastro.org

EAS is a Proud Member of:



IO editor- sampitts@comcast.net 688-7330
Io (*EYE-oh*) is nearest to Jupiter and fastest orbiting of the four Galilean moons

Monday- September 11 MEETING **EUGENE ASTRONOMICAL SOCIETY** **Special Meeting**

The Eugene Astronomical Society will be hosting a fundraiser for Fred Domineack at Papa's Pizza on Coburg Rd on September 11, 2006 from 6:30 till 9:00. Everyone is invited!

Some of you may remember Fred. He was a former president of EAS. He is involved with the Friends of Pine Mountain Observatory. He has attended many Oregon Star Parties. But above all he is a really good man with a very friendly outgoing personality.

Last March he suffered a massive stroke. He was in a coma for many weeks and had multiple brain surgeries. He is now improving. He is cognizant but he can barely speak. Currently his relatives have taken him back to Ohio for a visit so that they can help him.

So EAS will be having a Fundraiser for Fred. Papa's pizza will donate 50 percent of the proceeds to the Fred Fund. ALL ATTENDEES MUST GET A FLYER FROM ME BEFORE ORDERING!!! (So that the funds will get donated.)

This will be a regular EAS meeting and we will be having a guest speaker. Professor Jim Shombert from the UO Physics department will speak on Planets and Cosmology.

If you are interested in attending, please feel free to contact Alan Gillespie at apfrsscf@aol.com or (541)689-5462.

Clear Skies
Alan

See Page # 3 for the flyer & bring it with you!

Check EAS WEB site for up to the minute Information
www.eugeneastro.org

IO –September 2006
www.eugeneastro.org



Observing in September

September 30	September 7	September 14	September 22
Mercury Set 7:32 PM	Mercury Set 7:56 PM	Mercury Set 7:51 PM	Mercury Set 7:42 PM
Venus Rise 6:30 AM	Venus Rise 5:31 AM	Venus Rise 5:49 AM	Venus Rise 6:10 AM
Mars Set 7:11 PM	Mars Set 8:11 PM	Mars Set 7:52 PM	Mars Set 7:32 PM
Jupiter Set 8:35 AM	Jupiter Set 9:54 PM	Jupiter Set 9:30 PM	Jupiter Set 9:02 PM
Saturn Rise 3:07 AM	Saturn Rise 4:24 AM	Saturn Rise 4:01 AM	Saturn Rise 3:34 AM
Uranus Rise 5:55 PM	Uranus Rise 7:27 PM	Uranus Rise 6:59 PM	Uranus Rise 6:27 PM
Neptune Rise 4:53 PM	Neptune Rise 6:25 PM	Neptune Rise 5:57 PM	Neptune Rise 5:25 PM
Pluto Set 11:07 PM	Pluto Set 12:37 AM	Pluto Set 2:09 AM	Pluto Set 11:38 PM

All times Universal Time (UT), U.S. Pacific Daylight Time = UT - 7 hours (May-October) UT-8 (Nov.-April).

Date	Moon Rise	Moon Set	Sunrise	Sunset	Twilight AM	Twilight PM
9/1/2006	15:56	23:59	06:35	19:48	04:52	21:31
9/2/2006	16:56	-----	06:36	19:47	04:54	21:29
9/3/2006	17:46	01:02	06:38	19:45	04:55	21:27
9/4/2006	18:26	02:16	06:39	19:43	04:57	21:25
9/5/2006	18:57	03:39	06:40	19:41	04:58	21:23
9/6/2006	19:24	05:03	06:41	19:39	05:00	21:20
9/7/2006	19:46	06:27	06:42	19:38	05:01	21:18
9/8/2006	20:08	07:50	06:43	19:36	05:03	21:16
9/9/2006	20:30	09:12	06:45	19:34	05:04	21:14
9/10/2006	20:54	10:34	06:46	19:32	05:06	21:12
9/11/2006	21:24	11:56	06:47	19:30	05:07	21:10
9/12/2006	21:59	13:16	06:48	19:28	05:09	21:08
9/13/2006	22:44	14:29	06:49	19:27	05:10	21:05
9/14/2006	23:39	15:34	06:50	19:25	05:11	21:03
9/15/2006	-----	16:26	06:51	19:23	05:13	21:01
9/16/2006	00:40	17:07	06:53	19:21	05:14	20:59
9/17/2006	01:48	17:38	06:54	19:19	05:16	20:57
9/18/2006	02:55	18:03	06:55	19:17	05:17	20:55
9/19/2006	04:02	18:23	06:56	19:15	05:18	20:53
9/20/2006	05:06	18:41	06:57	19:14	05:20	20:51
9/21/2006	06:09	18:57	06:58	19:12	05:21	20:49
9/22/2006	07:12	19:13	07:00	19:10	05:22	20:47
9/23/2006	08:14	19:30	07:01	19:08	05:24	20:45
9/24/2006	09:18	19:48	07:02	19:06	05:25	20:43
9/25/2006	10:23	20:09	07:03	19:04	05:26	20:41
9/26/2006	11:31	20:35	07:04	19:02	05:28	20:39
9/27/2006	12:39	21:09	07:05	19:00	05:29	20:37
9/28/2006	13:46	21:52	07:07	18:59	05:30	20:35
9/29/2006	14:46	22:48	07:08	18:57	05:32	20:33
9/30/2006	15:39	23:56	07:09	18:55	05:33	20:31

All times are for Eugene, Oregon Latitude 44° 3' 8" Longitude 123° 5' 8" for listed Date



1577 Coburg Road, Eugene
686-2240

We are hosting a PIZZA DAY at
PAPA'S PIZZA PARLOR
COBURG ROAD
FOR

E.A.S.
"FRED DOMINEACK"
GUEST SPEAKER JIM SCHOMBERT

Bring this flyer into Papa's Pizza on **September 11th**
and the fund will receive **50%** of the value of the food
you purchase! Buy a pizza, salad, soup or breadstick and
Papa's will donate 50% of your order.

Please come into Papa's and help us out!
With your support on **September 11, 2006**
we can have a really successful fundraiser!

Not valid on delivery

These flyers cannot be distributed at Papa's
This fundraiser flyer is valid **ALL DAY** only on specified date.

Total Food Order \$ _____

All Gift Certificates purchased 25%\$ _____

BREIT IDEAS Observatory

Derek C. Breit is a constant and welcome contributor to the EAS news list. Bret has a great web site with lots of information on Asteroid Occultations and Occultations of Stars by the Moon. These events can be enjoyed and real scientific data can be collected by armatures. Derek is heavily involved in these activities and has a link to Occultations that are specific for certain regions. One of the regions he updates continually is Eugene, Oregon. You need to visit this great web site to learn more.


<http://www.poyntsource.com/New/Regions.htm>
<http://www.poyntsource.com/New/Regions/EAS.htm>

Derek has also put together a great flier that is used by International Occultation Timing Association, Inc.

<http://www.occultations.org/>

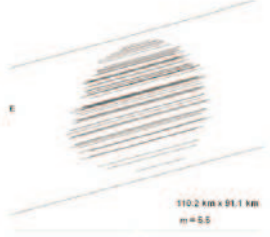
ASTEROID OCCULTATIONS

Thousands of small planet-like bodies exist in our solar system called asteroids. Asteroids generally orbit in-between the orbits of Mars and Jupiter. They are usually too small and too far away to be accurately imaged by ground based telescopes. We can indirectly study the shape and size of an asteroid by placing an observer with a telescope in the projected path of an asteroid occultation. This is where an asteroid passes between the Earth and a star causing the star to be briefly eclipsed. The shadow of the asteroid is projected onto the Earth and crosses a finite area proportional to the asteroid diameter. If many observers are placed in a perpendicular line across the occultation path, their individual timings of the disappearance and reappearance (or drop in brightness) of the target star will vary depending upon where along the path they are located.



In the diagram above, the asteroid (about 10 miles in diameter) is assumed to have the ideal elliptical shape shown in green. In reality it is more likely to be highly irregular. As the shadow (created behind the asteroid as a result of the star's light) passes across the earth, it crosses the 3 observers set up off a small highway. Their telescopes are located so that car lights won't illuminate them as other cars cruise down the highway. Observer 1 sees a moderately long occultation depicted by the dotted line (e.g.

4.5 seconds) while Observer 2 (located near the centerline) sees a very long occultation (10.3 seconds). Observer 3 sees a short outage since he/she is located at the southern edge of the path (1.2 seconds). Your observations, combined with those of others, can lead to the following results:





More information can be found at:
<http://lunar-occultations.com/jota/oranda.htm>
<http://www.occultations.org/>
<http://jota.ihnapl.edu>
<http://www.eclipsetours.com/occultations>
<http://asteroidoccultation.com>

We hope that readers of this flyer will be stimulated to enter this interesting field that offers such potential for occultation and discovery.

The person who gave you this information can be reached in the following way(s).

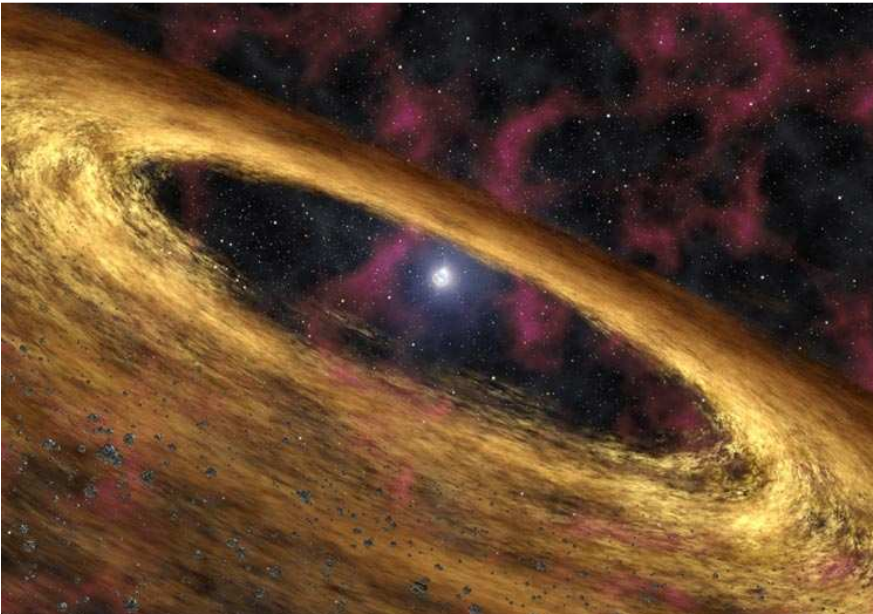
WHY OCCULTATIONS?



Thanks Derek for all the information and devotion to our hobby!

Deadly Planets

By Patrick L. Barry and Dr. Tony Phillips



Artist's concept of a pulsar and surrounding disk of rubble called a "fallback" disk, out of which new planets could form.

About 900 light years from here, there's a rocky planet not much bigger than Earth. It goes around its star once every hundred days, a trifle fast, but not too different from a standard Earth-year. At least two and possibly three other planets circle the same star, forming a complete solar system.

Interested? Don't be. Going there would be the last thing you ever do. The star is a pulsar, PSR 1257+12, the seething-hot core of a supernova that exploded millions of years ago. Its planets are bathed not in gentle, life-giving sunshine but instead a blistering torrent of X-rays and high-energy particles.

"It would be like trying to live next to Chernobyl," says Charles Beichman, a scientist at JPL and director of the Michelson Science Center at Caltech.

Our own sun emits small amounts of pulsar-like X-rays and high energy particles, but the amount of such radiation coming from a pulsar is "orders of magnitude more," he says. Even for a planet orbiting as far out as the Earth, this radiation could blow away the planet's atmosphere, and even vaporize sand right off the planet's surface.

Astronomer Alex Wolszczan discovered planets around PSR 1257+12 in the 1990s using Puerto Rico's giant Arecibo radio telescope. At first, no one believed worlds could form around pulsars—it was too bizarre. Supernovas were supposed to destroy planets, not create them. Where did these worlds come from?

NASA's Spitzer Space Telescope may have found the solution. Last year, a group of astronomers led by Deepto Chakrabarty of MIT pointed the infrared telescope toward pulsar 4U 0142+61. Data revealed a disk of gas and dust surrounding the central star, probably wreckage from the supernova. It was just the sort of disk that could coalesce to form planets!

As deadly as pulsar planets are, they might also be hauntingly beautiful. The vaporized matter rising from the planets' surfaces could be ionized by the incoming radiation, creating colorful auroras across the sky. And though the pulsar would only appear as a tiny dot in the sky (the pulsar itself is only 20-40 km across), it would be enshrouded in a hazy glow of light emitted by radiation particles as they curve in the pulsar's strong magnetic field.

Wasted beauty? Maybe. Beichman points out the positive: "It's an awful place to try and form planets, but if you can do it there, you can do it anywhere."

More news and images from Spitzer can be found at <http://www.spitzer.caltech.edu/>. In addition, The Space Place Web site features a cartoon talk show episode starring Michelle Thaller, a scientist on Spitzer. Go to <http://spaceplace.nasa.gov/en/kids/live/> for a great place to introduce kids to infrared and the joys of astronomy.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Events

September 2006

?	Griffith Observatory Reopens
1	Comet P/2006 HI (McNaught) Closest Approach To Earth (1.588 AU)
	Asteroid 372 Palma Occults HIP 33643 (6.7 Magnitude Star)
2	Asteroid 2005 CN61 Near-Earth Flyby (0.093 AU)
3	SMART-1, Moon Impact; 30th Anniversary (1976), Viking 2, Mars Landing
5	Uranus at Opposition
7	Cassini, Titan Flyby
9	Asteroid 85640 (1998 OX4) Near-Earth Flyby (0.071 AU)
10	Comet 2003 A1 (LINEAR) Near-Jupiter Flyby (0.060 AU); Asteroid 2002 SV Near-Earth Flyby (0.097 AU)
12	40th Anniversary (1966), Gemini 11 Launch (Charles Conrad and Richard Gordon)
13	Comet Wiseman-Skiff Perihelion (1.578 AU); Meeting: Astrobiology Strategy for the Exploration of Mars, Boulder, Colorado
19	AIAA Space 2006 Conference, San Jose, California
20	Asteroid 2004 FX31 Near-Earth Flyby (0.095 AU)
21	Asteroid 2004 SC56 Near-Earth Flyby (0.089 AU); Asteroid 6470 Aldrin Closest Approach To Earth (0.977 AU)
23	Cassini, Titan Flyby; Asteroid 2001 RY47 Near-Earth Flyby (0.092 AU)
29	Asteroid 2000 TH1 Near-Earth Flyby (0.081 AU); Asteroid 1937 UB Near-Venus Flyby (0.052 AU)
30	Asteroid 2002 TA67 Near-Earth Flyby (0.093 AU)

