

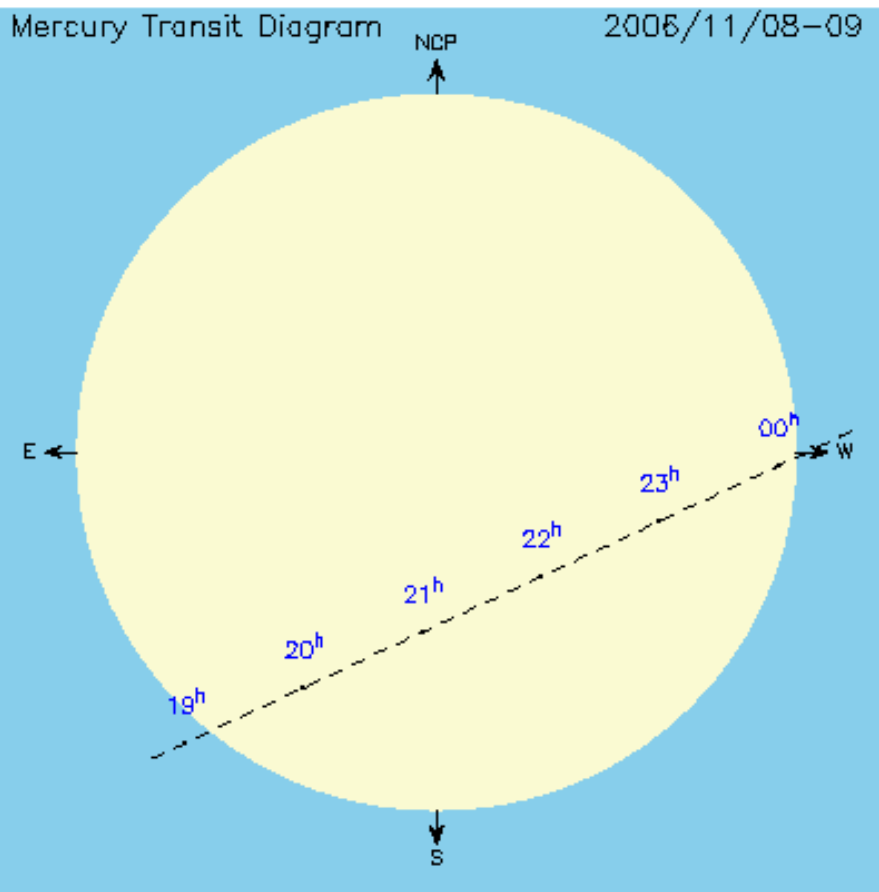


General Meeting of the Omaha Astronomical Society
 Friday, November 3rd at 7:30 PM
 Durham Science Center, Room 169, UNO Campus
 Program: See Page 3

MERCURY TRANSIT

The local times for the Mercury transit on 8 November are 1:12 pm CST for the Exterior ingress or the point where the circle of Mercury first touches the orb of the Sun, next the Interior ingress when Mercury is inside the orb of the Sun occurs at 1:14 pm. Unfortunately for us here in Nebraska the transit will still be going on when the Sun sets. The Sun sets on the 8th at 5:12 pm and Mercury does not start to leave the orb of the Sun until 6:08 pm. Watch for the next transit May 9, 2016.

Please remember that the transit of Mercury is not an event that can be looked at naked-eye, you will need a telescope with a good quality solar filter, otherwise you could damage your eyes. As to what else you may see on the 8th on the surface of the Sun well that depends on old Sol. As of right now there are no sunspots visible on the surface of the Sun.



Prepared by HM Nautical Almanac Office

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Geocentric Circumstances

Exterior ingress on	2006/11/08	at 19 ^h 12 ^m 03 ^s .8 UT
Interior ingress on	2006/11/08	at 19 ^h 13 ^m 56 ^s .7 UT
Minimum separation on	2006/11/08	at 21 ^h 41 ^m 03 ^s .8 UT of 422".9
Interior egress on	2006/11/09	at 00 ^h 08 ^m 15 ^s .7 UT
Exterior egress on	2006/11/09	at 00 ^h 10 ^m 08 ^s .6 UT

**November Club Star Party,
 November 18, 2006
 OAS Club Site, Weeping Water**

Omaha Astronomical Society is a member of the NASA Night Sky Network

Events and Stuff Section

November Meeting Presentation

Astronomy for Beginner
Observing Series.

"Lunar Observing"

By Al Dorn

November Sky Calendar

5th Full Moon
8th Mercury Transits the Sun
12th Last Quarter Moon
17th Leonid Meteor Shower Peaks
20th New Moon
28th First Quarter Moon

New Members

Ann Donovan of Omaha
James Mayfield of Omaha

Good October Observing Dates to Observe at the Club Site or other good dark sky location

Friday 10 November, last quarter moon
Saturday 11 November, last quarter moon
Friday 17 November, new moon
Saturday 18 November, new moon

Mahoney Public Star Parties

Done Until May 2007

All Friday evenings from Twilight On the Golf Driving Range of the Mahoney State Park Ashland, NE

Recent Observing Awards

Charles & Rita Livengood,
Both got Messier Certificates

Reminder

To all members, please remember to sign up for items, food or beverage, that you will bring to the December meeting.

Also if someone has any item do donate as a door prize please bring it and contact me at the meeting and let me know what it is.

Thanks in advance, Eric Balcom

OAS Meeting Minutes

6 October 2006

Durham Science Building, UNO, Rm. 169.

Meeting was called to order at 7:35 by President Al Dorn. We welcomed two guests, Jack and Liz Dunn from Prairie Astronomy Club (PAC) and had a total of 48 people at the meeting.

Minutes of September OAS Meeting read by Secretary Kim Moss-Allen. A motion was made to accept the minutes by Howard Bohm, seconded by Ed Sikorsky.

Treasurer's Report given by Treasurer Bill Bond. September income: \$539, Expenses \$476.28, Balance of \$5225.89. Bill will also order 2007 calendars.

Outreach John Johnson says THANK YOU! To everyone who helped out with the busy outreach schedule in September. Thank you letters from local school kids were available to read. Outreach in October: Friday, Oct.20th Two Rivers State Park, Boy Scout Group and Monday, Oct.30th Trinity School in Omaha (tentative).

OAS Telescope Loan Program If you are interested in checking out one of the club telescopes please contact John Johnson.

6 inch Dobsonian	Osa Hendricks
6 inch Newtonian	Keith Jones
8 inch SCT	Rita Corell
8 inch Dobsonian	Joe Alvarado

13 inch Dobsonian Chris Jewell
Binoculars, 11x80 Bill Bond

President	Mark Weiss
Vice President	Gary Grimes
Treasurer	John Macy
Secretary	Kim Moss-Allen
Program Chair	Eric Balcom
Outreach Coordinator	John Johnson

Observing Comet Swan is a good binocular object right now, near 6th magnitude in Ursa Major, while Comet Levy is a telescopic object in Leo at this time. Club Star Party at Astropark, Weeping Water, NE, October 21st. Also OAS member Jeff Houston reminded us that Baylen Observatory in Meade, NE is having an open house Friday, October 27th.

Old Business

OAS PAC Astronomy Banquet: Mr. Dunn here to discuss details. Speaker (1not 2) is Rick Johnson former OAS and PAC member. Come and visit SAC Museum exhibits at 6:30, dinner will be 7:15 with awards and speaker afterwards. Rick Johnson will be showing and discussing building his backyard observatory and "armchair observing." PAC will be roasting Rick with anecdotes and old photos (some doctored!) There WILL be door prizes, more donations not necessary but always welcome. PAC says they will provide pie for dessert, OAS to provide cake. Rita Livengood knows a baker and offers to get us cakes at a good price. Bob Dunn makes a motion to fund cakes, seconded by Gary Grimes and passed by members. Some discussion about soda pop, but as drinks are already provided by the caterer, so it was decided not to provide pop from the club.

Photos taken in September are available at the meetings, prices range from \$4 to 50 cents, color or black and white available.

Mid States Regional Convention Committee has found a suitable location for the Convention in 2007. They would like to have \$250 from the OAS for a deposit for the Westside Community Conference Center in Omaha. (The money will be repaid to the OAS from the Region). Phil Heflin made a motion to OK the payment, seconded by Clark Cheney, passed.

New Business

1. **Elections** were held with the following results:

Thank you for a job well done to outgoing President Al Dorn, and outgoing Treasurer Bill Bond!!

2. **Awards** Vicki and Rick Neidergeses both earned Honorary Messier Awards for observing at least 70 of the non-comet objects listed in the Messier Catalog. Trivia - the Astronomical Leagues Messier Observing Award began right here in Omaha in the OAS!

Next Meeting will be November 3rd, 2006, UNO Physics Building, room 169. Motion made to close meeting by Sharon Weiss, seconded by Clark Cheney.

Program:

A Tour of the Autumn Constellations
By Eric Balcom

Minutes by
OAS Secretary, Kim Moss-Allen

October Astronomy Answers

1. Pluto
2. 2015
3. Chandra X-Ray Observatory
4. Microvariability & Oscillations of Stars
5. AU, approx 93 million miles or 150 million km
6. 100.5 AU
7. Compton Gamma Ray Observatory
8. Dr. Arthur Compton
9. GRB's, Gamma Ray Bursts
10. 156 and growing
11. 4, the gas giants
12. Geminids
13. 3200 Phaethon, an asteroid
14. 3.8 cm per year
15. IO
16. Triton, Moon of Neptune -392.8 degrees F

NOVEMBER OBSERVING

By Mark Weiss

As mentioned on the front page in November we have the transit of Mercury across the Sun as a major observing opportunity. Remember that in November we also have the Leonid meteors, the peak of which falls on a Saturday night/Sunday morning which is good for most of us, it also comes two days before a new moon. This should make the observing condition great if the weather cooperates. Experts predict that we could get as many as 100 meteors per hour this year. But, remember that some years the rate is as low as 15 to 20 meteors per hour. Ever wonder where meteor showers come from, well it is from the trails of debris left behind from comets. Comet Temple-Tuttle is the comet that gives us the Leonid Meteor Shower. This is true for most meteor showers except for the Geminid shower in December, that one comes from the debris from Phaethon an asteroid, and this was only discovered in 1983. Meteor Showers basically get their name from the constellation that they originate from, or the constellation that their paths can be traced back to, in the case of the Leonids that is the constellation Leo. So let's hope for clear skies and a high rate of meteors.

Let's take a look at the planets for the month of November. Well Mercury we already know will transit the Sun on the 8th, later in the month look for Mercury in the east-southeast sky just before dawn. It will reach its peak elevation just before dawn on the 24th and 25th. Look for Neptune and Uranus near each other with Neptune in northern Capricornus and Uranus in Aquarius. Look for them in the early evening as by midnight they will have set. Saturn is a morning planet, rising as Uranus sets, so if you choose to get up in the predawn hours you will be able to see the ringed planet. As for Venus, Mars and Jupiter they all lie too close to the Sun for viewing this month. However look for Jupiter and Mars near Mercury in early December.

Comet Swan should still be visible for the month of November, although it will be getting dimmer as the month goes on. Early November will find it in Hercules, while Aquila will be its home for the last 10 days of November. Swan should be visible with binoculars and small telescopes for the entire month. For those observers with the larger telescopes comet 4P/Faye should be visible in Pisces, this comet could have two separate tails. You might also find the asteroid Iris in November between Pleiades and Aries, how-

ever on the nights of 4-6 November finding it will be difficult as there will be a full Moon nearby.

Well now that I have covered some of the objects that will be visible during the month of November, I think we should cover another aspect of cold weather observing and that would be dressing for the conditions and for comfort.

COLD WEATHER OBSERVING (Short Version)

Reason to do cold weather observing:

1. Longer observing sessions without staying up all night.
2. Crisp, clear skies with less moisture in the air.
3. None of those pesky bugs.
4. Constellations and other objects that are Not visible any other time of the year.

You can stay comfortable and warm for a night of winter viewing, if you are willing to put the in a bit of extra time planning.

1. Get the items you will need to stay warm Ready now; before the really cold weather arrives.
2. Prepare Early; it will take longer to prepare for a cold weather observing session.
3. Dress Properly.

DRESS IN LAYERS

1. The first reason to layer your clothing is to trap dead air in between the layers of clothing. It is this trapped air that makes insulation work, exactly the same as the dead air trapped in between the fiberglass insulated walls in your home or foam insulated coolers you use to keep your food cool.
2. The second reason to dress in layers is to have an effective and easy way to control your body temperature. How many of you go out into the cold with a heavy expedition type jacket and pants like Nanook of the North, only to start sweating as soon as you start to set up your equipment. Layering your clothing allows you to take off or put clothing on as your activities change. Of course you will add more clothing as you settle in to do some serious observing and you will take layers off as you increase your activities.
3. Of critical importance when dressing for cold weather survival: avoid seams at the point where clothing meets. Make sure each layer of clothing interleaves and generously overlaps the previous

layer. Make sure shirts, underwear and socks are extra long (6" more than seems necessary is usually good) for tucking in. Loosing heat in seams (when bending over for example) can quickly lead to feeling cold!

4. Tip: go to the bathroom BEFORE dressing! It's not easy to take care of business through 3 to 4 layers of clothing!
5. Wind gear is important at keeping warm air trapped inside your clothing. Wind gear can be any type of outer garment that blocks the flow of cold air into your insulated dead air space. The one exception is rain gear that does not allow moisture to escape to the outside often trapping the moisture inside your clothing to a point that your layering becomes wet and ineffectual.

8. Where would you find Cordelia and Ophelia?
9. Two major meteor showers originate in the same constellation as seen from Earth; which constellation is it and when do they happen?
10. These data describe which planet? Density 2.03 (ratio of mass to volume), diameter 2,300 km, and rotation 6.39 earth days.
11. The "inclination of orbit to ecliptic" measures the angle between the plane of a planet's orbit and what?
12. This constellation has a star called Muscida, Latin for muzzle, and also contains the Owl Nebula. Which is it?

Astronomy Quiz November 2006

1. Observing the stars without the aid of instruments, most people under reasonable conditions can see stars up to what magnitude?
2. This constellation is near Leo and contains an open cluster of mostly 5th and 6th magnitude stars, about 270 LY from earth, and is spread out over more than 5 degrees. The constellation is also on meridian May 15th.
3. The darkened, irregular areas on the sun's photosphere, called sunspots, are cooler than the rest of the sun's surface by about a) 1800 degrees b) 2000 degrees c) 20,000 degrees or d) 22,000 degrees.
4. This modern constellation was formed from faint stars formerly part of Canis Major, contains a star called Wezen, and covers 270 square degrees. Which is it?
5. What is the tallest mountain on the moon?
6. What is this piece of poetry referring to and who is the author?

"Before the phantom of False Morning died,
Methought a Voice within the Tavern cried,
When the Temple is prepared within,
Why nods the drowsy Worshipper outside?"
7. True or False. As you watch a sunset and see the sun sink down below the horizon, the sun has actually set several minutes ago.

Astronomy Terms

Meteor - A small dust particle (or larger piece of material) that appears as a bright streak of light when it burns up in the Earth's atmosphere

Meteor Shower - A flurry of meteors that appears to emanate from the same place in the sky over the course of a day or few days. Meteor showers occur when the Earth travels through a debris trail left by a comet as it passes by the Sun

Meteor Storm - A great number of meteors (over 1000 per hour) fill the sky over the course of a few minutes or hours

Meteor Stream - A stream of particles ejected from a comet during its passage around the Sun

Meteoroid - A small particle traveling through space

Radiant - The point at which meteors' paths intersect if traced backward

Meteor Train - A trail of ionized dust and gas that remains along the path of a meteor

Bolide - A very bright meteor which fragments or explodes. Sounds of the explosion can be heard if the observer is close enough.



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October Astronomy Answers

1. 6th
2. The open cluster is called the Coma star cluster or Melotte 111 and the constellation is Coma Berenices (Berenice's Hair.)
3. b) about 2000 degrees.
4. Columba, the Dove.
5. Mount Huygens, in Mare Imbrium.
6. This is from the Rubaiyat, written by mathematician/astronomer/poet al-Khayyami, also known as Omar Khayyam. It's referring to zodiacal light or false dawn, which is caused by sunlight reflecting off interplanetary dust and appears just before dawn or just after sunset.
7. True. Our atmosphere bends the light rays, (refraction), and we can still see the sun's image for a few moments after it has set.
8. These are Uranus' two smallest moons.
9. Aurius. The Eta Aquarids peak on May 4th and the Delta Aquarids peak on July 28th.
10. The planet Pluto, or more correctly, "dwarf planet."
11. And the plane of earth's orbit around the sun, also called the ecliptic.
12. Ursa Major.

References: *The Practical Astronomer*, Colin A. Ronan and *National Audubon Society Field Guide to the Night Sky*

The STELLA is a publication of
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BENEFITS OF MEMBERSHIP

- ◆ Members receive the STELLA, our monthly newsletter.
- ◆ Each member is automatically a member of the Astronomical League, the only nation-wide organization for amateur astronomers.
- ◆ Use of the observing site at Weeping Water, NE
- ◆ The opportunity to borrow one of several club-owned telescopes.
- ◆ Organized trips to local observatories, planetariums and museums.
- ◆ Significant savings on subscriptions to **Sky & Telescope** and **Astronomy** magazines.
- ◆ Savings on astronomy books and printed materials.

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