Astro Chatter

Mars rover *Opportunity* has driven to within 20 meters of the crater Santa Maria. This shot includes the rock called “Alligator tail”. Mars passes behind the Sun. Lots of instructions will be executed while awaiting communications.

The end of the year 2010 was also the end of Kodak’s product *Kodachrome*. Apparently, digital cameras rule. According to Kodak, 35 mm film has 6 megapixels resolution. Inexpensive digital cameras have had that for years. With high capacity SD cards, the limiting factor for photography is battery life. Remember to bring spares.

The Japanese space craft *Akatsuki* (formerly Venus Climate Orbiter, and Planet-C) did not reach orbit around Venus due to a faulty valve. Perhaps another attempt can be made in 6 years. Or, perhaps, a flyby mission of Venus will be made at that time.

Space shuttle Discovery faces *new problems*. Leaks were found in the external fuel tank on Nov 5. After stringer repairs, a fueling test was conducted on Dec 17. Afterwards, four new cracks were found. Mission managers will decide if they will repair the damaged section. STS-133 is a resupply flight to the ISS, carrying the Leonardo Permanent Multipurpose Module. That module includes Robonaut-2, a human like robot. This final flight of Discovery is the 39th.

- Stephen Uitti
The SWAP SHOP
This column is for those interested in buying, trading or selling. Ads run for six months. The month and year the ad will be removed is shown. Submit ads to Stephen Uitti, 313 389-5609 publications@warrenastro.org.


FOR SALE: Konusky-Motor 200 with Laser Alignment/Collimator. This 8" Newtonian on a motorized GE mount has a 1000mm focal length. It comes with 10 mm (100x) and 25 mm (40x) eyepieces. Was $700 new. Asking $425. wilfird@aol.com [12-2010]

WAS Club logo wear at WAS meetings
(Photos and modeling by Jon Blum)

Diane Worth, dianewsky-night@yahoo.com or 248-980-7832 sells club logo clothing (hats, shirts, sweatshirts, jackets). Stephen Uitti brings a catalog of available items to meetings.

Astronomical Phenomena - January 2011

Day  Event
1   Antares 2.6°S of Moon
2   Moon furthest South (-24.2°)
2   Mercury 3.7°N of Moon
3   Pluto 4.2° N of Moon
3   Earth at perihelion
4   NEW MOON
4   Partial Solar Eclipse (Europe, Africa, c Asia)
4   Jupiter 0.5°S of Uranus
4   Mars 2.7°S of Moon
7   Neptune 4.7°S of Moon
8   Venus greatest elong W(47°)
9   Mercury greatest elong W(23°)
10  Moon at apogee
10  Uranus 5.9°S of Moon
12  FIRST QUARTER
16  Moon furthest North (24.1°)
18  Mercury 4.1°S of Pluto
19  FULL MOON
21  Regulus 4.8°N of Moon
22  Moon at perigee
25  Spica 2.8°N of Moon
26  LAST QUARTER
27  Saturn stationary
29  Antares 2.6°S of Moon
29  Moon furthest South (-24.1°)
30  Venus 3.4°N of Moon
31  Pluto 4.1°N of Moon

Oakland Astronomy Club newsletter
http://oaklandastronomy.ulmb.com/oacnews.html

Clear skies, - Bill MacIntosh

Seven Ponds Open Invitation
WAS members are invited to The Seven Ponds Astronomy Club monthly meetings. More information about upcoming meetings, maps to Seven Ponds Nature Center, etc. is available at at http://bhmich.com/sevenpondsac/. Please let me know if you might attend so that appropriate plans can be made. Any questions, please contact me.

- John Lines
Observatory Rules

1. Closing time depends on weather, etc.
2. May be closed one hour after opening time if no members arrive within the first hour.
3. Contact the 2nd VP for other arrangements, such as late arrival time. Call 586-992-0498.
4. An alternate person may be appointed to open.
5. Members may arrive before or stay after the scheduled open house time.
6. Dates are subject to change or cancellation depending on weather or staff availability.
7. Postings to the Yahoo Group and/or email no later than 2 hours before starting time in case of date change or cancellation.
8. It is best to call or email the 2nd VP at least 2 hours before the posted opening with any questions. Later emails may not be receivable.
9. Generally, only strong rain or snow will prevent the open house... the plan is to be there even if it is clouded over. Often, the weather is cloudy, but it clears up as the evening progresses.

-Bob Berta, 2nd VP

2011 Stargate Observatory Open House

Dates: 29 Jan, 26 Feb, Mar 26, Apr 23, May 7, June 4, July 9, Aug 20, Sept 24, Oct 22, Nov 19, Dec 3

2011 WAS Meetings

Cranbrook Meetings: 1st Mondays
Jan 3, Feb 7, Mar 7, Apr 4, May 2, June 6

Macomb Meetings: 3rd Thursdays
Jan 20, Feb 17, Mar 17, Apr 21, May 19, June 16

WAS 2010 Upcoming Presentations

<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Jan</td>
<td>Phil Martin</td>
<td>Your GPS Gadget</td>
</tr>
<tr>
<td>3 Jan</td>
<td>James Foerch</td>
<td>Cosmological Distance Ladder</td>
</tr>
<tr>
<td>20 Jan</td>
<td>Gary Ross</td>
<td>John Philoponos</td>
</tr>
<tr>
<td>7 Feb</td>
<td>Stephen Uitti</td>
<td>First Astrophotos</td>
</tr>
<tr>
<td>7 Feb</td>
<td>Larry Phipps</td>
<td>Cassini – There and Back Again</td>
</tr>
<tr>
<td>17 Feb</td>
<td>Dave Bailey</td>
<td>The Space Centrifuge</td>
</tr>
<tr>
<td>7 March</td>
<td>Stephen Uitti</td>
<td>Cool Space Mission</td>
</tr>
<tr>
<td>17 Mar</td>
<td>Jerry Kuchera</td>
<td>To Be Announced</td>
</tr>
<tr>
<td>4 April</td>
<td>Hall, Kade, Martin, Ross, Blum</td>
<td>Sci-Fi inspiration for science Debate</td>
</tr>
</tbody>
</table>

Treasurer’s Report

NONPROFIT STATUS - Still haven’t heard back from the lawyer; I’ve been checking in with her weekly.

INCOME AND EXPENDITURES - We took in $1,077 and spent $1,026. Much of the money we took in was for the banquet (which we have only made a deposit on) and for the calendars. Much of the money we spent was for the calendars (which some have not yet paid for).

We have $246.69 in cash and $4281.72 in the bank for a balance of $4528.41.

Details on I&E:

Renewals: $116.68
Donations: $68.18
Banquet: $630, ($250 deposit)
Calendars: $262, ($683.94) (Note: a number of people paid previously for their calendars)
Reimbursements: ($16.20) (Nametags)
Office supplies: ($66.09) (postage, DVD-Rs for archival and meeting recording purposes, and coin wrappers)

Refunds: ($40) for membership and calendar overpayments.

(Editor’s note: Reports such as this run a month behind. This is the report for the end of November.)

- Jonathan Kade
Board Meeting 1 Nov 2010

Officers Present: Bob Berta, Gary Ross, Stephen Uitti, Jonathan Kade, Diane Hall, Jon Blum, Therese Oldani

Guests: Dave Bailey, Dale Partin (upcoming Outreach)

1st VP: Jon Blum reported that the total cost of name tags is $1.62. Lanyards .97 and plastic .46 and ink+paper .19.

Oct 20th, 2011 Macomb meeting conflicts with Bill Beers Cadillac Star party.

2nd VP: Bob talked about the March observing date that conflicts two other events. Farmington Hills green event and Metro Park metro outreach. Suggestion is to move March observing night. Board decided to leave as is.

Our next open house is November 13, Saturday. Bob will cover open house. Other Board members offered to cover the other events. October was clouded out, but cleared after 9:20pm, about 40 people attended.

The DBARA astronomy observatory is on track...building finished, primary pier obtained and second pier that is a custom design to give wheelchair access was donated. Next order of business is obtaining the telescope.

Treasurer: Membership: 5 new members, and we still have around 30 people who have not paid dues and are attending meetings. And see Treasurer's Report.

Secretary: Therese finished printing both the letters and envelopes for requesting donations for our Annual Banquet to be held at De Carlo’s on December. Focus was on the “beg letters” getting mailed.

Outreach: Diane attended meeting for AATB for 2011, and another meeting with radio Astronomy with McMath Hilbert, speaker first pick for AATB is Drew Feustal.

Diane and Jonathan headed Spindler Park on Oct 29th, no kids attended.

Mike Narlock came to club for Nov 5th event with boy scout events. Recruiting announced today.
Cranbrook Meeting 1 November 38 attended

1st VP: Introductions were made, and Jon Blum offered hand outs for new members and visitors. Jon also reviewed the agenda for the evening, and listed the upcoming talks through December.

There is a tentative April Debate scheduled, submit your ideas.

Volunteers are being taken for snack. See Sheila Judd.

Questions and Answers open forum in upcoming meeting in 2011.

2nd VP: Next open house on Nov 13th, should have good weather.

Interviewed by Marty on Astronomy FM on the remote imaging last month.

A large dome that was donated to the boy scouts at D BARR A

Treasurer: Banquet tickets are on sale tonight, $30.

Secretary: Looking for donations from you as members for items to raffle off for our Banquet in Dec. We are also looking for pictures, feel free to send them electronically to any board member. We will post them in a digital frame to share at our Banquet.

Discussion group: A Video on why water got on the earth, coincidently the same topic that Dave Baily wrote in 1982.

The next Discussion group will be held this coming November on the 22nd at Jon Blum’s house, MONDAY due to Thanksgiving.

Solar: nothing on the sun right now... but keep looking.

Bob made solar filters for his scopes with his son.

Radio: Sai said that he is in need of filters, a request was put out.

December Grand Rapids Events: See Gary Ross for the following:

Dec 4th GRAAA Grand Rapids Astronomy in East Grand Rapids SATURNALIA event inviting WARREN club.

Dec 21: SOLTICIAL Burn at President’s house in Grand Rapids.

There is a Morning lunar Eclipse on Dec 21

IN THE NEWS: Picture Jonathan showed a picture of Comet Hartley.


Short Talk: Stephanie Leitzel talk on Lack of Astronomy Education in Schools. Audience participated in comments and support of presenter.

Main Speaker: Dave Holt of the Oakland Astronomy Club gave the feature presentation on the Tunguska event: comet or asteroid explosion.

- Secretary M. Therese Oldani

Discussion group Nov 22.

January Cranbrook Talks
The short talk at the 3 January Cranbrook meeting will be by Phil Martin. Phil (A.K.A "Doc"), lately has become so interested in Gravitational Physics that he has taken a course in exactly that at the University of Michigan. He learned a lot, including the interesting subject of black hole physics. Black holes begin with the solution to Einstein's field equations reported by Karl Schwarzschild, which he first set down in a letter to Einstein written on December 22, 1915 (he died shortly thereafter, on May 19, 1916, from a disease contracted while fighting in WW I - he basically did the work "in the trenches" - what a waste of talent). It turns out that Schwarzschild's solution is the starting point for an incredible number of topics in General Relativity. Indeed, any high school student who has taken algebra can start doing all kinds of problems in General Relativity with no more than a hand calculator.

Dr. Phil will show you how to do a first (actually, quite accurate) calculation of the corrections that must be made to the clocks in all the GPS satellites in order for them to work at all. By using just a hand calculator, and some well known values, like the mass of the earth, and Newton's gravitational constant, you, too, can calculate how the rates of the GPS satellite clocks must be slowed down so they tell the same time as the clock in your GPS unit (or your atomic clock wrist watch, for that matter). All done in 15 minutes or less!

Jim Foerch of the Grand Rapids Amateur Astronomical Association will be the main speaker at our meeting at Cranbrook on January 3. His topic is "A Selected Historical Review of the Cosmological Distance Ladder."

Many people - including the author until he prepared this presentation - have at best a naive view of the historical development of our understanding of cosmic distances. After presenting the naive view I will present selected events in our measurements of the universe. Astronomers to be discussed include Eratosthenes, Galilie, Copernicus, Kepler, Bradley, Bessel, Leavitt, et al.

January Macomb Talk
Gary Ross will give a presentation entitled John Philoponos. Who knows what Gary will have to say. But John Philoponos was an interesting individual, who lived from about 490 to about 570 AD in Alexandria. His critique on the works of Aristotle were controversial at the time. And, Galileo (and others) later cited his works. His works on Christian religion won him a posthumous condemnation as a heretic from the Orthodox Church and was made anathema (which could hardly have mattered much to him).
John Dollond

John Dollond (1706 - 1761) was an English optician, known for his successful optics business and his patenting and commercialization of achromatic doublets. Dollond was the son of a Huguenot refugee, a silk-weaver at Spitalfields, London, where he was born. He followed his father's trade, but found time to acquire a knowledge of Latin, Greek, mathematics, physics, anatomy and other subjects. In 1752 he abandoned silk-weaving and joined his eldest son, Peter Dollond (1730-1820), who in 1750 had started in business as a maker of optical instruments; this business is now Dollond & Aitchison. His reputation grew rapidly, and in 1761 he was appointed optician to the king.

Dollond patented the achromatic doublet, which combines crown glass and flint glass.

In 1758 he published an "Account of some experiments concerning the different refrangibility of light" (Phil. Trans., 1758), describing the experiments that led him to the achievement with which his name is specially associated, the discovery of a means of constructing achromatic lenses by the combination of crown and flint glasses, which reduces chromatic aberration (color defects). Leonhard Euler in 1747 had suggested that achromatism might be obtained by the combination of glass and water lenses. Relying on statements made by Sir Isaac Newton, Dollond disputed this possibility (Phil. Trans., 1753), but subsequently, after the Swedish physicist, Samuel Klingenstierna (1698-1765), had pointed out that Newton's law of dispersion did not harmonize with certain observed facts, he began experiments to settle the question.

Early in 1757 he succeeded in producing refraction without color by the aid of glass and water lenses, and a few months later he made a successful attempt to get the same result by a combination of glasses of different qualities (see History of telescopes). For this achievement the Royal Society awarded him the Copley Medal in 1758, and three years later elected him one of its fellows. Dollond also published two papers on apparatus for measuring small angles (Phil. Trans., 1753, 1754).

One of Dollond's telescopes in the White Hall of the Vilnius University library.

John Dollond was the first person to patent the achromatic doublet. However, it is well known that he was not the first to make achromatic lenses. Optician George Bass, following the instructions of Chester Moore Hall, made and sold such lenses as early as 1733. In the late 1750s, Bass told Dollond about Hall's design; Dollond saw the potential and was able to reproduce them.

Dollond appears to have known of the prior work and refrained from enforcing his patent. After his death, his son, Peter, did take action to enforce the patent. A number of his competitors, including Bass, Benjamin Martin, Robert Rew and Jesse Ramsden, took action. Dollond's patent was upheld, as the court found that the patent was valid due to Dollond's exploitation of the invention while prior inventors did not. Several of the opticians were ruined by the expense of the legal proceedings and closed their shops as a result. The patent remained valid until it expired in 1772. Following the expiry of the patent, the price of achromatic doublets in England dropped in half.