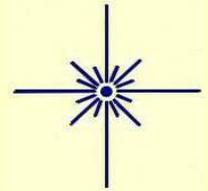




The Guide Star

Newsletter of the Amateur Astronomers Association of Pittsburgh Inc
Founded June 9, 1929 by Chester B. Roe and Leo J. Scanlon
Website: 3ap.org



December 2010

Volume 44, No.12

Annual AAAP Holiday Party

Friday, December 10th 2010 7:30pm
The Buffalo Inn in South Park



It's the most wonderful time of the year! This year our Holiday Party will be held Friday evening, 7:30, December 10 at Buffalo Inn in South Park (doors open at 7:00). The Holiday Party doubles as our regular

monthly meeting, but there will be decorations, door prizes, AAAP awards for those who have helped the most this year, and lots of delicious food!

Adele Paslow has graciously offered to cater the meal, so we can hurry straight from work without having to worry about cooking

On the menu: Chicken, pork roast, kielbasa and sour kraut, ham, mashed potatoes, rice with carrots, stuffing, haluski, rigatoni, sweet and sour green beans, corn, and fruit with fruit dip. 5\$ per person or \$10 per family. If you would still like to bring a favorite dish as in years past, please do so. We would especially welcome cookies and deserts. But don't feel obligated. We're prepared to feed everyone.

Santa's elves have collected a big bag of door prizes (purchased from vendors at The Texas Star Party, science centers, and book stores.) Well it's a medium-sized bag of door prizes. We will need your help to make this year's gift ex-change a success! Please consider donating a gift to the pile so that everyone gets something in their stocking. We are hoping for astronomical themed items (coffee mugs, mouse pads, jewelry . . .), observing aids (star wheels, charts, flashlights . . .), and books that you have enjoyed reading (please, no textbooks from the 1960s). As is traditional, Tom Reiland will be our speaker for the evening. He has chosen the Christmasy theme: "How to Function Successfully at a Public or Private Star Party.." (I have also chosen this theme for my annual Holiday Poem. ;)) [see pg.3]

We hope to meet spouses and children at the party! But to end on a Grinchy note, the gift exchange is for members only. Also, if we get a huge snowstorm on the day of the party (I put the odds at 10 percent), check your email for a cancellation.

To search for directions to Buffalo Inn, use this address "Buffalo Dr, South Park, PA, 15219." Buffalo Inn is located off Brownsville Road near the intersection with Corrigan Drive in South Park across the street from the Fairgrounds. (It shares a parking lot with the park office. There is additional parking across Corrigan Drive at the Fairgrounds, as well as above Buffalo Inn).

- Ann Norman

Results: The 2010 Kevin J. Brunelle Contest

With a number of ties and numerous entries in all categories, it's easy to see that imaging is alive and well inside the AAAP. Even the entries that didn't finish among the top three were outstanding both in content and aesthetic appeal. Congratulations to both winners and all who entered.



**Category: Astronomical
under 300mm**

**1st Place Tie:
Both entries by Mark Arelt**



**Category:
Astronomical
over 300mm**

**1st Place:
Bill Snyder**



**Category:
Atmospheric**

**1st Place:
James Klueber**

(more entries
on page 3)

Upcoming on December 21st: A Lunar Eclipse You Shouldn't Miss

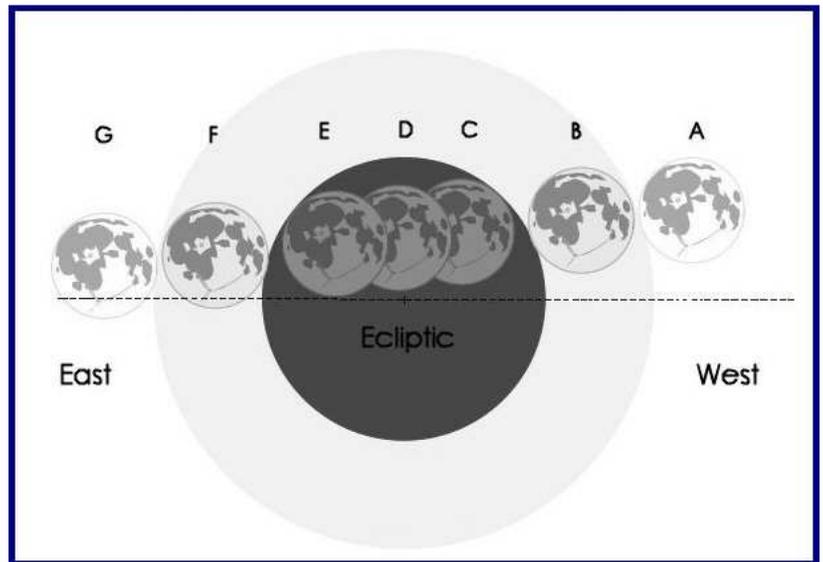
Why? Because Pittsburgh's next chance to see a complete total lunar eclipse – front to back – will be on April 14th & 15th of 2014.

So, while December's eclipse is not ideal – it begins after our moon has crossed the meridian, after midnight on a weekday morning - it has the distinct advantage of being the last of its kind for a good long time.

Totality will last seventy two minutes and as pointed out by the RASC Observer's Handbook, the southern half of the lunar disk will appear darker because of our moon's path through the northern portion of the umbra.

Here are local times and an explanatory map showing the path of the moon, from West to East, through the lighter shadow (penumbra) and the darker shadow (umbra):

- A. *Moon enters penumbra:* 00:27:32
- B. *Moon enters umbra:* 01:32:06
- C. *Start of totality:* 02:40:10
- D. *Maximum eclipse:* 03:16:45
- E. *End of totality:* 03:53:22
- F. *Moon leaves umbra:* 05:01:27
- G. *Moon leaves penumbra:* 06:05:53



For those new to eclipse watching, naked eye estimation of the brightness of the eclipse around the time of totality is a common practice.

It's done using the Danjon Scale. Admittedly, it's a subjective exercise, but it's a tool that keeps descriptions from being totally arbitrary.

The Danjon Scale

<u>Value</u>	<u>Description</u>
0	<i>Very dark eclipse. Moon almost invisible, especially at mid-totality.</i>
1	<i>Dark Eclipse, gray or brownish in coloration. Details distinguishable only with difficulty.</i>
2	<i>Deep red or rust-colored eclipse. Very dark central shadow, while outer edge of umbra is relatively bright.</i>
3	<i>Brick-red eclipse. Umbral shadow usually has a bright or yellow rim.</i>
4	<i>Very bright copper-red or orange eclipse. Umbral shadow has a bluish, very bright rim.</i>

Lunar eclipses, especially those in December with the full moon at its highest, have been the occasion for some of the best group observing in my experience.

There's a chill in the air and a slowly unfolding event that allows relaxed observing and unhurried, shared conversation.

There's a beauty apparent to the naked eye that can spread even to the surrounding landscape. The sight of a brick red moon hanging above bare trees or nearby houses and hills bathed in the unusual light of totality may not make it to your log book but it can stay in memory, in my case, for years.

Perhaps this eclipse will draw club members together for a session at the club observatories. But wherever you observe it, let's hope it's a memorable one. – *GS Editor*



How to Behave at a Star Party

(To the tune of "Santa Claus is Coming to Town")

You better lights out!
 You better sign in.
 You better help out!
 You might win a pin.
 Observing starts right after sundown.

I can't see you in the darkness.
 But I know you've got a Dob.
 We know if you've been bad or good.
 So be good . . . Oh! Hi, you're Bob!
 So . . .

You better lights out!
 You better sign in.
 You better help out!
 You might win a pin.
 Observing starts right after sundown.

- Ann Norman

The Year's Best: December's Geminids

"The finest of all the annual showers", says Neil Bone in his *Observing Meteors, Comets, Supernovae and Other Transient Phenomena*. "...the strongest dependable and observable display..." says the American Meteor Society. Both have good cause. The zenith hourly rate for recent Geminids have routinely surpassed 60 or 70 per hour at maximum while possible rates are estimated at 120.

NASA's Meteoroid Environment Office indicates that the Geminid rate has been steadily climbing since the 1860s when they were first recognized as a distinct annual shower.

The Geminids are also noteworthy because of their source. Most well known showers are known to originate from the debris of comets: The Leonids are tied to Comet 55P/Tempel-Tuttle, the Perseids to Comet 109P/Swift-Tuttle, Halley's Comet is the source of both the Eta Aquarids and the Orionids. But the source of the Geminids was a mystery until 1983 when 3200 Phaethon, an Apollo type asteroid – a type of Earth crossing body – was discovered. Its orbit indicated that it was the parent body for the Geminids although it posed a problem in that in its approaches to the Sun every 1.4 years – the closest approach by any numbered asteroid, it did not act comet-like, exhibiting neither a coma nor a tail.

Here are the essentials about this year's shower:

Activity will begin on December 7 and continue through December 17. Predicted maximum will be at 06:00 local time on the 14th. But heavy Geminid activity is forecast from 13:40 local time on December 13 until 11:00 local time on the 14th. That's almost a full day of intense activity. Geminids appear to radiate from the vicinity of Castor.

Shower intensity builds slowly through early December, reaches maximum, followed by a sharp drop in meteor count. This behavior has changed over the years, probably because Earth passes through different portions of the meteoroid stream over time. There is even a model that predicts the shower will be dormant in a little over ten years.

- GS Editor

More Brunelle Images



**Category: Astronomical
 under 300mm: 2nd Place Tie:**

**Above left, Craig Smith
 Above right, Mark Arelt.**

**3rd Place: Left, Nathan
 Brandt**



**Category: Astronomical
 over 300mm:
 2nd Place: Left, Bill Snyder**

**3rd Place Tie:
 Below left, Nathan Brandt
 Below right, Bill Snyder**



**Category: Atmospheric:
 2nd Place: Wallace Watson
 3rd Place: Mark Arelt**

Sun

Mon

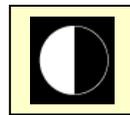
Tue

Wed

Thu

Fri

Sat

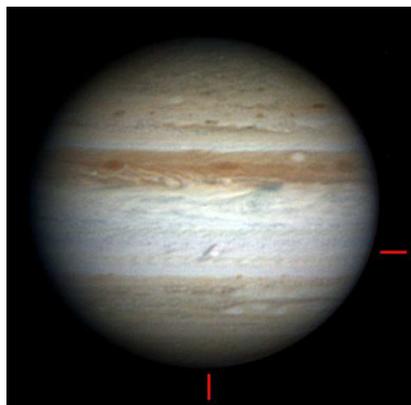
<p>All times given are local.</p> <p>Details for AAAP Events can be found at: https://nightsky.jpl.nasa.gov/event-list.cfm?Club_ID=675&EventEra=Future</p>			1	2	3	4
			Mercury Greatest E. Elongation & Saturn 8° N of our moon	Venus 6° N of our moon		Venus Greatest Illuminated Extent
5	6	7	8	9	10	11
	Mars 0.5° N of our moon & Mercury 1.8° N of our moon				AAAP Annual Holiday Party 7:30	
12	13	14	15	16	17	18
		Geminid Meteor Shower Peaks				
19	20	21	22	23	24	25
Moon 1.2° S of Pleiades		Total Lunar Eclipse 00:29  Winter Solstice 18:38 	Ursid Meteor Shower Peaks			
26	27	28	29	30	31	
					Venus 7° N of our moon	

Jupiter's SEB Revival

Late 2009 and early 2010 witnessed the fading and eventual disappearance of Jupiter's Southern Equatorial Belt or SEB. These disappearances are followed by revivals of the belt which adhere to a pattern.

As mentioned here in July, "After a period of from one to three years, the revival begins in a localized area. A dark spot or streak begins to stream dark material in three currents. Often, there's an associated white spot present. Spreading across the surface, the dark material hits the GRS which begins to fade over a period of days or weeks. Finally, an orange hued tint spreads across the revived SEB and the revival is considered finished."

In early November, Christopher Go, an amateur in the Philippines imaged a bright outbreak in the SEB region which has begun to trail darkened material. This is probably the expected SEB revival and an excellent opportunity for planetary observers.



The image shows the SEB outbreak as it's transiting the central meridian. The time is 11:33UT on November 12, 2010.

Image courtesy:

*Christopher Go
Cebu, Philippines*

<http://jupiter.cstoneind.com/>

Some Celestial Highlights for December

Mercury is in the western evening sky early in the month and reappears in the eastern morning sky late in the month. **Venus** is in the morning sky in the southeast. **Mars** disappears into evening twilight. **Jupiter** and **Uranus** are well placed for evening viewing. Both set around midnight. **Saturn** is in the dawn sky. **Neptune** is in the western early evening sky.

Geminid Meteor Shower peaks on the 14th.

Ursid Meteor Shower peaks on the 22nd.

For those using programs to predict GRS transits, **Jupiter's System II longitude** is 155°.

Selenographic Colongitude is 195.04° at 0h UT at beginning of the month. Add 12.2° each day.

December 1 Busy Jupiter Satellite Activity. Times are local

18:52 Io disappears into Occultation

20:21 Europa transit begins

22:24 Io reappears from Eclipse

22:59 Europa shadow transit begins

Both Europa & its shadow are now crossing the disk

23:05 GRS crosses the central meridian

23:07 Europa transit ends

23:46 Ganymede disappears into occultation



A Welcome to Our New Members

Brandon Aldinger	Robert Perri
Matthew Dieterich	Bill Witkowski
Jack Glidden	Erik Ydstie
Thomas A. Patton	Sophie Ydstie

2010 Wagman Star Party Volunteers

Though the weather wasn't the best for our events at Wagman Observatory this year, we did have many dedicated volunteers and 1,550 visitors. There were 15 scheduled public nights, one afternoon tour and one private scout group. Seven of the public star parties were clouded out, but visitors showed up for three of them. It was raining for the day time tour and clear for the large scout party. We observed nine of the seventeen events.

Forty-five members assisted with these star parties a total of 167 times. We thank all who contributed to another successful year at Wagman Observatory. I've noticed that we are attracting many regular guests, or what some might call astro-groupies, at our public nights. Many of them are young adults who have or might join the club. This makes our efforts much more enjoyable and satisfying.

Here's the list of volunteers in order of the number of times attending. We gave those who helped with the clean up in early April double credit for their extra effort:

Members earning Hats or Patches:

Tom Reiland (15)	Frank Pastin (10)
Bill Hayeslip (11)	Flac Stifel (9)
Eric Fischer (10)	Joyce Osborne-Fischer (9)
Mary DeVaughn (10)	Lori Seitz (8)
Frank Pastin (10)	Bill Moutz (7)

Members earning patches:

Matt Maskas (6)	Jack Landman (4)
Bill Yorkshire (5)	Diane Yorkshire (3)
Dan Cousineau (5)	Dave Smith (3)
Fred Klein (4)	Wallace Watson (3)
Ron Pollack (4)	Cindy Pollack (3)
Tim Colbert (4)	Tim Manka (3)
Don Hoecker (4)	

Others giving their precious time (unmarked indicates 1 night):

John Holtz (2)	Erik Bauer	Haijing (Jane) Hao
Terry Trees (2)	Ann Norman	Dan Golembiewski
Pete Zapadka (2)	Katie Holtz	Robert Marshall
Scott Soroko (2)	Jim Johnston	John Close
Dave Houggy	William Oberman	Ken Coles
Bill Roemer	Roy Lahet	Mike Fisher
Gene Leis	Dan Reed	John Wilson
Pat Wickersham	Maureen Moutz	

Thanks again for making Wagman Observatory a fun place for astronomy minded people to visit.

- Tom Reiland, Director

Membership Renewals

It is time again to renew your memberships for 2011.

Attached is a renewal form that has two parts. The first part is your personal information that we need to make sure our database is up to date and accurate. The second part is the billing information. Please fill in both parts of the form completely.

The basic membership is still \$24.00. We also have a student membership for \$16.00. This is for any K-12 and full-time college student. We also have a family membership (\$40.00) that includes anyone living in the same household. The family membership need only include the basic primary members contact information and then list the remaining family members names. All correspondence, Guide Star, and mailings will be sent to the family members through the primary member's contact information. This will reduce printing and mailing costs and redundancy.

A reminder, the AAAP no longer processes Sky and Telescope subscriptions. If you want S&T magazine for the first time, use the enclosed form to get your club subscription rate. If you are a current subscriber, use your renewal notice you receive from S&T. It should have the \$32.95 club rate on the renewal notice.

***Send new and renewal subscriptions for S&T magazine directly to SKY PUBLISHING!
Do not mail them to us.***

Subscriptions to Astronomy magazine are still handled through the club. Please send these in ASAP so there is no lapse in your subscription. The lead-time on magazines is three months.

Current building key holders need to pay their key fees at this time. To get a building key for the first time, you must first be trained by an observatory director.

If you have any questions, you can contact Michael Meteney, treasurer, or Don Hoecker, membership secretary. Thank you.

AAAP Membership Renewal Form – 2011

Please fill in this single form for anyone in your household who wishes to be a member of the AAAP. We are now offering adult, student, and family memberships. All family members must share the same residence. Student memberships have now replaced junior memberships. To be a student member, you must be a K -12 or fulltime college student.

As in the past, you may receive a discounted subscription to *Astronomy Magazine* through the AAAP. The subscription must be included with your membership dues payment.

There is a separate form to receive a discount subscription to *Sky and Telescope Magazine*. This is to be sent directly to Sky Publishing. **Do not send any *Sky and Telescope* subscriptions to the AAAP!**

Completely fill in the following information on this form (please print):

Name _____

Address _____

City _____ State _____ 9-Digit Zip _____ - _____

Phone (home) _____ (Work) _____

E-mail _____

How do you want your "Guide Star" Delivered? Online (____) Snail Mail (____)

Optional: Do you have a telescope(s), other special equipment or areas of special interest you would like listed under your name in our membership directory? If so, please describe them below.

Additional Family Members:

Name _____ Relationship _____

AAAP Membership Renewal Form – 2011

<i>Item</i>	<i>Price</i>	<i>Enclosed Payment</i>
AAAP Adult Membership (January 1 to December 31, 2011)	\$24.00	
AAAP Student Membership (covers all students K-12 and <u>fulltime</u> college students)	\$16.00	
Family Membership (covers the adult membership and all family members that live with the adult member. Please list all family members to be included on the attached form)	\$40.00	
“Astronomy” Magazine Subscription (12 issues per year) Both new and renewals are processed through the AAAP. Do not renew your subscription directly with Astronomy Magazine; you won’t get your discount.	US \$34.00 Can \$40.25 Int \$50.00	
Key Fee – Only current key holders Check appropriate observatory: Mingo ___ Wagman ___	\$15.00 each	
Tax Deductible Donation	----	
<i>Total Payment</i>	----	

It is very important that all payments be received by **12/15/2010** so that magazine subscriptions can be processed in a timely manner.

Prices are subject to change without notice. Payments must accompany this application.

Make checks payable to: **AAAP, Inc.**

Send this form with payments to:

**Michael Meteney – Treasurer, AAAP
1070 Sugar Run Road
Venetia, PA 15367-1514**

Membership questions?

E-mail: MembershipSecretary@3ap.org

Phone: 412-243-8298

Billing questions?

E-mail: Treasurer@3ap.org

Phone: 724-348-9087

Amateur Astronomers Association of Pittsburgh, Inc.		AAAP Member Dues: \$ 24.00
<u>2010-2011 Executive Officers</u>		Student Membership (K-12 & full time college student): \$16.00
President:	Edward Moss president@3ap.org	Family Membership \$ 40.00
Vice President:	Craig Lang vicepresident@3ap.org	
Treasurer:	Michael Meteney treasurer@3ap.org	
Corresponding Sec:	John Mozer correspondingsecretary@3ap.org	Basic Procedure for Paying Dues:
Recording Sec:	Dennis Derda recordingsecretary@3ap.org	1. Make check payable to "AAAP Inc." 2. Send check to:
Membership Sec:	Don Hoecker membershipsecretary@3ap.org	Michael Meteney, Treasurer 1070 Sugar Run Road Venetia, PA 15367-1514
Guide Star Editor:	John Cheng gseditor@3ap.org	
Attention: Membership Renewal Forms Enclosed		

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