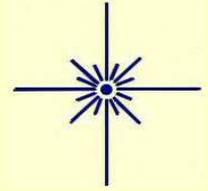




The Guide Star

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



February 2012

Volume 46, No. 2

AAAP February General Meeting

February 10, 2012, 19:30
Bayer Science Stage at the Carnegie Science Center
Buhl Digital Dome Planetarium Show 20:00

Traditionally, our February meeting is well-attended. AAAP members are invited to a complimentary show presented by the Carnegie Science Center staff in the Buhl Digital Dome Planetarium.



This year's program is *Infinity Express*. Narrated by actor Laurence Fishburne of Matrix fame, the program has been described as a journey of discovery and an epic trek through the universe.

The show begins with a casual group of stargazers from which the viewer is whisked away through a raging storm of space data imagery streaming across the dome of the planetarium.

Passing through the Solar System and beyond the Milky Way, to the very edge of the cosmos, the show poses the questions that humans have asked for thousands of years: How big is the universe. Where did it begin and where does it end? Are we alone?

Infinity Express illustrates the science of discovery and just how far we have come since Copernicus sought to prove that the sun, not the Earth, was the center of our solar system.

The show is designed to utilize the capabilities of a digital dome planetarium. Running time is about 23 minutes

Wagman Winterfest XIX

February 25, 2012, 16:00, Weather Permitting
Wagman Observatory

Wagman Winterfest is the first event of the AAAP observing year and it's open to both members and the public.

This year, the target-rich winter constellations of Taurus, Orion, Gemini, Auriga and Canis Major will be joined by a striking twilight configuration of Mercury, Venus, Jupiter and the four day old Moon sinking in the West and by Mars, approaching opposition, rising in the East.

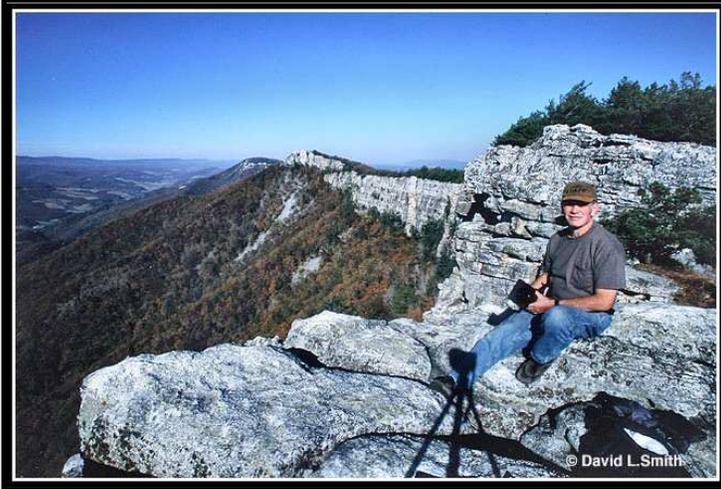


February 25th at 18:45. Mercury close to the western horizon.
Venus near the 4 day old Moon with Jupiter above.

Winterfest is an ideal chance to try out new equipment in the company of fellow members and enjoy the camaraderie that chilly weather observing seems to promote. So be sure to dress with weather conditions in mind. Bundle up and remember the grounds may be slippery.

Be aware that severe cold, heavy snow or persistent cloud cover will cause the star party to be canceled, so keep a "weather eye" on the club's Yahoo Message Group as the date draws near.

For more information, call the AAAP's Wagman Observatory at (724) 224-2510 or Wagman Winterfest Director Pete Zapadka at (412) 487-9363.

David Smith 1945 - 2011

The day after Christmas, the AAAP suffered the loss of one of its finest members, Dave Smith. And seeing how this has registered with many in the club, he may have been our most beloved member.

Joining this organization thirty years ago, he served as its Vice President for nine years and was a long time member of its executive committee. He participated in the club's major construction and restoration projects and shared his talents as a professional photographer to promote its interests. He proposed both an observing certificate and an award which are still presented today.

He was in many ways the ideal club member and he helped to mold the character of this astronomy club which heretofore has attracted so many. He was a mainstay and a true friend to the AAAP.

A proposal has been made to rename the Nova Award for Dave. But perhaps most fitting, it's also been proposed to name the visitors' room at Wagman - the area where people first encounter the club and maybe even astronomy, the same room where members can gather to talk observing and warm themselves against the chill - the Dave Smith Hospitality Room.

I didn't know Dave very well. I spoke with him a few times by phone about making the club more responsive to its members. I also spent an afternoon with him looking at old periodicals and reminiscing about how great '60's amateur astronomy was for young guys whether they lived in Morgantown or Philadelphia. So, I have nothing to relate except that I could sense Dave's belief that time spent under the night sky did you nothing but good.

Maybe the sweetest time at star parties is that interval in the semi-darkness of twilight when you're setting up, opening charts, connecting cables or choosing an eyepiece and someone stops by to mention what'll be up that night or to remark on the beauty of the sky or just to say hello. Often you can't even see them clearly in the failing light, but you really don't need to. Hearing them is good enough.

Thinking back, that friendly voice in the gathering darkness was often Dave Smith's.

- Guide Star Editor

Winter Astronomy

Observing in cold weather can be a challenge. While the crystalline skies of the season might look attractive, the low temperatures are a reason to stay indoors. One of the older members of the club told me that he simply refused to subject his precious optics to temperatures below freezing. Now, there's an original cop-out.

Mike Simonsen, a long-time observer who heads up multiple sections of the American Association of Variable Star Observers wrote the following piece containing hints to astronomers who venture out in cold weather. Number 13 on his list, a warning about breaking down your gear when you're at or beyond your limit is worth remembering. I can attest.

I would mention that using a small voice recorder to take notes does away with the need for paper, pen and holding a flashlight with your teeth, (Mike's 8th and 9th hints) but to each his (or her) own.

Mike Simonsen maintains a blog at:

<http://simostronomy.blogspot.com/>

and this content is included courtesy of the AAVSO Writer's Bureau.

Mike Simonsen: Don't Lick the Telescope, and Other Tips for Cold Weather Observing

Here in Michigan, December marks the transition from cool fall weather to downright frigid winter temperatures. For most of January, February and March, there is snow on the ground and the daytime temperatures will hover around freezing. Nighttime temperatures will be well below freezing, and on those few precious clear winter nights it can be unbelievably cold.

Here are some cold weather survival tips I have learned, observing from Michigan in temperatures down to 20 below zero Fahrenheit.

1. Wear warm boots. When I meet people new to astronomy, they always want to know what the best telescope is and what accessories to buy. I always tell them, "The most important piece of equipment you will ever buy is warm boots". When it is clear, it is cold. If your feet are cold, you are miserable. If you are miserable, you are done.

Standing on the cold, damp ground outside you'll soon know if your boots are up to the task. If they absorb moisture, or don't insulate you from the cold ground your toes will be crying Uncle long before your favorite Messier object clears the trees.

2. Always dress for temperatures 20 degrees colder than you predict it will be each night.

For the most part, you are not moving around a lot when looking through a telescope, downloading images from your camera or monitoring your tracking. You don't generate any heat of your own just sitting there, and the night air has a way of sucking the warmth out of you faster than you think it will.

3. Wear a hat. Most of the heat in your body escapes through the top of your head like a chimney. Cover your head and retain body heat.

I've seen lots of funky looking hats at star parties. Don't worry about fashion. Go for comfort. My deep-winter, arctic-air-repelling hat is a

big leather and fur job with earflaps and a long extension in back that covers my neck. I look like one of the wicked witch of the North's soldiers in my long coat and that hat, but I'm warm.



Author Mike Simonsen & Michigan Winter

Question: Does cold weather observing define the difference between enthusiasm, commitment and obsession ? [GS Editor]

4. Keep your hands warm. Mittens are better than gloves, but they are awkward to use when dealing with focuser knobs, charts, pens and pencils. But if you can keep your fingers together, tucked away from the cold, they fare much better than they do as individual digits exposed to the elements. I've never had much luck with those gloves with the flip-top mitten cover for your fingers.

If you insist on wearing gloves, like I do, keep your hands in your pockets and out of the wind, as much as you can. Those little chemical heat packs you can buy in sporting goods stores work pretty well for a while. I sometimes throw a couple in my coat packets to create a safe haven for my fingers for a few moments between variable star observations.

If your fingers begin to hurt from the cold, go inside or get in your car and warm them up thoroughly. Frostbite can be very painful.

5. Get out of the wind. Most of the time it's not the air temperature that gets you, it's the wind-chill. Put a building or a hedge, or better yet, an observatory, between you and the wind and you will be able to endure the cold for twice as long. The added bonus, of not having the telescope shake in the breeze, will save you time in making critical observations.

I remember very well the night that convinced me to build an observatory. It took twice as long as usual to set up wearing gloves, I dropped a small wrench in the snow and spent half an hour looking for it, the telescope was shaking so much it was hard to see anything in the eyepiece, my eyes kept tearing up from the wind and dropping tears onto the eyepiece lens, and the wind kept blowing right up my back as I faced south trying in vain to make variable star estimates.

I spent three hours out in the snow and wind and got exactly one variable star estimate that night. That week I became the proud owner of a fiberglass, domed observatory.

6. Don't breathe on optics. Breathing on cold glass means instant frost. If you wear a scarf over your face, be sure not to let the warm air you exhale spill out over the top of the scarf and down onto the eyepiece.

Set up your finder-scope so you are not breathing on the eyepiece when looking through the finder. On very cold nights, I sometimes have a large patch of frost on the back of the mirror cell of my Schmidt-Cassegrain, caused from my breath freezing on the back of the telescope while looking through the finder-scope

7. If you have dew heaters, use them right from the start of your session. They are much better at preventing frosted corrector plates, secondaries, eyepieces and finders than they are at removing frost. If you don't have dew heaters, get them.

A heated box or holder for eyepieces can be a great benefit. If you only switch between a few, keep them in your pockets to stay warm.

Another accessory I find handy is a small hair dryer. If you have electricity available, one of these can be great to warm the eyepiece up enough to prevent fogging. If the lens or corrector plate on your telescope frosts up, you can use it to carefully remove the dew or frost.

You can also use it to warm your fingers. I've even stuck mine inside my coat to warm my frozen torso enough to go a little while longer. I'm sure this is a fire hazard, and you'll probably read in the paper one day, "Michigan astronomer mysteriously ignites into flames, burning down observatory."

8. If you take notes at the telescope like I do, keep your pen warm or the ink will freeze. I have one of those "astronaut pens". Even that froze at 20 below. I keep my pens tucked behind my ear to keep them warm.

All my observing hats have a distinct black ink spot on the inside lining, just behind my left ear, from me continuously sliding my pen in and out under my cap and over my ear for warm storage.

9. Use a plastic flashlight. If you are like most of my friends who read charts and log observations using a red flashlight, you put the flashlight in your mouth to write.

On very cold nights, a metal flashlight can stick to your lip and be hard to remove without losing a bit of flesh. Don't laugh; I've seen it happen!

I suppose rule 9A should be, "don't lick the telescope!" If I ever see anyone get his or her tongue stuck to a frozen telescope, you'll be the first to know!

10. Take breaks every hour or half hour, depending on the weather, and go warm up. Keep an extra pair of dry socks warming on the dash of your car, or go in and throw a pair in the dryer for a few minutes. It's amazing how a nice toasty pair of socks can change your attitude!

I've received several pairs of electric socks for Christmas and birthdays over the years from well-meaning friends and family, but I've never been really impressed by them. Considering the number of batteries it takes to actually keep your feet warm, it's just not worth it. Refer to rule #1. Wear warm boots.

11. *Be aware of battery life in cold temperatures.* The batteries in your flashlight, telescope, camera, dew heaters, etc., will perform poorly in cold temperatures. They're smarter than me. They know when to quit. Keep warm extras handy.

12. *Keep your own personal battery charged.* Plenty of rest, a good meal, snacks and hot coffee go a long way towards warding off the inevitable freeze.

The search for a thermos that would keep coffee hot in sub-zero temperatures was my 'Holy Grail' for a long time. After years of searching, I finally found one at a camping supply store. It cost a pretty penny, but it makes all the difference to me.

13. *Know your limits.* You have to be realistic about how much cold, discomfort or pain you are willing endure in order to get those last few observations. Don't wait until it's too late and then decide to tear down and pack up.

When you are really frozen, your fingers don't work right, you move slower, you feel more tired than you normally would, and you can get careless, dropping things in the dark or forgetting how to pack your gear just so. All this means it is going to take you longer than usual to tear down. That's when you will meet Mr. Frostbite. It is better to take my word for it than to learn a painful lesson from him.

With a little planning and common sense you can take advantage of those long, clear, cold winter nights. Orion, Gemini and Taurus are calling. Just be careful out there.

AAAP 2011 Award Recipients

In December, the club announced the recipients for its outstanding service awards:



The NOVA award for outstanding new member was awarded to Todd Ciarimboli.

The Lois Harrison award for outstanding female member was awarded to Mary DeVaughn.

The George Lindbloom award for outstanding male member was awarded to Bill Yorkshire.

Congratulations and thanks for your devotion to the club this past year. Much appreciated!

Recalling Dave Smith

In 2006, on the occasion of his 25th year in the AAAP, Dave Smith talked about his life, his interest in astronomy and his time with this club. Here is his account, followed by some images of Dave with brief descriptions. (Thanks to Eric Fischer and John Mozer)

I believe I can speak for the club when I say thank you to those club members - especially Maureen and Bill Moutz - who recognized Dave's value to the AAAP and comforted him during the last year.

My interest in astronomy began in junior high. Two different things inspired me. One was looking through a homemade telescope in my hometown of Morgantown, West Virginia. It was on display as part of a hobby show in a V.F.W. gym and was pointed at a newspaper on the other side of the hall. Like most people looking through a Newtonian for the first time, it had to be explained to me which way we were looking and how it worked. At the time it didn't make much sense. The other thing that fascinated me was that some people could look at the sky and find all those constellations, for example, navigators that needed to identify individual stars to take readings. One Christmas I received a Golden Nature Guide on Stars. This book had very simple and easy-to-recognize constellation patterns—in my opinion easier than H. A. Reys Stars: A New Way to See Them. My Golden Nature Guide also had a short list of astronomy clubs that included AAAP. At the time I figured they were way above me, not knowing I would become a member someday.

My first telescope was a \$29.00 1.25" refractor purchased from an ad in "Boys Life" magazine. This telescope worked okay considering that to change power one had to take the eyepiece apart and add or subtract lenses. Focusing was done by sliding the tube and the tripod legs looked like broomsticks. With this telescope I was able to observe the Moon, planets, and a few star clusters.

During summer vacations, I slept out in our backyard with the telescope ready if it should clear up. I did this for all three summers during high school. There were a lot of times that I would wake up in the early morning and find a dark, clear sky. One night in 1963, I awoke to the best aurora display ever. It went through different stages and at one point the whole Northern sky had turned pink and was reflecting off a neighbors' barn roof. During that period I also observed over 100 passes of the satellites Echo I and Echo II. They came over almost every two hours and were very bright.

For my high school senior science project I ground an 8" mirror and assembled a telescope with parts purchased from Edmund Scientific and A. Jaegers. In addition to building the telescope, I did some observations of the eclipsing variable star gamma Leonis. This project must have impressed some teachers because I was one of the students from Morgantown High chosen to attend the West Virginia State Science Fair. (Sadly, like the boy from October Skies who had his rocket engine stolen at the science fair, the eyepiece was stolen from my finder scope.) That science fair was also where I first saw a color TV.

That summer some friends of mine who were also interested in astronomy observed a partial solar eclipse from Morgantown and we got our picture in the paper. At that point in my life I wanted to be an astronomer; but due to low grades (in part due to dyslexia, which was not identified until the 70s), I didn't get into West Virginia

University as a physics major. So I went into the Army rather than wait to be drafted.

My recruiter told me that I could not take my telescope with me during basic training but "there would likely be telescopes available at the service clubs." I would be interested in hearing from anyone who ever saw a telescope in any service club. After basic and advanced infantry training, my mother sent me the lens from my 1.25" and my A. Jaguars eyepieces. With a cardboard tube from the mess hall, a camera tripod, some sponges, and a toilet paper tube, I was able to assemble a telescope at Fort Gordon, Georgia and show some people the moon, Jupiter, and Saturn.

While in Germany with the 3rd Armored Division, I found out that the service clubs did have darkrooms and that is where my photographic career began. After three years in the Army and working a year in a portrait studio, I was able to get into, and graduate from, WVU as an art major with the GI Bill paying my \$145.00 tuition a semester.

My interest in astronomy had waned. Then, while working as a photographer with an ad agency here in Pittsburgh, I met Frank Usowski, the lithographer and a client with our agency. He was building an observatory in Bethel Park and was trying to get 300 golf balls for the roof bearings. Our ad agency was looking for some interesting community activities for a magazine we did for Mt. Lebanon Federal. After I had taken photos of the project and met members of the South Hills Backyard Astronomers, Frank persuaded me to attend an AAAP meeting at Allegheny Observatory where he said we might get to look through the 13-inch telescope. Frank also told me about Tom Reiland and some others being able to find all the Messier objects. This got me interested again.

I thought I knew the constellations well but I had probably only observed about 20 Messier objects. I now wanted to find all of them, so I joined the club and with Frank's help, built a 6" f/5 telescope with a Coulter mirror. With this instrument and Frank's telescope, we made a lot of trips to Green County and other dark sky sites—several times just driving south on I-79 and pulling off on side roads and going into farmers fields without asking. I also tried some dark locations in West Virginia's Cannan Valley. I got my Messier certificate in about nine months. Later I ground the mirror for the 10" f/5 DOB I use now.

During my first year with AAAP, I saw a need for a simpler observing certificate that would help those without telescopes to better learn the sky, so I presented the idea for what is now the Leo Scanlon Certificate. This certificate challenges observers to learn the constellations and the brightest stars. This may have helped me get elected as Vice President, a position I held for about 9 years with first, Art Glaser and then Tom Reiland as President.

During my time in the AAAP, I've done publicity for our star parties at North and South Parks and helped out at almost all of our events including open houses at Allegheny Observatory and Astronomy Day at the Science Center. I worked on both Wagman and Mingo observatories and the TV programs that we put on Cable Channel 21 under John Holtz's direction.

Ed Moss and I found the field in West Virginia for our Laurel Highlands Star Cruise. I knew the area but not the field. (I have ancestors buried all around that area).

I've done some articles and sketches of members' observatories for the Guide Star and I've also done a lot of photography for the club, including a lot of the web shots and photos of the Brashear that were part of a three-page story in Sky and Telescope. I hope to do the same for Mingo after the 24" is installed and everything is finished!

I'm most proud of being part of the restoration project of the Brashear 11" telescope. We had it stored in my old studio in North Oakland for three and a half years. Ken Kobus, Wade Barbin, Flacc Stifel, and others would come in almost every Wednesday evening to work on it. It was fun to show it to clients and friends. I would ask them if they wanted to see the telescope I had in my garage. Their comments made it all worth it! Of course, they were not expecting to see something that big in my place. Being honored with the John Brashear Award in 1998 is another high point.

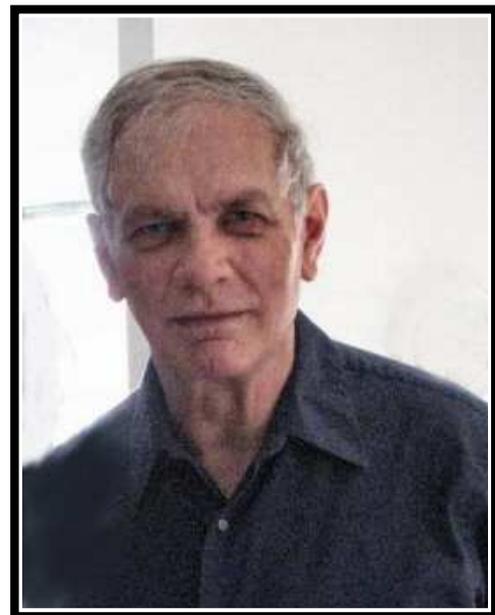
I have also had the privilege to know a lot of good people in this club including those that have passed away - Leo Scanlon, Bob Florida, Lois Harrison, and John Schwartz.

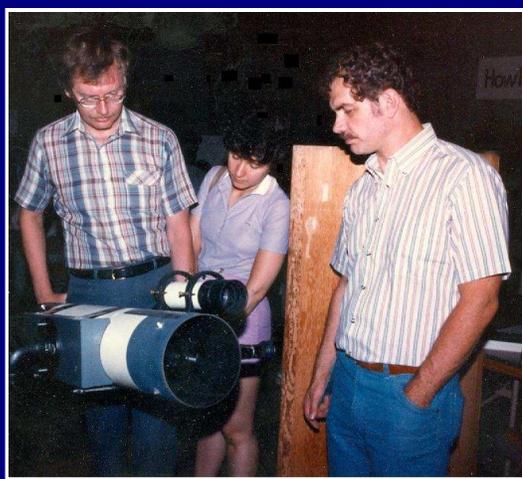
At this point, what I most enjoy about astronomy is showing people a view through a telescope, either at our star parties or on the street. It's not as much fun looking myself. It's more satisfying sharing the views with others.

I've told this story many times, but one night at Wagman as the star party was winding down, two young men who fit the "redneck" stereotype, were taking turns looking at Jupiter through my telescope. They said nothing until one told the other, "Go get grandma out of the truck".

Soon they returned helping their 80-some year-old grandmother walk. She looked for a couple of minutes then said, "I thought I would never see this".

Stuff like that makes it all worth it. Now if I could just get everyone in the AAAP down to West Virginia to observe from Spruce Knob and see the Milky Way reflected in the lake.





In the 1970s, Dave Smith was active in just about every AAAP endeavor or project, well before the construction of the two-observatories. In this picture from an AAAP exhibit at the old Buhl Planetarium, Dave (right) is showing two visitors the particulars of his original 8-inch reflector. Dave continued to participate in AAAP exhibits at the Carnegie Science Center (CSC), setting up his scope either in the main lobby, or on the CSC's back lawn. For bad weather days, Dave is credited with the idea of pointing the scope at an astronomical picture pinned up on a far wall of facility where the AAAP was holding its exhibit. Children were particularly amused with this set up.



Dave and his camera were a familiar sight at AAAP functions. His photos document many of the club's events, its facilities, its members and equipment. A look at some of his images available online shows what a fine eye he had.

Here Dave is busy photographing Winterfest 2008 using the well-known pole which allowed him to capture scenes from a unique angle.



Dave, in the red shirt, and other AAAP members are about to break down and pack up at the conclusion of what had to be one of the club's best collective observing sessions, the Transit of Venus on June 8, 2004 at Wagman Observatory.



Dave was a highly competent mechanic and electrician, but always deferred to others on mechanical and electrical issues during the construction and outfitting of the two observatories. In this photo, Dave helps to assemble the mount for the original 12.5-inch scope at Wagman Observatory in 1986

Sun

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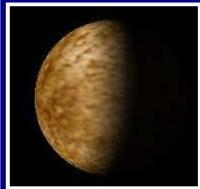
Sat

<p><i>"...If there is anything that can comfort the divinity of our minds in the dreary exile we spend on earth and can reconcile us with our fate so that we can live a meaningful life, it must be the pleasure to be had from the mathematical sciences and astronomy..."</i></p> <p>— Johannes Kepler</p>			1	2	3	4		
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5	6	7 	SR:07:22 SS:17:46 MR:19:04 MS:07:24 PI:100%	9 <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 0 auto;"> Venus close to Uranus. They will be in conjunction on the 10th </div>	10 <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 0 auto;"> AAAP General Business Meeting CSC 07:30 PM </div>	SR:07:19 SS:17:50 MR:22:37 MS:08:59 PI:88%		
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26 <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 0 auto;"> Moon about 4° NW of Jupiter </div>	27	28	29 	All times given are local. Legend: SR = Sunrise, SS = Sunset, MR = Moonrise, MS = Moonset, PI = Approximate Percentage Visible Lunar Surface Illuminated Local Midnight Details for AAAP Events can be found at: https://nightsky.jpl.nasa.gov/event-list.cfm?Club_ID=675&EventEra=Future			SR:06:59 SS:18:07 MR:08:52 MS:23:05 PI:15%	SR:06:57 SS:18:08 MR:09:25 MS:**** PI:23%
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Some Solar System Highlights

- *Selenographic Colongitude* is 13.4° at 0h UT on the first day of the month. Add 12.2° each day.

The following planetary entries include Local Rise and Set Times, Magnitudes and Disk diameters in Arc Seconds on the 1st, 11th, 21st and 29th days of the month.



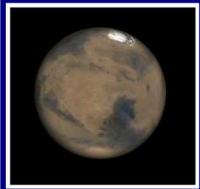
Mercury is at superior conjunction on the 7th and will be in the western sky at evening during the last ten days of the month. During that time Mercury's disk will be increasing in apparent size and its aspect will be waning gibbous.

Rise / Set	(1st) 07:28 / 17:10	(11th) 07:38 / 18:02	(21st) 07:39 / 18:58	(29th) 07:32 / 19:36
Mag. / Arc Secs	(1st) -01.10 / 04.75	(11th) -01.40 / 04.90	(21st) -01.20 / 05.40	(29th) -00.90 / 06.31



Venus in the western evening sky, presents a waning gibbous aspect all month. It will be in conjunction with Uranus after setting on the 10th. Earlier, on evening the 9th, Venus will be less than 20 arc minutes to the NW of Uranus, within the FOV of medium focal length eyepieces. However, twilight may be a problem with 6th magnitude Uranus.

Rise / Set	(1st) 09:17 / 20:57	(11th) 09:03 / 21:18	(21st) 08:47 / 21:38	(29th) 08:34 / 21:54
Mag. / Arc Secs	(1st) -04.10 / 15.10	(11th) -04.10 / 16.01	(21st) -04.20 / 17.20	(29th) -04.20 / 18.28



Mars in eastern Leo, rises in early evening. Currently Mars is in retrograde motion (east to west). It will come to opposition on March 3rd and will resume prograde or direct motion (west to east) in mid-April..

Rise / Set	(1st) 20:46 / 09:38	(11th) 19:57 / 08:56	(21st) 19:03 / 08:11	(29th) 18:16 / 07:32
Mag. / Arc Secs	(1st) -00.60 / 11.83	(11th) -00.80 / 12.75	(21st) -01.00 / 13.49	(29th) -01.20 / 13.82



Jupiter in Aries, is west of the meridian at sunset and becomes an early evening object by month's end. Its apparent diameter getting smaller, this may be an ideal time to observe the planet. It will disappear into evening twilight in April. Jupiter's System II longitude is 175°.

Rise / Set	(1st) 10:55 / 00:22	(11th) 10:19 / 23:46	(21st) 09:43 / 23:15	(29th) 09:16 / 22:50
Mag. / Arc Secs	(1st) -02.30 / 39.08	(11th) -02.30 / 37.91	(21st) -02.20 / 36.85	(29th) -02.20 / 36.09



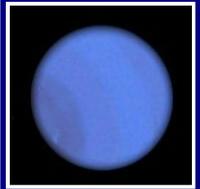
Saturn in Virgo, rises in late evening. It begins retrograde (east to west) motion on the 8th. Its disk will grow slightly larger during the month and, as mentioned last month, the north side of its ring system is inclined toward us at an angle of about 14 degrees.

Rise / Set	(1st) 23:53 / 11:00	(11th) 23:14 / 10:21	(21st) 22:33 / 09:41	(29th) 22:01 / 09:09
Mag. / Arc Secs	(1st) 00.60 / 17.52	(11th) 00.50 / 17.82	(21st) 00.50 / 18.11	(29th) 00.40 / 18.32



Uranus in Pisces, is low in the western evening sky, setting in mid-evening.

Rise / Set	(1st) 09:39 / 21:43	(11th) 09:01 / 21:06	(21st) 08:22 / 20:29	(29th) 07:52 / 20:00
Mag. / Arc Secs	(1st) 05.90 / 03.38	(11th) 05.90 / 03.36	(21st) 05.90 / 03.35	(29th) 05.90 / 03.34



Neptune is not visible this month. It will be in conjunction with the Sun on the 19th.

Rise / Set	(1st) 08:22 / 19:03	(11th) 07:44 / 18:26	(21st) 07:05 / 17:48	(29th) 06:35 / 17:18
Mag. / Arc Secs	(1st) 08.00 / 02.17	(11th) 08.00 / 02.16	(21st) 08.00 / 02.16	(29th) 08.00 / 02.16

Jupiter Activity: Satellites & the Great Red Spot

Following are times for Jovian satellite transits and occultations and Great Red Spot meridian crossings for the current month..

They are organized by observing sessions beginning with the first event of interest on a given evening and continuing to Jupiter's setting, which may be past midnight on the following day. Using February 21st as an example, at 18:10 with twilight fading and Jupiter already well past the meridian in the SW and Io already in transit, Io's shadow will begin to transit the Jovian disk. The code "ST" signifies that both Io and its shadow are transiting the disk. At 19:05, the Great Red spot will cross the central meridian. At 19:09 Io's transit ends leaving only its shadow transiting the disk ("S") which will exit the disk at 20:20. At 23:08, Jupiter will itself set. All times are local.

01 19:08 Gan: Shadow Transit Ends	11 20:45 GRS: Crosses Central Meridian	21 18:10 Io : Shadow Transit Begins	ST
01 22:25 GRS: Crosses Central Meridian	11 23:11 Io : Disappears into Occultation	21 19:05 GRS: Crosses Central Meridian	
02 00:12 Jupiter Sets	11 23:40 Jupiter Sets	21 19:09 Io : Transit Ends	S
		21 20:20 Io : Shadow Transit Ends	
02 18:17 GRS: Crosses Central Meridian	12 20:28 Io : Transit Begins	21 23:08 Jupiter Sets	
03 00:09 Jupiter Sets	12 21:45 Io : Shadow Transit Begins		
	12 22:39 Io : Transit Ends	22 19:40 Eur: Shadow Transit Begins	ST
04 00:00 Io : Transit Begins	12 23:36 Jupiter Sets	22 19:46 Eur: Transit Ends	S
04 00:04 GRS: Crosses Central Meridian		22 22:04 Eur: Shadow Transit Ends	
04 00:06 Jupiter Sets	13 20:00 Eur: Disappears into Occultation	22 23:05 Jupiter Sets	
	13 21:06 Io : Reappears from Eclipse		
04 19:56 GRS: Crosses Central Meridian	13 22:24 GRS: Crosses Central Meridian	23 20:44 GRS: Crosses Central Meridian	
04 21:14 Io : Disappears into Occultation	13 22:32 Eur: Reappears from Occultation	23 23:02 Jupiter Sets	
04 22:31 Eur: Transit Begins	13 22:39 Eur: Disappears into Eclipse		
05 00:02 Jupiter Sets	13 23:33 Jupiter Sets	25 22:24 GRS: Crosses Central Meridian	
		25 22:56 Jupiter Sets	
05 18:29 Io : Transit Begins	14 18:16 GRS: Crosses Central Meridian	26 18:15 GRS: Crosses Central Meridian	
05 19:49 Io : Shadow Transit Begins	14 18:25 Io : Shadow Transit Ends	26 19:14 Gan: Disappears into Eclipse	
05 20:41 Io : Transit Ends	14 23:30 Jupiter Sets	26 21:01 Gan: Reappears from Eclipse	
05 21:59 Io : Shadow Transit Ends		26 22:53 Jupiter Sets	
05 23:59 Jupiter Sets	15 19:28 Eur: Shadow Transit Ends		
	15 20:07 Gan: Transit Begins	27 21:39 Io : Disappears into Occultation	
06 19:11 Io : Reappears from Eclipse	15 22:20 Gan: Transit Ends	27 22:50 Jupiter Sets	
06 19:48 Eur: Reappears from Occultation	15 23:27 Jupiter Sets		
06 20:00 Eur: Disappears into Eclipse		28 18:57 Io : Transit Begins	T
06 21:35 GRS: Crosses Central Meridian	16 19:55 GRS: Crosses Central Meridian	28 19:54 GRS: Crosses Central Meridian	
06 22:25 Eur: Reappears from Eclipse	16 23:24 Jupiter Sets	28 20:06 Io : Shadow Transit Begins	ST
06 23:56 Jupiter Sets		28 21:09 Io : Transit Ends	S
	18 21:34 GRS: Crosses Central Meridian	28 22:16 Io : Shadow Transit Ends	
08 18:07 Gan: Transit Ends	18 23:18 Jupiter Sets	28 22:47 Jupiter Sets	
08 21:22 Gan: Shadow Transit Begins			
08 23:10 Gan: Shadow Transit Ends	19 22:27 Io : Transit Begins	29 19:26 Io : Reappears from Eclipse	
08 23:14 GRS: Crosses Central Meridian	19 23:14 Jupiter Sets	29 20:00 Eur: Transit Begins	T
08 23:49 Jupiter Sets		29 22:16 Eur: Shadow Transit Begins	ST
	20 19:39 Io : Disappears into Occultation	29 22:30 Eur: Transit Ends	S
09 19:06 GRS: Crosses Central Meridian	20 22:46 Eur: Disappears into Occultation	29 22:44 Jupiter Sets	
09 23:46 Jupiter Sets	20 23:01 Io : Reappears from Eclipse		
	20 23:11 Jupiter Sets		

Suggested Deep Sky Objects for February

This table is part of a series of monthly Deep Sky targets compiled by Bob Kepple, co-author of *Night Sky Observer's Guide*. The complete set of tables, one per month, may be found at the AAAP web site : <http://www.3ap.org/> under the S.I.G. link (Special Interest Group) for Deep Sky Observing.

Bob mentions that, "...objects in the ... lists may be observed for about two months before and after the month they are listed... If you have a small telescope see how many objects you can find in the lists for larger scopes and, of course, individuals with larger instruments will have no trouble observing objects listed for smaller instruments...." [PA = Position Angle of second component in relation to primary, with 0° representing North, 90° representing East, etc.]

Objects for Binoculars							
RA	Dec	Number	Alt.	Size	Mag	Const.	Type of Object
05h35.1	-04°44'	NGC 1973-5-7		20' x 10'		Orion	E/R Nebula, just N. of M42
05h35.2	-04°26'	NGC 1981	Cr73	25.0'	m4.6v	Orion	Open Cluster, 1 degree N of M42
05h35.4	-05°27'	NGC 1976	M42	65' x 60'	m2.9v	Orion	"Great Orion Nebula"
05h35.6	-05°16'	NGC 1982	M43	20' x 15'	m6.8v	Orion	Nebula attached NNE edge of M42
05h36	-01°	Collinder70		150'	m0.4v	Orion	Open Cluster (Belt Stars + 100*)
Objects for Small Telescopes (2-6 inch)							
RA	Dec	Number	Alt.	Size	Mag	Const.	Type of Object
06h07.5	+24°06'	NGC 2158	Cr81	5'	m8.6v	Gemini	Open Cluster, just south of M35
06h08.9	+24°20'	NGC 2168	M35	28'	m5.1v	Gemini	Open Cluster, 200 stars
06h47.0	-20°44'	NGC 2287	M41	38'	m4.5v	Canis Major	Open Cluster, 80 stars
07h18.8	-24°57'	NGC 2362	H177	8'	m4.1v	Canis Major	Open Cluster, 60 stars
07h29.2	+20°55'	NGC 2393	H454	>15'	m9.2v	Gemini	Planetary Nebula "Eskimo Nebula"
Objects for Medium-size Telescopes (8-14-inch)							
RA	Dec	Number	Alt.	Size	Mag	Const.	Type of Object
06h01.0	+23°18'	NGC 2129	Cr77	7'	m6.7v	Gemini	Open Cluster, 40 stars
06h43.2	+26°58'	NGC 2266	H216	6'	m9.5p	Gemini	Open Cluster, 50 stars
07h16.9	+13°47'	NGC 2355	H66	9'	m9.7p	Gemini	Open Cluster, 40 stars
07h25.6	+29°29'	NGC 2371-2	H3162	55"	m11.3v	Gemini	Planetary Nebula
07h38.5	+21°34'	NGC 2420	H16	10'	m8.3v	Gemini	Open Cluster, 100 stars
Objects for Larger Telescopes (16-inch & larger) Challenge Objects							
RA	Dec	Number	Alt.	Size	Mag	Const.	Type of Object
06h16.9	+22°47'	IC 443		50' x 40'	&nbksp;	Gemini	Supernova remnant / E. Neb.
06h25.9	+17°47'	J900	PK194+2.1	>8"	m11.7v	Gemini	Planetary Nebula
06h28.4	+33°50'	NGC 2385		0.7' x 0.3'	m14.2v	Gemini	Galaxy, type ? (with next 2 objects)
06h29.1	+33°51'	NGC 2388		0.9' x 0.6'	m13.7v	Gemini	Galaxy, type S?
06h29.1	+33°51'	NGC 2389		1.8' x 1.4'	m12.9v	Gemini	Galaxy, type SAB(rs)c

Treasurer's Report (2011 year end report)

The following is a summary of our account balances and income and expenses for 2011. We ended the year with a net gain in our accounts of \$10,502.00, but this was due in part to the association receiving a \$15,000.00 donation for construction of a digital planetarium system at the Mingo Observatory. Taking this away, results in a net loss of \$4498.00 in our accounts.

Account Summary 1/1/2011 to 12/31/2011

Account Name	1/1/2011 beginning	12/31/2011 ending	change ±
Cash	50.00	50.00	0
PNC Checking	2450.52	4314.66	+1864.14
PNC Savings	6319.71	19,113.44 *	+12,793.73
USX Money Market	0	25,717.76	+25,717.76
USX Share CD #	130,851.51	100,977.88	-29873.63
Totals	139,671.74	150,173.74	+10,502.00

* \$15,000.00 of the \$19,113.44 in savings is restricted funds for construction of a digital planetarium system at the Mingo Observatory.

Our USX Share CD (5 year) came to maturity at the end of August. During its five years it accumulated over \$31,000.00 in interest. We moved some of this accumulated interest into our PNC savings account, about \$25,000.00 into a money market fund at USX, and rolled the original \$100,000.00 back into a new five year CD at the USX Credit Union.

Summary of Income for 2011

50/50 raffle	368.00
Donations	19,045.20
Interest	5849.86
Magazine Subscription Fees	1852.00
Memberships	7345.00
Sales (merchandise)	825.00
Total Income	35,285.20

Summary of Expenses for 2011

Awards	324.54
Bank Fees	12.00
Equipment (repairs)	1329.00
Food	881.47
Gas (transportation)	207.26
Gifts (door prizes)	617.89
Gifts (raffle prizes)	184.00
Printing	
Guide Star	1123.15
Handouts	184.70
Insurance	3705.00
Lodging	68.24
Mail	329.95
Honorariums	300.00
Hall rental	250.00
Merchandise	708.20
Mingo painting	2550.00
Mingo locks	227.37
Officers' expenses	
Membership sec.	555.53
President	261.77
Treasurer	49.99
Planetarium service	400.00
Promotions	50.00
Shipping	330.90
Int. Dark Sky Association	100.00
Star Finders	560.00
Magazine Subs	2051.80
Sales tax	24.08
Supplies	82.73
Tax document prep	3284.73
Utilities-Mingo	
Electric	530.10
Lawn care	550.00
Phone	368.36
Utilities-Wagman	
Electric	148.27
Lawn care	610.00
Phone	353.86
Porta jon	1210.17
Security system	258.00
Total Expenses	24783.06

Future General Meeting Dates & Times

March 09, 2012 8:00pm
 April 13, 2012 8:00pm
 May 11, 2012 8:00pm

Please note that the meeting times for March, April and May are a half-hour later than usual. This is due to a prior engagement of the Science Stage at the Carnegie Science Center.

Guide Star Submissions:

All AAAP members are encouraged to submit items to the club newsletter. Articles, images, observations, notices, ads, book, software and equipment reviews, all are welcome.

The Guide Star is posted online at month's end to both the club web site and the file section of the Yahoo Group AAAPgh.

Please submit items as early as possible for inclusion in the coming issue. Forward submissions or questions to: gseeditor@3ap.org

AAAP Welcomes a New Member



FRED CAPPELLI
 JEREMY M. GOWINS
 WILLIAM D. MOUTZ Jr.

Amateur Astronomers Association of Pittsburgh, Inc.

2011-2012 Executive Officers

President: Anthony Orzechowski
president@3ap.org
 Vice-President:
 Treasurer: Michael Meteney
treasurer@3ap.org
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recordingsecretary@3ap.org
 Membership Sec: Don Hoecker
membershipsecretary@3ap.org
 Guide Star Editor: John Cheng
gseeditor@3ap.org

AAAP Member Dues:	\$ 24.00
Student Membership (K-12 & full time college student):	\$16.00
Family Membership	\$ 40.00

Basic Procedure for Paying Dues:

1. Make check payable to "AAAP Inc."
2. Send check to: Michael Meteney, Treasurer
 1070 Sugar Run Road
 Venetia, PA 15367-1514

Membership Renewal Forms can be found at:

http://www.3ap.org/AAAP_Mem_RenForm_2012.pdf