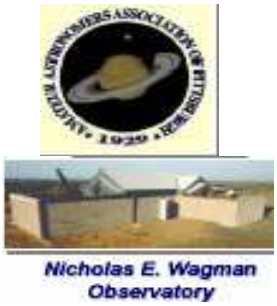

Mingo Creek Park Observatory

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


Nicholas E. Wagman Observatory

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INSIDE THIS ISSUE...

CHERRY SPRINGS REVIEW

By Larry McHenry

This was the first year that I've ever been to Cherry Springs, so please excuse my enthusiasm! What they say is true! It is an 'Astronomers Paradise!". The facilities are great!!! A large flat meadow in the middle of a forest, with gravel roads bisecting the field for easy access, multiple concrete telescope pads and electrical outlets scattered throughout the field, several permanent rest rooms with more planned to be built this summer, a large amphitheater with seating and a built-in projection screen, and a large double pavilion connected in the middle by a long covered patio (If only we had something like that at StarCruise!). They also have two small observatory domes, and a roll-off roof observatory with full electrical hookup that one can rent for an evening! The only downside is there are no showers. But the ranger says they are putting showers in at a park campground a few miles down the road.

Like others, I almost bailed out on going. Even though I had the van packed, Thursday was so dismal that I didn't go (it's a 4-5 hour drive for me). Friday morning didn't look good either, but after checking the various forecasts, it seemed like Friday evening was going to be the only half-decent night, so I decided to go for it, and left at noon Friday. That turned out to have been an excellent move, as Friday afternoon, the Sun came out and dried up the field and that night was fabulously clear though the old timers tell me it was just an average night at Cherry Springs.

The evening started out with observing the usual spring favorite galaxies and globulars, along with Venus and Saturn, and later Jupiter. There were lots of telescopes of various sizes about the field, SCT's, refractors, reflectors, and a couple of monster 30" & 32" Dobs, which was a good thing as I only brought my little 80mm spotter and deep-sky video camera, as my observing plan was for wide-field video imaging, and then walking around looking through other telescopes.

By 2:30 am, the Summer Milky-Way had risen high enough for great naked-eye views. I recorded several clips. The highlight of the evening was seeing the new StellaCam III (Peliter cooled) deep-sky video camera in action on an 8" SCT! The views were simply amazing! This is the same camera that is on order for piggybacking on the 24" at Mingo.

Saturday, the predicted weather forecast continued to be off, as we had sunny skies (good for solar observing), but a persistent 10-15 mph breeze, which kept attendees busy chasing tent canopies and things. A fella setup behind me, and it took four of us to keep his tent from going airborne while he staked it down. There were only about four vendors present, and the swap table was sparse, but there were plenty of folks to talk with, with a number of us there representing the AAAP, KISKI, and ORAS.

Saturday evening, the wind finally died down, but not before a number of campers had called it quits. There was still a good crowd that remained, (about the size of an average StarCruise in number), and everyone was enjoying the clear views of the Venus / Moon conjunction. Around midnight, a cloudbank began moving in, and sometime

before dawn Sunday morning it rained. After the Sun came up, it didn't take long for the place to clear out as everyone headed home. Still, it was well worth the drive time. I am already making plans for going back in the fall for Black Forest!

CHERRY SPRINGS REVIEW

By James Schultheis

Ivan, Sue and I went up on Thursday PM and it was sort of sucker holes until about midnight and then the sky opened up to mostly clear (it was very cold in the AM). Friday night was predicted to be all cloudy and our hopes were lifted when all of a sudden they changed the forecast to clear skies and man was it good! We observed until 4:08 AM when the sun started to affect observing. It was about 28 degrees in the morning. Saturday day was very windy (30 MPH gusts) and our one tent was bent in half (will have to get a new one). Saturday night was clear until about midnight and then the clouds moved in and it rained. Sunday AM when we packed it in and came home. I got the impression that this star party was not that well attended; in fact, about half of the vendors did not show up.

FROM THE TREASURER

By Michael Meteney

Just a couple brief notes that the membership should be aware of. First, our 3M stock had split back in 2003 and no one was aware of it. It was only recorded on the company's books but no new certificates were issued. So we recently sold the remaining 65 shares for $5476.65. This windfall came at a great time since we needed to purchase some eyepieces and other items for the observatories.

Our audit has been completed and all tax documents for the state and federal government have been processed. Everything went well. These ease of transition from the past treasurer and through the interim treasurers can be credited to the extensive details that John Holtz has left for us. Thanks again John!

I received a letter from Sky Publishing about a month ago regarding future subscription payments. As it turns out, they have been reviewing their procedures for making these payments. I have to believe that the prorated payments we were making to bring everyone's subscriptions due at the same time contributed to their review. In the future, **all subscription renewals for Sky & Telescope will be made directly to Sky Publishing.** All the association needs to do is once a year is verify a list of current members. This will save a lot of time, postage, and check writing. Members will simply renew the subscriptions themselves. So when you get your renewal notice, pay the renewal to Sky Publishing in whatever manner you want; check money order, credit card, etc. **Don't send the renewals to the AAAP Treasurer!** The association still has to process new subscriptions. We are in discussions with the publishers of Astronomy magazine to do the same thing. Let's hope they come through and make the same change.

And finally, don't forget that all membership renewals will be done through the Guide Star. Look for the renewal form in the October newsletter. Don't send anything until you get the renewal form, and make sure to follow the directions. All membership info will be updated at the same time, and this will be sent directly to the membership secretary.

ALLEGHENY OBSERVATORY PUBLIC LECTURE

By Louis Coban

The next Allegheny Observatory Public Lecture is Friday the 20th of July. The talk is titled "Experimental Elementary Particle Physics at Pitt" by Professor Paul Shepard from the University of Pittsburgh's Department of Physics and Astronomy. Since the lecture hall at the observatory is limited to 45 attendees, advanced reservations are required. All of the lectures start at 7:00 p.m. with light refreshments and the lecture begins at 7:30 p.m. All lectures at the observatory are followed by a tour of the building and viewing through the 13" Fitz-Clark refractor if it is a clear night.

We also give tours of the Allegheny Observatory on Wednesday and Friday evenings throughout the summer. When the university semester begins in September, the tours will be on Friday evenings only until the end of October. If you would like to attend the lecture or sign up for a tour, please contact me at coban@pitt.edu or call the observatory at 412-321-2400 (between 1:00 p.m. and 5:00 p.m.). Please note: In some instances, I may not return your call until the next business day.

AAAP MEMBER SURVEY

By Dave Smith

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You still have time to get your survey in. That is because there is no time limit. It would be nice, however , to receive them by the end of the summer. Over 20 have come in so far. Thanks to those who have sent them in. There are some interesting replies coming in so far. Some can be addressed as they come in. One major thing I see so far is that we need to do more to make new members feel more a part of AAAP. Others have given some good suggestions that I will bring up at an executive committee meeting. It has been pointed out to me there are a few errors in the survey I missed. At some point, the results will be presented to the membership. If you want or need a copy, it is on the AAAP website.

THANKS TO WAGMAN FROM VENTURE OUTDOORS

By Sara Walfoort -Volunteer Trip Leader

To Tom Rieland and the rest of the Amateur Astronomers at Wagman Star Party on April 21, 2007:

On behalf of the 21 members and guests of Venture Outdoors who attended the Star Party at Wagman Observatory, I wanted to send a heartfelt thank you to the Amateur Astronomers Association of Pittsburgh.

Our group started the evening with a two-mile hike through Deer Lakes Park, where we managed to scare up dozens and dozens of deer. The large herds we saw as the sun was going down were quite impressive; but the sight was not nearly as impressive as what we saw after the sun went down!

As it became dark, we joined your group for an hour or two of stargazing. We could not have asked for a better night, with very seasonable temperatures and clear skies. Our group was made to feel quite welcome, and we saw and learned a lot. Personally, I saw the sun through a telescope for the first time (with the appropriate filters, of course), the rings of Saturn, the Orion nebula, M13, the International Space Station, and lots more.

I had conversations that touched on astronomy, of course, physics, history (what WAS happening on earth 13,000 years ago?), the environment and so much more!

So, on behalf of our group and all of Venture Outdoors, thank you for a wonderful evening. We'll be back again soon!

UPCOMING WAGMAN TRAINING

By Flaccus M. B. Stifel

We are preparing to do Wagman Observatory training. This was announced in the June Guide Star.

Members of the AAAP who have been in the club for a year or more are eligible to go through the training session. Members who have been keyholders for over a year are eligible to train to use the Brashear scope, a separate session.

Please email me if you are interested in a session in the near future and suggest when a good time might be for a 1 to 1-1/2 hour session. We generally do weekend afternoons, but weekday evenings are okay too, especially as the days are longer now.

Note that weather is a factor, as we need to be able to open the roof. I will US Mail, or send as a PDF file, a packet with the information and manual ahead of the session if you let me know by email or phone.

From the cover letter, here is some additional information which you should consider before attending the session:

Please be aware that you may go through the training session and are under no obligation to become a keyholder. Accepting a key and using the facility carries a great deal of responsibility and you should consider carefully whether you wish to receive a key.

The building and its contents are very valuable, with many things being irreplaceable. It is absolutely necessary to observe procedures for opening, closing and operating the security system exactly. In addition, not everyone has the skill to operate the telescopes. You may receive a key if you wish to use your own equipment on the hilltop and want to open the building for warm-up or other purposes without using the telescopes.

Remember that as an AAAP member you may use either scope if a trained member is present. Helping operate the scopes at star parties or other times is a good way to learn about them and decide if you wish to use them alone.

Please remember to bring $15.00 for the key fee if you successfully complete the training and wish to receive a key. This should preferably be in the form of a check written to AAAP, Inc. (I have to transfer the key fees to the Treasurer.) This is an annual fee, which helps maintain the observatory. Please email of call me if you have questions.

BOOK REVIEWS

Is Pluto a Planet? Recommended by Fred Klein
David A. Weintraub
Princeton University Press (October 16, 2006)
ISBN-10: 0691123489

After the talk at the meeting this spring, I didn't think I really would learn anything from this book, but I was wrong. There is a lot in here that was new to me.

Most interesting to me is that after the meeting, I was of the opinion that Pluto should be considered a planet. Late in the book, I became convinced that it should not be. Then, I was surprised that the author ended up saying it should be (along with a total of about 28 solar system objects).

My opinion was swayed because Pluto is just the largest of about 200+ objects with similar characteristics in plutino orbits with a 3:2 orbital resonance with Neptune.

You will have to read the book to get the author's opinion.

BOOK REVIEWS (continued)

Recommended by John Cheng

March saw the publication of *"The Sun Kings: the Unexpected Tragedy of Richard Carrington and the Tale of How Modern Astronomy Began"* by Stuart Clark, the former editor of Britain's "*Astronomy Now*" magazine.

Despite its off-beat title, it is the serious story of nearly a century and a half of solar research dedicated to explaining the link between sunspots, solar flares, auroras and geomagnetic disturbances.

Heavily British in emphasis, we meet the always prescient William Herschel who began a rigorous program of solar observations in the 18th century blessed with the best optics of the time and suggested that solar disturbances might have left their mark on the historical price of wheat.

It would be more than a century before evidence would show his intuition to have merit. (As an aside, we also learn the very human reason why Ceres, Vesta , Juno, etc. are called "asteroids" - little stars—rather than the more logical "planetoids").

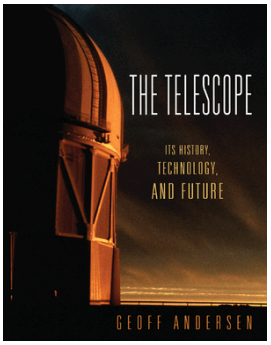
Over the years the "solar problem" would involve the famous Lord Kelvin, John Herschel - and the often forgotten Edward Sabine, Edward Maunder and his wife, Annie Russell and many others, but the centerpiece of the book is the unfortunate Richard Carrington.

Carrington may well have been the premier British observer of the 1860's. It was his good fortune to have been the one knowledgeable astronomer to witness the solar flare that preceded the "perfect solar storm" of 2 September 1859, acknowledged today to have been the strongest on record.

It was also his misfortune in that it helped to seal his commitment to observational astronomy, a desire that would be frustrated by family duty, attempted murder, suicide and addiction.

He was also thwarted by a British scientific establishment, which was slow to see that traditional positional astronomy was being supplanted by astrophysical research, aided by the new tools of spectroscopy and photography.

For me, Clark's book joins those enjoyable, well written scientific histories that are informative while being suitable for a general audience - Alan Hirshfeld's "*Parallax*", Dava Sobel's "*Longitude*" and both William Sheehan's "*In Search of Planet Vulcan*" and his "*The Planet Mars: A History of Observation & Discovery*" come immediately to mind.



Recommended by Jessica Pellien
Assistant Publicity Manager
Princeton University Press

Princeton University Press is about to publish a book that will be of extreme interest to amateur and professional astronomers: *THE TELESCOPE: Its History, Technology, and Future* by Geoff Andersen.

The book is the ideal introduction to a fascinating instrument that has taught us so much--but that most of us know so little about. Covering the development of the optical telescope through time, Andersen also offers invaluable advice on how to optimize the performance of backyard telescopes, a basic overview of how to build a telescope, and looks to the development of super telescopes in our near future.

Jay M. Pasachoff, Field Memorial Professor of Astronomy, Williams College writes, "As we approach the International Year of Astronomy, the four-hundredth anniversary of Galileo's turning a telescope on the heavens, Geoff Andersen has produced an interesting book on the centuries' progress in optical observations. Chapters on telescopes used for surveillance and on a series of astronomical discoveries add interest beyond discussions of the telescopes themselves."

More about the book:
http://press.princeton.edu/titles/8374.html

Recommended by John Cheng

Donald Osterbrock's "*Pauper & Prince: Ritchey, Hale & Big American Telescopes*" is the story of how a relationship changed the course of astronomy and led to the predominance of American observatories throughout most of the 20th century.

George Ellery Hale, born to wealth and influence, was the driving force in the construction of the world's four largest telescopes, in order: the 40" Yerkes refractor, the 60" and 100" Mount Wilson reflectors and the 200" Palomar reflector, which is named after him.

George Willis Ritchey, born to a working class family, was a designer, optician and photographer, who produced the 60" and 100" Mount Wilson mirrors and whose "new curves" design is today better known as the Ritchey-Chretien system, used almost universally in modern large research instruments.

Their association, dating from 1890, began in the shared recognition that astrophysical research (in that day, mostly spectroscopic analysis) would dominate astronomy, that photography would supplant the visual use of observatory

instruments, and that this work would henceforth be better served by large reflectors.

It flourished as Hale, tackling project after project, obtained support from wealthy benefactors while pursuing his own solar research and as Ritchey produced the optics for the world's largest reflectors while taking the best lunar images ever seen at the time and discovering novae in “spiral nebulae". (Allowing Heber Curtis to correctly conclude that these objects were distinct star systems outside the Milky Way.)

Over the years, both would have to compromise with those holding "purse strings". For example, the two 40" blanks that Hale got for the Yerkes refractor were first meant for a refractor to be built on Mount Wilson. They ended up in Williams Bay, Wisconsin, close to the parent institution, the University of Chicago, despite inferior seeing and weather. Near the end of his career, Ritchey, who desperately wanted to prove the advantage of the RC design, allowed only the second Ritchey-Chretien ever built to be placed within the city limits of Washington DC at the U.S. Naval Observatory.

Like Percival Lowell, Ritchey and Hale were well aware of the debilitating effects of bad location on fine optics. Their relationship would flounder when Hale, tying to calm the impatient philanthropist, John Hooker, when the 100" project seemed close to failure, had to deal with Ritchey's suggestion that the telescope be changed to contain a "built up" mirror (three thin disks with glass spacers cemented between) and that it be a fast f/2.5 RC (this would have made the Hooker reflector both the world's largest telescope and the first Ritchey-Chretien ever built). Hale would eventually order Ritchey to build the 100" as a conventional (traditional optics, solid mirrored, f/5) reflector, but their relationship soured.

Ritchey was eventually fired and would go on to call the Hooker reflector a failure, although it's been called the "most important astronomical instrument ever built". Hale would condemn the RC design, although he apparently never bothered to analyze it and, being the dean of American astronomy, would help to deny prestigious awards to Ritchey when he was nominated. Both men, supremely gifted in their own ways, were vindicated. Although Ritchey would be fired for repeating his tactic of proposing a visionary solution when a purely practical result was needed (this time a large French project) his innovations are now common practice.

Hale, founder of the Astrophysical Journal, of both Yerkes and Mt. Wilson, went on to found Caltech, which operates the combined Mt. Wilson and Palomar observatories, renamed the Hale Observatories in his honor.

Hale died in 1938, ten years before the Hale telescope, "the most productive research telescope in the world" was completed. Ritchey died in 1945, never having used his largest telescope, the 100" on Mount Wilson.

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There is a Brashear connection to both men, by the way. When young, Ritchey, purchased a Brashear mirror, before he began to grind his own optics.

Hale, the inventor of the spectroheliograph, came to Pittsburgh as a 17-year-old to purchase gratings from Brashear. Over the next few years, Brashear and Co. would make spectrographs for the young astrophysicist and produce the 12" objective for Hale's first observatory, Kenwood Observatory.

The author, Donald Osterbrock, who died January 2007, was a past director of Lick Observatory. His historical writings include:

"*Yerkes Observatory, 1892-1950: The Birth, Near Death, and Resurrection of a Scientific Research Institution*"

“*Walter Baade: A Life in Astrophysics*"

"*James E. Keeler: Pioneer American Astrophysicist and the Early Development of American Astrophysics*"

"*Eye on the Sky: Lick Observatory's First Century*"

Recommended by Ken Coles
Geoscience Department and Planetarium
Indiana University of Pennsylvania

Many AAAP members are no doubt familiar with these two books. I have just encountered them for the first time and share a newcomer's impressions:

Turn Left at Orion, by Guy Consolmagno and Dan M. Davis, Third Edition, 2000, Cambridge Univ. Press, 224 pp.

It shows how new I am to sky observing that I only discovered this book for the first time at the Green Bank Observatory gift shop in 2006. I got to hear a great lecture on the writing of this book given by the first author, Br. Consolmagno, of the Vatican Observatory, at the Northeast Astronomy Forum earlier this year. The story of how he and Dan wrote this book two decades ago was quite entertaining. I was startled to learn that I was actually working across the hall from the second author, at the Earth science research facility of Columbia University, at that time. Brother Guy's description of Dan is exactly how I remember him, though at the time, I was only dimly aware of his (or my own) interest in astronomy.

If you haven't seen this book, the emphasis on finding key objects by star hopping with a small-aperture telescope is great practice for a new astronomer. It even gave me

ideas about what to observe on my trip to Australia last July.

Astronomy Hacks: Tips and Tools for Observing the Night Sky, by R. B. Thompson and B. F. Thompson, 2005, O'Reilly, 388 pp.

Like some others who have seen this book, I was intrigued to see a publisher I normally associate with software manuals branching into astronomy. Although I have read many sources of advice on equipment and observing, I found here some useful information not covered elsewhere. The section on choosing eyepieces was a big help when my university recently allowed me to buy a new eyepiece or two to use with our telescopes—the book paid for itself then. Some topics are covered in depth (magnitudes, some aspects of object location and star hopping), while others (e.g., the Messier marathon - and we know who to get advice from about that!) have shorter sections. This book (along with visiting AAAP star parties) will give you some ideas if you are just starting to look for ways to improve your observing experience.

NAVAJO COSMOLOGY

By Craig Lang

During a Friday afternoon visit to the Carnegie Museum of Natural History, I encountered part of an exhibit that some of you may find interesting: "Alcoa Foundation Hall of American Indians explores Native American cultures in an exhibit organized around their relationships with the natural world." http://www.carnegiemnh.org/exhibits/alcoa.htm

Walking through this exhibit hall, I found a domed theater and decided to sit down and watch the presentation. It covered a Navajo cosmology tale in which Black God placed the named stars into the heavens in an orderly fashion. Coyote, a trickster, snatched the pouch of unnamed stars from Black God and scattered them creating chaos against the order. Coyote deliberately placed the last star far to the south. This star represents the source of disorder and confusion in the world. This star became known as “Coyote Star”.

Of course, the narrator did a much better job than I and told more of the story that I seem to have forgotten since, but I was rather moved by this.

The moment I returned home, I did some web research and found several references to the tale and its background. The problem though, after tens of pages of Google searching, I only found one reference that speculated the contemporary name of the star: Canopus.

NATIVE AMERICAN STAR MYTHS

By Larry McHenry

I use a variation of the same story in my new “Star Myths” presentation that I wrote this year for Mingo star parties. (see below). I got it and several other interesting sky myths from this book: “*They Dance in the Sky –Native American Star Myths*” by Jean Monroe and Ray Williamson. It is currently down at Mingo in the classroom with the “Constellations"‘ astro display. According to the story in the book, this is how the Milky Way was created.

The Navajo of the southwest desert had a similar creation story involving Black God and the trickster Coyote! On the first evening, the gods of creation met in the first hogan to discuss what they had made in the world that first day, and to plan what to put in it next day. Black God arrived last with a leather bag full of colorful crystals. The other gods asked him to fill the dark sky with his crystals to make it beautiful and to provide humans with guides for living on earth so Black God reached into his bag, pulled out a bright crystal and carefully placed it in the northernmost reach of the sky. It became the North Star.

Next, he pulled out seven smaller crystals and placed them up in the sky. The Navajo call this Dilyehe (Pleiades). Throughout the evening, Black God pulled crystals of various sizes and colors out and one at a time, thoughtfully placed them in the sky and named them.

After Black God created all the known star patterns, he sat down to admire his handiwork. Coyote, arriving late to the meeting, decided he too wanted to help put stars in the sky. So, while Black God was busy looking up at his creations, Coyote grabbed the bag in his mouth and ran outside but his sharp teeth caused the bag to tear, spilling out thousands of tiny crystals all along the way.

These tiny crystals rose up in a jumble into the sky, forming a glowing path behind Coyote as he ran, obscuring some of the star patterns Black God had just created. Black God scolded Coyote for leaving chaos and disorder in the night sky, but Coyote just laughed, giving the now empty leather bag back and saying, “now the skies are truly beautiful”.

KEYSTONE JUNE EVENT

By George Guzik

We had a very pleasant evening at Keystone State Park on June 16. Pam McQuistian, the Park's Environmental Educator, invited us back to Keystone again this year and the AAAP members put on a great program for the visitors to the park. The skies remained mostly clear so we had good views of Venus, Saturn, and Jupiter along with obser-

vations of more distant objects of the late spring constellations. The grand finale of the event was a bright pass of the ISS with STS-117 docked at the station. This pass was the "appetizer" for the spectacular series of ISS/Shuttle passes that occurred the following week!

AAAPers who participated in this event were:

Mike Fisher	Fred Klein
John Diller	Bill Moutz
Bob Saut	Maureen Moutz
Larry Sneider	George Guzik

Special thanks go to Bill Moutz for spreading the word about this event! Also, mark your calendars for August 11 when we return to Keystone for a program on meteors beginning at 9 PM.

OBSERVATIONS

Sherry O'Neill: It's that wonderful time of the year when ISS can be seen every 95 minutes or so, all night. There were 5 passes tonight. I have just seen the final one. The first one was at 9:10 PM EDT. The sky condition then was excellent. The sky was still pretty bright. However, while I was waiting for ISS, I was able to pick out Arcturus in the bright twilight. About a minute before the ISS became visible my next-door neighbor came out. He asked me what I was doing. When I told him, he ran in the house and dragged out his whole family! I swear he was more excited about seeing ISS than his kid was!!! ISS was nearly as bright as Venus. It became visible about 20 degrees above the SW horizon, passing near Arcturus. I was able to watch it (interspersed with questions from my neighbors) until it disappeared behind the trees in the NE. After it went beyond the trees, I showed my neighbors Venus. I tried to find Mercury, but the sky was still pretty bright. Dumb me....I forgot to show them Saturn. The next pass of ISS was at 10:47 PM EDT. By now the sky condition had deteriorated somewhat. There were some patchy cirrus clouds at this point. ISS first became visible just to the north (right) of Venus. Venus was, at the time, enveloped in a slight, cloudy patch. There was a ring around Venus, but it was still visible. I had no trouble seeing ISS. It got to be about 1st magnitude as it passed the zenith. It also looked distinctly orangeish. I watched it for about 4 minutes until it disappeared beyond the trees in the NE. The next pass was at 1:59 AM EDT. I actually almost missed this one. By then the sky from Penn Hills had a thin layer of cirrus clouds in the north. The ISS was just past the zenith when I finally spotted it. So I only got to see it for a minute or so. It was about magnitude 2.5, and maybe 5 degrees above the hill to my north that creates the horizon. The pass at 3:33 AM EDT was much better. The sky had cleared up considerably during the previous hour and a half. Plus the ISS was higher up, and brighter. I was able to follow it for approximately 4 minutes. I was first able to see it just under the handle of Ursa Major, and was able to observe it until it went behind the tree line on the eastern side of my housing development. I was sure I would end up missing the 5:10 AM pass. I have only been able to see ISS 5 times in one night one other time. That was way back in 2002. It always seems to end up getting cloudy (or I fall asleep). But the sky was clear and even though it was twilight, it was still dark enough to see the last pass for the night. It just cleared the tree line to the SW, only a degree or so above them. However, it was pretty bright; I'd say at least 1st magnitude. All in all, it was an awesome night of Space Station watching!

Truman P. Kohman: I just observed the passage of the ISS and the shuttle. At 10:54 (PM EDT) they were both below and to the right (NW) of the Moon, the shuttle about 7 degrees behind as they moved to the left (SE). At 10:55 they passed just above the Moon as seen from Mount Lebanon. At 10:56 first the ISS and then the shuttle disappeared in the Earth's shadow. The ISS was about zero magnitude and the shuttle about a half-magnitude fainter. Quite impressive!

Mark Schomer: Well, the clouds parted over Connellsville just in time to view the entire pass over of the ISS and trailing behind, the shuttle. My guess was that it was brighter than Jupiter, but not quite as bright as Venus. It was pretty neat. We took Judy's mother out to see it, and she got really excited. I told her that she could tell all her grandchildren and great grandchildren what she had witnessed, and that none of them had most likely ever seen one, so she was one up on them. Maybe we will have to bring her to a star party some time.

James Schultheis: Last night (June 21) conditions were 0% clouds, poor transparency, and fair seeing, the temperature was about 70 degrees. I was using my 15" Obsession and/or my 9x50finder scope. I targeted Ophiuchus to "tear apart" and the first item was a small, open cluster NGC 6633, which I located in my 9x50 finder as a pretty haze. Upon further magnification to about 70x, I observed a very pleasing splattering of blue stars. I then went on to NGC 6572, "The Blue Racquetball", which was quite stellar looking at 70x but the blue-green color and "bloopy" appearance gave it away. I bumped the power up to about 350x and the appearance changed to a round, blue ball with a slightly flattened side. NGC 6309, "Box Nebula", was next at 70x. I could see a hazy streak and at 190x the thing looked like an "!". I took it up to 350x and could not see any resemblance to a box. The galaxies in Ophiuchus were probably not worth mentioning. Due to the poor transparency and the resultant sky glow. I found some of the small NGC globulars in Ophiuchus to be very difficult if not impossible in my neck of the woods. I then went over to Cygnus and observed NGC 6888", The Crescent Nebula", with the O-III at 66x. I think it more or less looked like an ear with stars as piercings around the edge. I think I will prefer to observe later in the summer when it gets darker earlier and there is more time to observe. Oh, by the way, I was talking to some of the guys and they were suggesting that I get an Argo Navis finder system on my scope (for quick locating) and after some thought, I think I am staying with the old sky maps and manual observing method. I think I can now find about 500 objects from mem-

ory and the number is growing; and for me, I get a lot of satisfaction in that.

Christopher Genovese: What started out as drab and cloudy turned into a decent night, good enough at least to find what I needed. Down to the tail end of the Astronomical League's Herschel II list, I was determined to finish them off as soon as possible. Actually, I found myself in danger of losing a few if I waited until next month. So, Jeff and I had come out a couple times this week, and when the sky clock showed a hint of blue, we decided to go again. The place was crowded; Larry, Frank, Bill, Tom, and several others were there. After a few hours of focused (hah) work, I cleaned up the last few galaxies in Virgo, Canes Venatici, and Ursa Major. The Herschel II list was done. There are some very nice objects on the list, especially a whole series of elongated edge-on galaxies. But much of the list is hard to properly appreciate without very dark skies, which made it a bit of a slog at times. Still, it was a good experience overall.

IMPORTANT DATES

July 4-7 Greenbank Star Gaze
July 6 Mingo Star Party
July 7 Mingo Star Party
July 11-15 Mason-Dixon Star Party, York Co., PA
July 12-14 Table Rock Star Party, WA
July 13 Moraine State Park
July 14-21 Southern Skies Lake Titicaca, Bolivia
July 20-21 Wagman Star Party
August 9-12 Almost Heaven Star Party, Spruce Knob WV
August 4 Raystown Lake
August 11 Keystone State Park

FOR SALE

Meade 8" Star Finder on equatorial mount with adjustable legs for leveling the scope and a JMI motofocuser and rotating rings for the scope. I can be reached at home at 724-457-7048. I can sell the scope with or without the extras. $900 or best offer. Frank Pastin

My deceased father had a beloved Renaissance, purchased in 1985, which I am selling for my mother. I've contacted several astronomy clubs in Western PA and will sell it for the best offer. If any member in your club would be interested, please have them contact me for more information. My father lived in Somerset County. I live in Erie County, and would be able to deliver it to the area. Thank you for your help, Pat Howell 814-474-3044. It includes: 10.5 mm Plossl, 40Plossl, 21 Plossl, 2.5X Barlow Porro Prism, 2 holder rings, carrying case, 2000 equatorial system, and an aluminum tripod.

Equatorial Platform drive kit for Dobs. Equatorial Platform drive kit consisting of Powermax 1.8 degree stepper motor with gear reduction, mounted drive wheel, CMD microstep 260 drive controller, 24 VDc power supply, 7 new extra hardness skate wheels and bearings, all with wiring documentation including calculations , photos for building a platform, for 40 degree latitude. Asking $145. Wood platform plans also included. Contact: Carl M.Chernan 724-224-7691 or e-mail carlm01@comcast.net.

I recently bought a new telescope and would like to donate my old telescope to anyone who is interested. It is a Tasco model 11TR. It is missing one of the lenses that it originally came with and the round plastic cover, but I still have the manual and instructions, a moon lens, one of the lenses it came with, and a 2X lens. If you know of any member that is interested, they may email me, Sharon Laffey, at-laffeys@mcguffey.k12.pa.us or call me at (412)363-1959.

WELCOME NEW MEMBERS

Marilyn Magenis
Chetan B. Mayekar
Craig Smith
Donald V. Todd
Michael R Fisher
Zac Tinyo

COOL WEBSITES

http://hubblesite.org/newscenter/

http://www.otastro.org/iapetus/

http://home.comcast.net/~lemsolar/Bwwso3.htm

http://space.newscientist.com/article.ns?id=dn12026

http://ciclops.org/view.php?id=714&flash=1

http://www.solarsystemdrive.com

http://spaceflightnow.com/news/n0706/03starsurface/

http://www.movable-type.co.uk/scripts/latlong.html#destFinalBrng

http://antwrp.gsfc.nasa.gov/apod/astropix.html

http://www.acme.com/jef/singing_science/

http://al-paslow.smugmug.com/gallery/610266#137734397-L-LB

http://www.space.com/includes/iab.html?url=/news/070221_rocket_explodes.html

BLACK EYE GALAXY

By Fred Klein

I have finally made a good image using the 24" RC scope at-Mingo. This was done May 8. As I had broken my guide scope the previous Friday night, I had to take this unguided. Fortunately, the mount was working quite nicely. I limited my exposures to 20 seconds each based on my previous experience with the periodic error of the mount.

The atmosphere was pretty bad when I started, but got better as time went on. The initial focus was not great, but part way through, I refocused and it got better. In all, I collected 90 images at 20 seconds each. This was using my Canon 20Da prime-focus on the 24. I chose ISO 800 because this object is pretty faint and the short exposures would not collect many photons. I used the program Images Plus to do final focusing and to collect and display the images as they were taken. I used the Canon TC-80N3 to sequence the exposures. I took 10 dark frames and 4 bias frames.

Back home, I spent an evening starting the processing. Images Plus will automate much of the work. It converted the RAW to fit images; median combine the dark and bias frames; apply dark and bias to each image. This all took three hours on my laptop.

Then, I reviewed each image, selecting which I would keep considering tracking and focus errors. Also, I selected the same star in each image to assist the program with aligning and stacking the images. I selected 58 images to keep for a total of 18 minutes, 40 seconds of exposure. I played around with the image in Photoshop, but was not real happy with it. Then I tried using the deconvolution in the IP4WIN program and that helped some, especially with the detail in the "Black Eye" part. Back to Photoshop to bring up the levels some more; some unsharp mask to bring out contrast in the galaxy center finishing with some selective blurring of the noise in the outer galaxy. Finally, I cropped the image and reduced the image size for web use.

From the *Oxford Astronomy Encyclopedia* the "Black Eye" galaxy's true diameter is 65,000 light years, and it lies 24 million light years away.

AAAP 2007 PICNIC PICTURES

Amateur Astronomers Association of Pittsburgh, Inc.

Founded June 9, 1929 by

Chester B. Roe and Leo J. Scanlon

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Happy 4th of July!

July 4 is the 10th anniversary of the landing of NASA's Mars Pathfinder in ARES VALLIS.

July 6 Earth at Aphelion, 94.5 million miles from the sun.

July 14 New Moon.

July 15 Venus dazzles low in the western twilight after sunset at magnitude –4.5. The brightest it gets in the evening sky this year.

July 20 Mercury at greatest western elongation (morning sky) 20° from the sun.

July 22 35th anniversary of the landing on Venus of the Soviet Venera 8, the second space craft to return data from the planet's surface.

July 29 Full Moon
(Taken from Night Sky 2007 wall calendar)

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