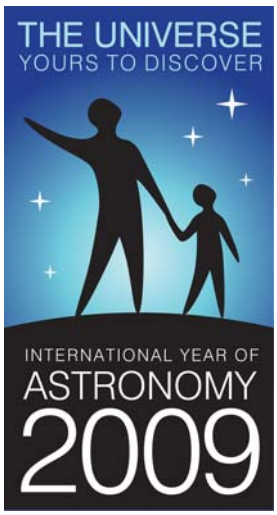
CONSTELLATION

An Official Publication of the Bucks-Mont Astronomical Association, Inc.

VOLUME 23, Issue No. 4	October/November/December 2008	Chris Sommers and Scott Petersen, Editors

President's Message



Warm greetings to everyone at the beginning of this New Year. 2009 promises to be an exciting year for BMAA and amateur astronomy. The International Astronomical Union (IAU) and The United Nations Educational, Scientific and Cultural Organization (UNESCO) have declared 2009 as the International Year of Astronomy. This declaration is in conjunction with Galileo's 400th anniversary of turning his telescope towards the heavens and changing not only the way we look at the universe, but how we thought about our place in the cosmos. The 2009 IYA is a global event with activities taking place all over the world. The goal is to reacquaint the citizens of this planet with the beauty and intrigue of the night sky. Amateur astronomers will play a vital role in their local communities creating opportunities at StarWatches and other events to introduce the wonders of our universe to friends and neighbors. One major event is the 100 Hours of Astronomy taking place April 2nd - 5th. Astronomy clubs the world over will invite as many people as possible to look up through telescopes at Galileo's favorite objects in the sky. You can find out more about the 2009 IYA at http://www.astronomy2009.org/. A little closer to home, our own Franklin Institute will be hosting Galileo, The Medici Family and the Age of Astronomy. The exhibit runs April 4th to Sept. 7th 2009. One highlight will be the display of one (of only two existing) Galilean telescopes. This is definitely worth a trip into Philly. The Franklin - Galileo, The Medici and The Age of Astronomy. In about 3 months, our StarWatch season begins again on March 6th at our home base, Peace Valley Nature Center. George Reagan, our StarWatch coordinator has lined up 27 more public events at regional parks and recreation sites throughout the Bucks-Mont area. We invite all BMAA members to come out and support our astronomical outreach programs. Another thing to look forward to in 2009 is the great lineup of speakers and topics at our monthly public meetings. Thank you to the BMAA members who have volunteered to give a presentation at our meetings this year.

BMAA Gophers

Position	Name
President	Dwight Dulsky
Vice President	Bernie Kosher
Treasurer	Ed Radomski
Secretary	Cathy Ebert
Star Watch Coordinator	George Reagan
Constellation Editors	Chris Sommers and Scott Petersen
Webmaster	Jim Moyer

For More Information About BMAA Go to www.bma2.org.

2009 BMAA Monthly
Public Meeting Presentations

January 7th	*"The Virtual Observer Project"* - Roger Blake
February 4th	*"Variable Star Observing and Occultation Timing"* - Walt Rauscher
March 4th	*"Astrophotography"* - Steve Mazlin
April 1st	*"Logging Your Celestial Sightings"* - Gary Sprague
May 6th	*"Traveling With Your Telescope"* - Preston Smith
June 3rd	*"Galileo ~ Moving Heaven and Earth"* - Dwight Dulsky
July 1st	*"Meteorites"* - Bernie Kosher
August 5th	*"Astronomical Show-N-Tell Spectacular"*
September 2nd	*"Near Earth Asteroids"* - Bill Work
October 7th	*"Stella Della Valley StarParty Prep"*
November 4th	*"Open House"*
December 2nd	*"Holiday Party"*

All meetings are FREE and held at 8 PM on the 1st Wednesday of the month at Peace Valley Nature Center Doylestown, PA
New and prospective members always welcome!
www.bma2.org

Prospecting for Water on the Moon….a Call for Amateur Astronomers

- Ann Schmiedekamp, Ph.D.

NASA Solar System Ambassador
Assoc. Prof. Physics
Penn State University, Abington

If you have a 10 inch telescope or larger, NASA recruits you to be a part of the LCROSS Observation Campaign. LCROSS (Lunar Crater Observation and Sensing Satellite) is a mission which will piggyback on the Lunar Reconnaissance Orbiter (LRO), currently scheduled for launch in late April 2009. The LRO will carry instruments to map the surface and topography of the Moon at high resolution. The LCROSS spacecraft is a two part spacecraft which will separate from its mother mission LRO soon after launch. The first part, the leftover Centaur rocket upper stage weighing in at two metric tons, will be aimed for a collision with the Moon's polar region at a speed of approximately 2.5 kilometers per second. It is expected to create a large plume of ejecta which will be photographed and sampled by the second part of LCROSS called the Shepherding Spacecraft. Then, in a spectacular double suicide event, the Shepherding Spacecraft will also hurl itself at the Moon only about four minutes later creating a second plume.

Why create these double fender benders on the Moon? There is some limited evidence from the reflection of circularly polarized radio waves that the polar regions of the moon hide a substantial supply of water ice. Water, even in solid form, would be more important than gold for future human outposts on the Moon. Not only would it be nice to have for drinking but it could be decomposed into hydrogen and oxygen. Fingers are crossed that water vapor will be detected in the plumes. The event is predicted to be observable with scopes as small as 10 to 12 inch and amateur observers are invited to gain experience with moon observations to be prepared. At present, the impact date, time and lunar coordinates haven't been determined but amateur astronomers are encouraged to image the northern and southern polar regions of the Moon to determine recognizable features in instruments with a wider field of vision than the larger observatory instruments participating in the mission. A website has been created for exchanging amateur lunar imaging information both prior to the mission's launch and during each phase of the mission.

http://groups.google.com/group/lcross_observation

Please consider contributing to the LCROSS observation campaign if you are able.

For LCROSS mission information, http://lcross.arc.nasa.gov/mission.htm

Rollback of Space Shuttle Atlantis

➢ By Dr. Ken Kremer

On October 20, 2008 I attended the "rollback" of Space Shuttle Atlantis from Launch Pad 39 A at the Kennedy Space Center and back into the Vehicle Assembly Building (VAB). With a press pass., I arrived at the pad in the pre-dawn darkness as the Shuttle stack was brilliantly bathed in floodlights.

Atlantis had been scheduled to blast off on October 14 to repair and upgrade the Hubble Space Telescope. The pad rollback was necessitated when a sudden failure of Hubble's on board science data formatter on September 27 caused a halt to science operations and forced a launch cancellation. In a rare occasion in shuttle history, both launch pads were simultaneously inhabited.

The approximately three and one half mile journey began at 6:45 AM and lasted about 7 hours. Atlantis was perched atop the Mobile Launch Platform (MLP) and moved by the diesel powered Crawler-Transporter back to the VAB as I watched from just a few feet away. In a rare opportunity, NASA invited me and a few press folks on hand to photograph the final leg of the rollback from inside the VAB with a birds-eye view on the 16th floor. Atlantis has been rescheduled to launch in May 2009.

Atlantis rolls down from Launch Pad 39 B on October 20, 2008 and back into the VAB. Water trucks cool the gravel and rocks by dousing them with water. The ground is doused to prevent the rocks from flying and hitting/damaging the shuttle and personnel. Published in the December 2008 issue of Spaceflight magazine (p. 452). Credit: Dr. Ken Kremer .

Phoenix and Dawn Missions at Stella Della Valley XXII Star Party

➢ by Dr. Ken Kremer

During Fall & Winter 2008 I presented many talks on Phoenix and the Mars Rovers to enthusiastic red planet fans at astronomy clubs in 4 states: PA, NJ, NY and FL. Learn more about Phoenix at my upcoming 2009 talks in PA and more listed below.

On the occasion of the Stella Della Valley XXII Star party, I greatly enjoyed my return invitation by BMAA to present two full lectures on the Phoenix Mars Lander and the DAWN Asteroid Orbiter on 25 October 2008 on behalf of NASA and the Planetary Society. The generous crowd greeted me warmly for my talk titled *"Launching DAWN to Asteroids; Landing Phoenix on Icy Martian Jackpot: Behind the Scenes at KSC (in 3-D)"*.

Phoenix landed on Mars on 25 May 2008, NASA's bold attempt to explore the icy Martian Arctic tundra. Phoenix is humanities first mission to dig, touch and sample life giving water and search for a habitable zone on a world beyond earth. The talk included the custom Martian photo mosaics which I co-created just days after the landing for the cover of *Aviation Week & Space Technology* magazine (9 June 08) and continuing throughout the mission also for *Spaceflight* magazine. Two of my mosaics also appeared on Astronomy Picture of the Day (12 June & 12 Nov 08) and are reprinted below.

Dawn is NASA's first mission to the Asteroid Belt and the spacecraft will orbit the two most massive asteroids, Ceres and Vesta. The presentation concluded with an update on the twin Rovers, Spirit & Opportunity, which celebrate 5 years on Mars in January 2009 and spectacular 3-D images placing the audience "On Mars". See Stella Della Valley pictures below.

Despite the weekend rain, a large and friendly crowd enjoyed talks by Dr. Ken Kremer on "*Dawn and Phoenix in 3-D"* at Stella Della Valley Star Party on 25 October 2008

Hiram College students visiting Stella Della Valley and admiring Victoria Crater in 3-D, currently being explored by the Opportunity Mars Rover.

On March 25, the Upper Moreland Middle School in Hatboro PA will host Dr. Ken Kremer for a "Mars Day in 3-D" celebration. The evening community talk will feature giant 3 D display posters, including these and more from Ken's talk on *"Looking for Life on Mars at Martians for Education Festival"* at the Sarnoff Library in Princeton on 22 October 2008

Photo Album online: http://flickr.com/photos/slgc/sets/72157608290478719/

Ken's Speaking Engagements:

Please contact me for more info or science outreach presentations by email. My upcoming Astronomy talks include:

Amateur Astronomers Association of Princeton: Princeton, NJ, Jan 13, Tue, 8 PM. *"Daring Flight of the Phoenix & 5 Years of Mars Rovers (in 3-D)".*
Website: **http://princetonastronomy.org/activities.html**

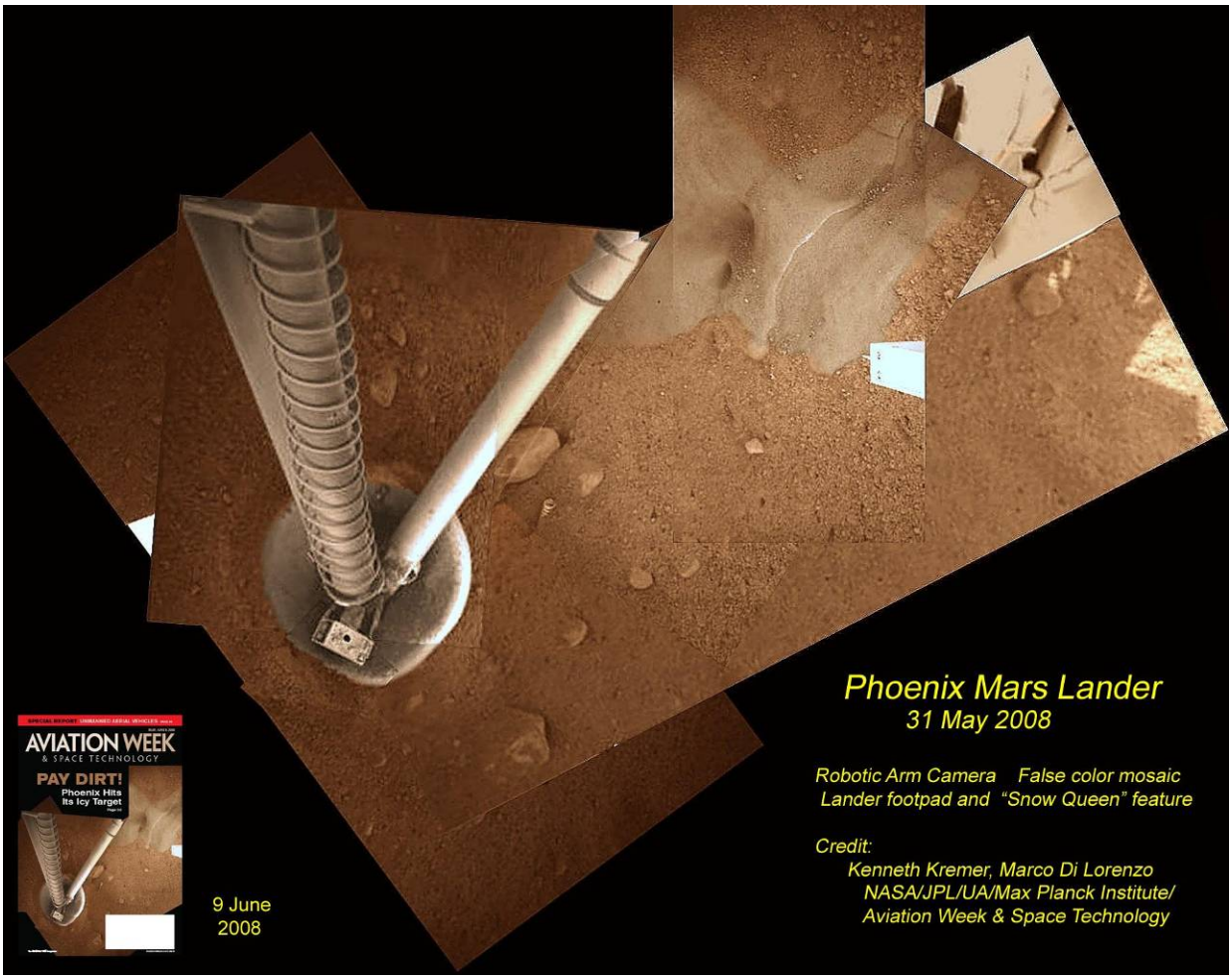
Doylestown Presbyterian Church: Doylestown, PA, Wed, Jan 7, 6:30 PM. *"Phoenix and the Twin Mars Rovers in 3-D".* Website: **http://www.dtownpc.org/frames12.html**

Riverside Elementary School, Family Astronomy Night: Princeton, NJ, March, 6 PM. *"Phoenix and the Twin Mars Rovers (in 3-D)".*
Upper Moreland Middle School: Hatboro, PA, Wed, March 25, 7 PM. "Mars Day Celebration: *Phoenix and the Twin Mars Rovers in 3-D".*

Dr. Ken Kremer Email: **kremerken@yahoo.com**
NASA JPL Solar System Ambassador & The Planetary Society
Website: http://www.rittenhouseastronomicalsociety.org/Dr.Kremer/K.htm

Phoenix Mars Mosaics:

- co-created by Dr. Ken Kremer



"Phoenix and the Snow Queen" Photo Mosaic: featured on the cover of Aviation Week & Space Technology magazine 9 June 2008 issue, Astronomy Picture of the Day website on 12 June 2008 and Spaceflight magazine October 2008 issue. Credit: Kenneth Kremer, Marco Di Lorenzo, NASA/JPL/University of Arizona/Max Planck Institute/Aviation Week & Space Technology magazine.

Mosaic of Phoenix lander footpad to left of large block of water ice, which was cleared of topsoil by descent rockets as the spacecraft touched down near the frigid Martian North Pole on May 25, 2008. Phoenix was specifically targeted to land on icy soils in the Martian arctic to look for organics and other clues to Martian life. The ice layer was found about 5 cm below the surface. A robotic arm camera developed by the University of Arizona and Max Planck Institute in Germany was lowered by the arm to take this false-color image of the feature dubbed "The Snow Queen".

Astronomy Picture of the Day link (12 June 2008):
"Phoenix and the Snow Queen"http://antwrp.gsfc.nasa.gov/apod/ap080612.html

Aviation Week link to 9 June 2008 photo mosaic, "Phoenix and the Snow Queen":
http://www.aviationweek.com/aw/blogs/space/index.jsp?plckController=Blog&plckScript=blogScript&plckElementId=blogDest&plckBlogPage=BlogViewPost&plckPostId=Blog%3a04ce340e-4b63-4d23-9695-d49ab661f385Post%3a0df9d0ab-cecd-4c00-9403-865345b1053d

"Phoenix and the Holy Cow" Photo Mosaic: featured on Astronomy Picture of the Day website on 12 November 2008, in Spaceflight magazine October 2008 issue and Science News magazine online on 13 November 2008. Credit: Marco Di Lorenzo, Kenneth Kremer, NASA/JPL/University of Arizona/Max Planck Institute/Spaceflight magazine.

"Holy Cow" water ice layer beneath Phoenix. Ice blasted free by descent rocket thrusters visible at top. Martian soil excavated inside retro rocket blast zone creates depression about 2 inches deep. Mosaic view from Robotic Arm Camera of the feature named "Holy Cow".

Astronomy Picture of the Day link (12 Nov 2008):
"Phoenix and the Holy Cow" http://apod.nasa.gov/apod/ap081112.html

Science News Magazine Online link:
http://www.sciencenews.org/view/access/id/38521/title/PARTING_SHOT

"Phoenix Hits Mars Jackpot" in Spaceflight magazine, October 2008, p. 376-385: Read my 10 page feature article detailing mission operations and the exciting discoveries of the First 30 Sols of the Phoenix mission. Includes 5 custom Mars images and mosaics created by the imaging team of Ken Kremer and Marco Di Lorenzo.
http://www.bis-spaceflight.com/sitesia.aspx/page/183/id/1862/l/en-gb,en-gb,en-us

Internet Star Hopping for Dummies

➢ by Lou Vittorio

Links in the article: www.spaceweather.com www.skymaps.com www.hubblesite.com

Sorry about the title, but you know the series of books. In this segment I wish to highlight internet resources that are fun and educational and that provide a wealth of information on astronomy topics. So let's get to it!

Those of you at the BMAA open house on November 19th remember all the hubbub surrounding the pseudo northern lights over eastern PA that night. It was a topic of forum e-mails, post meeting discussion and was further covered in the main stream media. Shortly thereafter, another BMAA member, our own "OutpostBob", made a forum post regarding a bright meteor he saw while stepping outside for a quick look at the sky. If you missed these events, turn your web browser to www.spaceweather.com. While on the site, go to the archives section and select November 21, 2008. There you will find detailed information about both events with links to images and videos. SpaceWeather is a great site that I check out often to find our information on sun spot activity (prior to doing any solar telescope viewing), aurora alerts, sky/cloud phenomena and meteor shower forecasts. Are you worried about the next earth extinction event? SpaceWeather also provides tracking information for near earth asteroids or PHAs (potentially hazardous asteroids). Overall I believe the site is a great resource to the amateur astronomer. Give it a look.

Another great site that I know is used by several BMAA'ers is www.skymaps.com. It is an ideal site to check out before you observe and obtain a free…wait for it….Sky Map to aid in your night's observing. The monthly sky maps list current objects of observing interest and provide summary information in an easy to understand format. For the educators out there, it is a great tool for the classroom.

For those of you who love great astrophotographs, especially ones that you (yes, you) have already paid for, I suggest pointing your browser to www.hubblesite.org. In this column I can't begin to explain all the information available on this web site. My favorite site area is the gallery, where you can view and obtain high quality images of seemingly just about anything that has been imaged by the Hubble Space Telescope. The images are great for screen savers, printing and/or framing. Be sure to check out other areas of the site, such as the news center to see what Hubble is currently imaging.

In future columns I wish to discuss additional internet resources that are useful for the amateur astronomer. If you regularly use an astronomy related web site, please email the link to me at louvittorio@yahoo.com. I will give them a look and hope to include a review in a future column.

NASA Space Place: Superstar Hide and Seek

➢ by Dr. Tony Phillips

It sounds like an impossible task: Take a star a hundred times larger in diameter and millions of times more luminous than the Sun and hide it in our own galaxy where the most powerful optical telescopes on Earth cannot find it.

But it is not impossible. In fact, there could be dozens to hundreds of such stars hiding in the Milky Way right now. Furiously burning their inner stores of hydrogen, these hidden superstars are like ticking bombs poised to 'go supernova' at any moment, possibly unleashing powerful gamma-ray bursts. No wonder astronomers are hunting for them.

Earlier this year, they found one.

"It's called the Peony nebula star," says Lidia Oskinova of Potsdam University in Germany. "It shines like 3.2 million suns and weighs in at about 90 solar masses."

The star lies behind a dense veil of dust near the center of the Milky Way galaxy. Starlight traveling through the dust is attenuated so much that the Peony star, at first glance, looks rather dim and ordinary. Oskinova's team set the record straight using NASA's Spitzer Space Telescope. Clouds of dust can hide a star from visible-light telescopes, but Spitzer is an infrared telescope able to penetrate the dusty gloom.

"Using data from Spitzer, along with infrared observations from the ESO's New Technology Telescope in Chile, we calculated the Peony star's true luminosity," she explains. "In the Milky Way galaxy, it is second only to another known superstar, Eta Carina, which shines like 4.7 million suns."

Oskinova believes this is just the tip of the iceberg. Theoretical models of star formation suggest that one Peony-type star is born in our galaxy every 10,000 years. Given that the lifetime of such a star is about one million years, there should be 100 of them in the Milky Way at any given moment.

Could that be a hundred deadly gamma-ray bursts waiting to happen? Oskinova is not worried.

"There's no threat to Earth," she believes. "Gamma-ray bursts produce tightly focused jets of radiation and we would be extremely unlucky to be in the way of one. Furthermore, there don't appear to be any supermassive stars within a thousand light years of our planet."

Nevertheless, the hunt continues. Mapping and studying supermassive stars will help researchers understand the inner workings of extreme star formation and, moreover, identify stars on the brink of supernova. One day, astronomers monitoring a Peony-type star could witness with their own eyes one of the biggest explosions since the Big Bang itself.

Now *that* might be hard to hide.

Find out the latest news on discoveries using the Spitzer at www.spitzer.caltech.edu. Kids (of all ages) can read about "Lucy's Planet Hunt" using the Spitzer Space Telescope at spaceplace.nasa.gov/en/kids/spitzer/lucy.

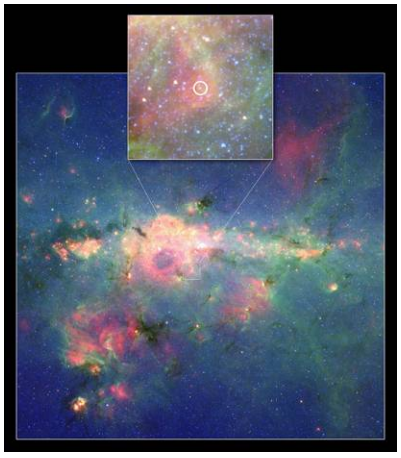


Figure Caption: The "Peony Nebula" star is the second-brightest found in the Milky Way Galaxy, after Eta Carina. The Peony star blazes with the light of 3.2 million suns.

*This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

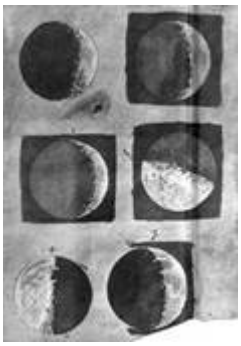
Galileo Observing Club

➢ By Dwight Dulsky

400 years ago, in 1609 the Italian scientist Galileo Galilei aimed his new and improved 20X telescope up into the night sky. With this new telescope he was able to clearly see the craters of the Moon, Jupiter's four largest moons, the phases of Venus, and the strange dark regions on the Sun we know today as sunspots. The exploration of the universe with optical technology had begun.

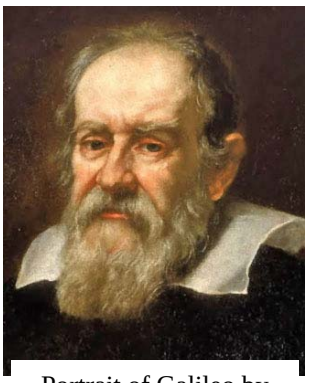
To honor Galileo's achievements with such modest equipment, The Astronomical League has added a new observing club to its list – *The Galileo Club*. This certificate requires you to follow in Galileo's footsteps and make the same observations he first made four centuries ago. It also requires that the observations be made with optical equipment between 10X and 20X. This really opens up the club to just about anyone with binoculars and small scopes similar to Galileo's.

There are 13 observations you need to make to earn your certification. Two of the observation assignments are optional due to their rarity and accessibility in certain parts of the world. One of those two is observing an Aurora. Not an impossible task, but one that may take a while or show up next week – who knows? The other optional object is to observe a naked eye supernova! It's a good thing this one is an optional too, because the last naked eye supernova observation was recorded by Johannes Kepler in 1604 – our Milky Way Galaxy is overdue for another.



The remaining 11 items to observe vary in their complexity. Some are easy, like the one where you will just observe the moon through your scope and sketch the mountains and valleys like Galileo did in early December of 1609. Other objects will take some time to complete. Challenge #9 asks you to observe and sketch Venus monthly for at least half of its cycle of phases. Another is to observe a large sun spot near the equator over a period of time as it completes a full rotation of the sun, then to use your observations to estimate the rotational period of the sun near the equator. Hopefully, we'll start emerging from solar minimum soon!

The challenges in earning this certificate go beyond the usual ones of just locating a small or faint object in the sky. Most of these objects are easy to find, the challenge is in making a number of repeated observations over time and noting the changes observed. By following in Galileo's path you will see how he came to his conclusions about the behavior of some of those objects. In addition, you'll have a better understanding of a variety of astronomical concepts along the way – enjoy the ride!



Portrait of Galileo by Giusto Sustermans

For more specific information visit the Astronomical League's website: http://www.astroleague.org/al/obsclub/galileo_club/galileo_club.html

NASA Space Place: What Happened to Comet Holmes?

➢ by Dr. Tony Phillips

One year after Comet 17P/Holmes shocked onlookers by exploding in the night sky, researchers are beginning to understand what happened.

"We believe that a cavern full of ice, located as much as 100 meters beneath the crust of the comet's nucleus, underwent a change of phase," says Bill Reach of NASA's Spitzer Science Center at the California Institute of Technology. "Amorphous ice turned into crystalline ice" and, in the transition, released enough heat to cause Holmes to blow its top.

Anyone watching the sky in October 2007 will remember how the comet brightened a million-fold to naked-eye visibility. It looked more like a planet than a comet—strangely spherical and utterly lacking a tail. By November 2007, the expanding dust cloud was larger than Jupiter itself, and people were noticing it from brightly-lit cities. Knowing that infrared telescopes are particularly sensitive to the warm glow of comet dust, Reach and colleague Jeremie Vaubaillon, also of Caltech, applied for observing time on the Spitzer Space Telescope—and they got it. "We used Spitzer to observe Comet Holmes in November and again in February and March 2008," says Reach.

The infrared glow of the expanding dust cloud told the investigators how much mass was involved and how fast the material was moving. "The energy of the blast was about 10^{14} joules and the total mass was of order 10^{10} kg." In other words, Holmes exploded like 24 kilotons of TNT and ejected 10 million metric tons of dust and gas into space. These astonishing numbers are best explained by a subterranean cavern of phase-changing ice, Reach believes. "The mass and energy are in the right ballpark," he says, and it also explains why Comet Holmes is a "repeat exploder."

Another explosion was observed in 1892. It was a lesser blast than the 2007 event, but enough to attract the attention of American astronomer Edwin Holmes, who discovered the comet when it suddenly brightened. Two explosions (1892, 2007) would require two caverns. That's no problem because comets are notoriously porous and lumpy. In fact, there are probably more than two caverns, which would mean Comet Holmes is poised to explode again.

When?

"The astronomer who can answer that question will be famous!" laughs Vaubaillon.

"No one knows what triggered the phase change," says Reach. He speculates that maybe a comet-quake sent seismic waves echoing through the comet's caverns, compressing the ice and changing its form. Or a meteoroid might have penetrated the comet's crust and set events in motion that way. "It's still a mystery."

But not as much as it used to be.

See more Spitzer images of comets and other heavenly objects at www.spitzer.caltech.edu. Kids and grownups can challenge their spatial reasoning powers by solving Spitzer infrared "Slyder" puzzles at http://spaceplace.nasa.gov/en/kids/spitzer/slyder.

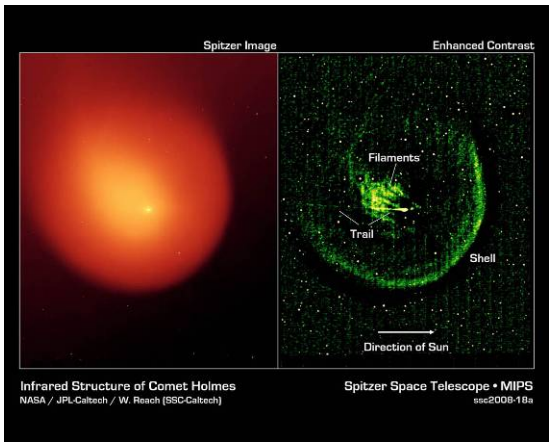


Figure Caption: Comet Holmes as imaged by the multiband imaging photometer (MIPS) on the Spitzer Space Telescope. The enhanced contrast image at the right shows the comet's outer shell and mysterious filaments of dust.

*This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Bucks-Mont Astronomical Association, Inc.
General Meeting Minutes
Peace Valley Nature Center
Doylestown, Pa 18901
October 1, 2008

Officers Present: Dwight Dulsky, President; Catherine Ebert, Secretary; Excused: Bernie Kosher, Vice-President; Ed Radomski, Treasurer; Bob Jackson, Elections. Committee Chairs: George Reagan, Star Watch; Chris Sommers/Scott Petersen, Constellation MC3. The meeting was called to order at 8:00 p.m. by President Dwight Dulsky. Total Attendance: 27. No Visitors. Total Membership: 58.

Visuals on screen: Hubble Service Mission telescope repair delayed until Feb, 2009. Not getting data.
Large Hadron Collider, purpose to re-create conditions which existed in the first moments of universe following the "big bang." Switch needs repairing. System takes a month to warm up and repair and another month to cool down. See: http://public. web.cern. ch/public/ en/LHC/LHC- en.html.

Elections: According to our bylaws, since no nominees were brought forth, the current slate of officers can continue in office by a vote of affirmation. Chris Sommers made the motion to affirm the current officers and Catherine Ebert as Secretary for 2009. The motion was seconded by George Reagan. All approved by raising of hands.

Monthly Topics: October, Stella Della Valley Prep/Elections/Open House Groups; November, Open House Prep, Arena style format**;** December, BMAA Holiday Party.

Club Activities**:** Dwight made a presentation at Arcadia University on 9/16/08, contributing "BMAA Who We are" ...and the role of amateur astronomers to the larger scientific community.

BMAA Embroidered Apparel LOGO (ll") available. Suggested hooded/zip ($38.95) or pullover ($32.95) sweatshirts with LOGO on back and personalized name on front +$7. Dwight taking orders early Nov for Dec. No minimum orders. Two Sweats are donated to SDV as door prizes. Marge Monograms is not charging for design work.

Data Pack on Virtual Observer Project by Roger Blake distributed. 856-769-4509 www.taurus-tech. com for reprints. Experiment objective is to enhance this aspect of VO capability. VO model is described in detail in the Sept/Oct issues of Astronomy Technology Today. Observer participation is requested on Dumbbell Nebula, Spiral Galaxy NGC6946, Spiral Galaxy NGC479, Edge-on Spiral Galaxy.

Open House Wed. Nov 19, 7:30p at Peace Valley**:** Meeting Planning/Prep on Nov 5. http://www.bma2. org/openhouse. html

Stella Della Valley: Art Baldwin, Registration: Speakers Program, Chris Sommers; Door Prizes, Dwight Dulsky & George Reagan; Volunteer Coordinator, George Reagan. Art Baldwin announced that only one person registered from Ohio. Door Prizes: Questar 10% Disc; $100 Gift Cert to Skies Unlimited; Astroscan Tele. Valued at $199; Scope City; TeleVue 9mm Nagler 7 Eyepiece; Meade Autoguider interface (2) $25 GiftCerts; Lumicon Intern (2) $25 GiftCerts, (1) $50 Gift Cert; Deep Space Image Catalog Book & Dark Sky Atlas (CD-Rom); $99 GiftCert Software Bisque; (2) SDXXII momogram Sweats, Marge's Monograms; (3) 1-Yr Subscrip to Astronomy Tech Today; (2) $35 GiftCert Jim's Mobile; Assort of publications from BM Astronom.Assn; BMAA Member sponsored Meade 5" Reflector $399 Value, Celestron 1-1/4" Mirror Diagonal and VP Prize of a 'genuine Meteorite from space.'

Ron Schulte demonstarted an Ioprton, Go to Mount. Ron presented the pluses and minuses of this mount. Overall assessment was that it was a good value for the money.

Meeting adjourned 9:05p with Moon Pie tasting.
Respectfully submitted: Catherine Ebert, Secretary

Bucks-Mont Astronomical Association, Inc.
General Meeting Minutes and Holiday Party
Peace Valley Nature Center
Doylestown, PA 18901
December 4, 2008

Officers Present: Dwight Dulsky, President; Bernie Kosher, Vice-President; Catherine Ebert, Secretary; Ed Radomski, Treasurer. Committee Chairs Present: George Reagan, Star Watch; Chris Sommers/Scott Peterson, Constellation MC3; Bob Jackson, Elections.

The meeting was called to order at 8:03 p.m. by President Dwight Dulsky. Total attendance: 22. Visitors: 2. Total 2008 Membership: 58.

Treasurer's Report as of 12/3/08: Observatory Accounts $5,426.90. Club Accounts: $4,858.57Net Inflows/Outflows: $10,285.47. Ed reported that Stella Della weekend made money, approximately $80. Considering Friday, Saturday rainy, not until 2 a.m. Sunday was there some visibility at all. Attendance was about 89 people. Ed is also collecting 2009 Membership Dues.

Star Watches: George gave account on Star Watches:30 events for 2008, we held 14,which is 47%**.** 2009 Star Watch Schedule is posted on web site: www.bma2.org. Also: Wed, Jan 14th, 6:15p, D. Presbyterian Church, Youth Group**.** Location, near Court House in Doylestown. Asking members **i**f they can bring their telescopes for the youth group. Friday, Mar. 6, 7:30p: Peace V.N. Center first official 2009 Star Watch.

Monthly Topics for 2008 Recapped**.** Monthly Topics for 2009 outlined. Many guest speakers on tap.

Open House (November 19): Dwight thanked participants for making the room quite inviting for visitors. Suggestions on introducing BMAA to a wider audience in the community.

International Year of Astronomy 2009. Astronomy Day May 2. Future discussion on where to hold it.

Monthly Highlights:
1) Picture of conjunction of Moon,Venus and Jupiter last Monday night from Ardahan, Iran. Bernie added that moon moves it's own diameter in an hour.
2) Pictures of ice crystal "Light Pillars" over Philadelphia skies on November 19th.
Bernie suggested the book; Rainbows, Halos & Glories

Announcements, News, etc:
1)An 8" Dob Telescope formerly owned by past BMAA President Antoine Phramond was refurbished by Ed & Bernie as donation to PeaceVNCenter for our General Meetings.
2) Door prize from SV, book, Atlas of the Universe, redonated to the library at the Nature Center.
3) Observer's Handbook are now in – contact Ed Radmomski if you want them before the January meeting.
4) Calendars $20, Wall calendar $8, Small Handbook $5, all good stocking stuffers, see Ed.
5) Dwight distributed Marge's Monograms Sweatshirts per orders.
6) Orion Catalog & Science Telescopes 1982 donated by Norm Remer

Meeting adjourned at 8:37 p.m.

BMAA 2009 Schedule of Events

February	4 Wed	8pm	BMAA General Meeting, Peace Valley Nature Center, Doylestown
March	4 Wed	8pm	BMAA General Meeting, Peace Valley Nature Center, Doylestown
	6 Fri	7:30pm	StarWatch, Peace Valley Nature Center, Doylestown
	20 Fri	7:30pm	StarWatch, Willard Markey Centennial Park, Perkasie
	26 Thu	7:30pm	StarWatch, Honey Hollow Environmental Education Center, Solebury
April	1 Wed	8pm	BMAA General Meeting, Peace Valley Nature Center, Doylestown
	3 Fri	8pm	StarWatch, Tamanend Park, Upper Southampton
	23 Thu	8:30pm	StarWatch, Pennypack Ecological Restoration Trust, Huntingdon Valley
	30 Thu	8:30pm	StarWatch, Silver Lake Park, Bristol
May	6 Wed	8pm	BMAA General Meeting, Peace Valley Nature Center, Doylestown
	15 Fri	9pm	StarWatch, Covered Bridge Park, New Britain
	22 Fri	9pm	StarWatch, Nockamixon State Park, Quakertown
	28 Thu	9pm	StarWatch, Cedar Hill Park, Horsham
June	1 Mon	9pm	StarWatch, Gwynedd Wildlife Preserve, Upper Gwynedd
	3 Wed	8pm	BMAA General Meeting, Peace Valley Nature Center, Doylestown
	19 Fri	9:30pm	StarWatch, Peace Valley Nature Center, Doylestown
	25 Thu	9:30pm	StarWatch, Willard Markey Centennial Park, Perkasie
	27 Sat	9:30pm	StarWatch, Tyler State Park, Newtown
July	1 Wed	8pm	BMAA General Meeting, Peace Valley Nature Center, Doylestown
	17 Fri	9pm	StarWatch, Cedar Hill Park, Horsham
	24 Fri	9pm	StarWatch, Tamanend Park, Upper Southampton
	28 Tue	9pm	StarWatch, Lower Nike Park, Warrington
August	5 Wed	8pm	BMAA General Meeting, Peace Valley Nature Center, Doylestown
	13 Thu	9pm	StarWatch, Peace Valley Nature Center, Doylestown
	21 Fri	8:30pm	StarWatch, Nockamixon State Park, Quakertown
	27 Thu	8:30pm	StarWatch, George M. Bush Park, Buckingham
September	2 Wed	8pm	BMAA General Meeting, Peace Valley Nature Center, Doylestown
	10 Thu	8:30pm	StarWatch, Honey Hollow Environmental Education Center, Solebury
	18 Fri	8pm	StarWatch, Covered Bridge Park, New Britain
	24 Thu	7:30pm	StarWatch, George M. Bush Park, Buckingham
October	7 Wed	8pm	BMAA General Meeting, Peace Valley Nature Center, Doylestown
	9 Fri	7:30pm	StarWatch, Peace Valley Nature Center, Doylestown
	16-18		STELLA-DELLA-VALLEY XXIII, Camp Onas, Ottsville
	23 Fri	7:30pm	StarWatch, Pennypack Ecological Restoration Trust, Huntingdon Valley
	27 Tue	7:30pm	StarWatch, Silver Lake Park, Bristol
November	4 Wed	8pm	BMAA General Meeting, Peace Valley Nature Center, Doylestown
	12 Thu	7:30pm	StarWatch, Gwynedd Wildlife Preserve, Upper Gwynedd
	20 Fri	7:30pm	StarWatch, Lower Nike Park, Warrington
	24 Tue	7:30pm	StarWatch, Peace Valley Nature Center, Doylestown
December	2 Wed	8pm	BMAA Holiday Meeting, Peace Valley Nature Center, Doylestown

All StarWatches are free and open to the public. See www.bma2.org for directions. StarParties are open to members and guests only. Call the BMAA Message Line 215-579-9973 for activity updates. Cancellations due to weather will be announced 1 hour before the event.

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Constellation-Instructions to Authors

You need to be a BMAA member to submit an article. Articles are typically ½ to 2 pages in length. They can vary in topic from reviews of books, star parties, observing, equipment, issues of general astronomical interest, etc. Go to the BMAA website and take a look at *CONSTELLATION* back issues and you will get the idea. Another good example for articles is on the Cloudy Nights web site (http://www.cloudynights.com).

As to the format for articles, please adhere to the following:
Word Processor: MS Word.
Font: Times New Roman
Margins: 1 inch all sides.
Title Font Size: 14 pt
Text Font Size: 10 pt
Spacing: Single Space
Original Figures: Gray scale or color, jpeg format, and please save the file as the size as it would appear in the article (about 2" x 3"). The figures should be original due to copyright issues.
The Editors will modify the article as needed to fit the format.
Email articles to: constellation@bma2.org

Bucks-Mont Astronomical Association
Membership Application

Name and address

_____

_____

_____

_____

Telephone

Home_____

Cell_____

E-mail_____

Renewal( ) New Member( )

Renewal Dues are $25.00/year and are due starting in November

Dues for new members are:

January	$25.00
February	$23.00
March	$21.00
April	$19.00
May	$17.00
June	$15.00
July	$13.00
August	$11.00
September	$9.00
October	$25.00
November	$25.00
December	$25.00

Additional members from the same household are 1/2 price.

Your name, city of residence, telephone number and e-mail will be posted in the member's area of the website that can be viewed by using a club issued name and code word. The code is changed periodically and issued to club members only.

( ) Do not list my name or any personal information on the website.

The Association saves considerable money each year through electronic delivery of the Constellation. Printed copies will always be available at the meetings. You will receive the Constellation by being notified by E-mail when it is available on the website.

( ) Check here to receive the Constellation by Traditional mail.

Your e-mail address will be added to the e-group list and you will receive one e-mail a day containing all the mail that is sent to the group address by other members that day. This will allow you to be aware of current activities and discussions, and you may respond to any message by addressing your response to the e-group address. You must be a member to send to or receive messages from the e-group. You may cancel or change this option by contacting Jim Moyer, info@bma2.org.

BMAA Web site - http://www.bma2.org

Please return this form, with a check payable to BMAA, to:
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