



# The Mason-Dixon Astronomer

Westminster Astronomical Society of Maryland

October, 1999 — Vol. 15 No. 10

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## Activity Calendar

10/01	Executive Committee Meeting
10/05	UMD - Observatory Open House
10/09	Soldier's Delight
10/11	UMD - Annual Astrophysics Conference
10/13	Monthly Meeting
10/20	UMD - Observatory Open House

## ALL MONTH

*Baltimore Science Center*  
Programs-Rocks in Space,  
The Sky: Live; Live From the Sun  
Crosby National Observatory  
Exhibit: OuterSpacePlace

## CLASSIFIEDS

For sale - 8 inch Meade Schmidt-Cassegrain with tripod. Contact David Sutton in Hampstead via e-mail wiresutton@aol.com

*Regular monthly WAS meetings are held the second Wednesday of each month (except December) at the Bear Branch Nature Center (BNC) at 7:30 p.m.  
Phone 410-848-2517 for directions.*

## Serendipity In Astronomy

by Mark Whittemore

Mr. Webster defines serendipity as an apparent aptitude for making fortunate discoveries by accident. I also think that it can make many things more enjoyable than they already are. For instance, early in my astronomical journey I walked outside to look at the sky, and saw that the moon was about to occult a dim naked eye star. I had already consulted Sky & Telescope about the visible occultation in this area and none were listed. Not being a stickler for such matters anyway, I grabbed my 16 x 80 binoculars and headed to my back yard to enjoy the spectacle. The star soon blinked out on the moon's dark side and I was happy about my serendipitous discovery.

One early summer night I had set up my scope in a grassy area and dim lights from the ground caught my eye. Upon closer inspection I learned that lightning bugs apparently have a flightless, crawling stage before they spread their wings for the summer. They produce dim, eerie bits of light reflected in the grass as they crawl. Not astronomical in nature, but interesting discoveries for nature lovers like myself.

As I was viewing M5 not long ago, a particularly nice globular cluster in my opinion, I kept upping the power to see just how much detail I could coax out of this small gem. I got to 333x and stopped to study the stars a bit, when I noticed a dim satellite migrate quickly across the view. While that was happening a meteor streaked across the field too! Way cool! All this is going on in such a short period of time and in such a small field of view. What are the chances? And yet, we are occasionally allowed to partake in such experiences.

Star hopping in an unfamiliar part of the sky one evening, I suddenly saw a dark shading at the very edge of view. Thinking that I had stumbled on my first really noticeable dark nebula I nudged the scope to try and get a better look but could not find it. After consulting my atlas and finding no nebula near there I looked into the eyepiece and once again saw the shadowy presence. To diagnose, I gave the eyepiece a quick turn and the shadow followed along. Taking out the eyepiece I shined my red flashlight into the open end and found my dark nebula; a spider had found his way in and was getting comfortable at the edge. A fortuitous discovery in that the varmint was found before he made a real mess in my eyepiece! A hard shake got rid of my dose of serendipity for that night.

The thing about serendipity is that the more we observe the world around us, the more these wonderful instances happen to us. And though we are boking, they are still unexpected because we never know when these instances will occur, nor what form they will take. So take time to enjoy serendipitous moments, another one of life's spices.

## Two Great Weekends for W.A.S.

By: Brian Eney

On September 12, I went to Manchester Nature Center's Open House and set up my telescope along with some pollution lit. While the event was small I was pretty popular; except when the Baltimore Zoo brought out an animal. Special thanks to Dave Oler for stopping by to help!

One week later on the 18th & 19th, we were at the Reisterstown Festival.

The weather could not have been more PERFECT for Saturday. Skip brought his six inch refractor and Phil brought a portion of his meteorite collection and I brought my 10 inch Dob. We set up a table filled with

astronomy stuff (Light pollution info, Club info, Litho from Goddard). Given the long lines (by the way the lines were longer than all the food vendors) We were a great success!! Sunday's weather was scattered with clouds but we still had the longest lines of the whole festival!!!

I did get a chance to talk to some Politicians about our on going problem with light pollution. And believe it or NOT ONE ACTUALLY LISTENED!! In fact, Delegate Bobby Zirkin of the 11th District wanted me to send him MORE INFO!!! It' a start!!!

Special thanks to Skip Bird, Phil Schmitz, Paul Henze, and Richard Schoen as well as many others! I could not have done with out you!!

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### A Fireball, Comet Lee, and Alpha Triangulid Meteors

by G.W. Gliba

A brilliant -8 or so fireball was seen Friday night, September 10th at the Blackwater Falls Astronomy Weekend star party in West Virginia. It lit up the landscape and was blue-white in color. No train was noticed, but the speed and direction indicate that it may have been from the Kappa Aquarid radiant. Many people saw it, and it was by far the brightest meteor seen that weekend at the Blackwater Falls Astronomy Weekend star party.

During four hours of meteor observing, nine possible Alpha Triangulids were plotted, from 1:50 to 3:50am EDT Sep. 11th, and 2:23 to 4:23am EDT Sep. 12th; with clear skies and a magnitude limit that varied from 6.2 to 6.5 magnitude.

There were also meteors seen from the Southern Piscids (8), September Perseids (9), Sep. Taurids [Apex meteors] (6), Kappa Aquarids (1), and 38 Sporadics. It looks like the peak of the Alpha Triangulids was probably on the next night, according to meteor observations made by Kim Youmans of Georgia. She saw four A-T meteors an hour from 7:07 to 8:07 UT, and five more from 8:42 to 9:51 UT, with a magnitude limit that varied from 6.0 to 6.6 magnitude. Although she reported speeds higher than medium for some of them, most of them were probably from the Alpha Triangulid radiant.

I almost didn't observe meteors the morning of Sep. 11/12 because of a large black bear that walked by the edge of the field where I was going to observe.

After I convinced myself it was more interested in the local garbage can than me, I crawled into my sleeping bag on the lounge chair that I had set-up before I saw the bear. I started a bit later than I expected, but once I got started I didn't see or hear the bear the rest of the night. It was kinda scary for a while, as I was alone and somewhat isolated.

Comet Lee was seen on both mornings with 12X63 and 10x50 binoculars near the hook of Perseus in Camelopardalis. It was about 8th magnitude. In a 20-inch scope it showed a broad fan tail, and a diffuse central condensation. It was about 5 arc minutes in diameter. A week later, it was seen in Greenbelt and had grown to about 8 arc minutes in diameter, as it got closer to Earth. It was still around 8th magnitude, but due to it being more diffuse, plus with all the light pollution, it was harder to see in 12X63 binoculars. However, it was seen later in a pair of 8x50 binoculars, as the sky was unusually transparent after Tropical Storm Floyd had cleared the air out.

## WAS ASTRONOMY CALENDAR

By Ron Smith

FRI	1	WAS Executive Committee Meeting
SAT	2	Last Quarter Moon (12:02am EDT)
SUN	3	At 11:03pm EDT, Jupiter's moons Io and Ganymede are 28" apart
MON	4	Mars is only 2' north of Theta (?) Ophiuchi this evening
WED	6	At 1:45am EDT Jupiter's moons Io and Europa are 18" apart
THU	7	At 11:11pm EDT Jupiter's moons Europa and Callisto are 48" apart
SAT	9	New Moon (7:34am EDT)
MON	11	At 9:03pm EDT Jupiter's moons Io and Europa are 18" apart
WED	13	WAS monthly meeting, Bear Branch NS 7:30pm
THU	14	Iapetus passes 2.7' north of Saturn's center
SUN	17	First Quarter Moon (11:00am EDT)
MON	18	The sun rises at the lunar crater Clavius tonight
THU	21	Orionid meteor shower peaks this morning
FRI	22	At 9:22pm EDT Jupiter's moons Ganymede and Callisto are 41" apart
SAT	23	Jupiter reaches opposition tonight
SUN	24	Full Moon (5:02pm EDT)
MON	25	Mars is 1/2° north of Lambda (?) Sagittarii tonight
TUE	26	Moon is at Perigee 13h UT (dist. 360,949km, dia. 33" 06")
THU	28	At 11:23pm EDT Jupiter's moons Europa and Ganymede are 23" apart
SAT	30	11th mag. asteroid 7 Iris passes 23" south of 54 Cancri at 7:34 UT
SUN	31	Venus reaches greatest elongation 46° west of the Sun

## ACTIVITY DETAILS

On-going programs through out the month

Baltimore Science Center - Davis Planetarium  
(Phone 410-545-2985)

Beneath the 50-foot dome, hundreds of images and special effects mix with over 8500 stars to portray the marvels of the cosmos. First-come, first-served seating for all shows. All shows start promptly. Show times subject to change, please check on the day of your visit. To make your visit more enjoyable, we suggest you plan to arrive at least 15 minutes before the show begins to get good seats.

**Rocks in Space:** Asteroids are the "rocks in space" we know the least about. Small and dark, they are hard to study and difficult to see. Yet, despite their relatively small size, asteroids pack a powerful punch. Investigate the theory that an asteroid impact knocked the dinosaurs into extinction. Another asteroid--Eros--is the current focus of the unmanned NEAR (Near Earth Asteroid Rendezvous) mission. Explore these, and many other topics.

Monday-Friday	1:00*	4:00			
Saturday	12:00*	1:00	1:45	2:30	3:15*
		4:00	5:00*		
Sunday	1:00*	1:45	3:15*	4:00	5:00*

\* These shows are captioned for persons with hearing impairment. Other shows can be captioned upon request when purchasing tickets.

**The Sky: Live:** Identify stars, constellations, planets and other wonders in the night sky as it changes with the calendar in this informal live presentation.  
Monday through Friday at 2:00 pm.

Baltimore Science Center - Crosby Ramsey Memorial Observatory (Phone 410-545-2985)

**Live From the Sun:** Discover the secrets of the Sun in this live broadcast.

Sunday	12:00	2:30
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Baltimore Science Center - Crosby National Observatory

**OuterSpacePlace:** A 4,000 sq. ft. hands-on/minds-on experience featuring new discoveries from the Hubble Space Telescope and other Maryland based space science resources, including The Johns Hopkins University and FUSE space craft (detail page).

This exhibit will feature over 20 original hands-on activities, 12 narrated "video-labels", 2 full motion, large screen projected videos, 2 "worlds-first" three-dimensional models of stellar nebula and over 120 high-resolution images from the Hubble Space Telescope. You'll never look up at the night sky the same again!

## Dated Event Details

### UMD - Department of Astronomy Astronomy Observatory Open House

Tuesday, October 5 9:00 pm  
"Observing Planetary Nebulae with HST"  
By Dr. Patrick Harrington

Wednesday, October 20 9:00 pm  
"Discovery of Anti-Particles at the Center of our Milky Way Galaxy"  
By Dr. Marvin Leventhal

Each open house program consists of a 30 to 40 minute slide presentation in the lecture hall (which is now air conditioned!) followed by telescope viewing (weather permitting) of various astronomical objects.

Admission & Parking - FREE!!!

Location: Astronomy Observatory on Metzerott Road between Adelphi Road and University Blvd in College Park.

Directions: From the beltway (I-495) take the College Park/Route 1 exit. You will head south on Route 1 for about a mile until you see a sign for 193 West. You want to get on 193 West. The first light you come to will be Metzerott Road. Take a right onto Metzerott Road. Once on Metzerott, you will go through a stop light and the observatory is about a quarter of a mile on the left side of the road after the stop light. Our entrance is slightly hidden, but you should slow down to turn left as soon as you pass a large "System Administration" sign. We are almost directly across the street from System Administration.

No reservations are required for individuals or families. Groups larger than 15 call (301) 405-0355 at least 5 days prior to Open House. Group programs begin at 8:00 pm April - October and at 7:00 pm November - March.

Call the Astronomy Department at (301) 405-3001 during normal business hours (8:30 am to 4:30 pm). For a recorded message (or to leave a message concerning questions about open house) during NON-business hours, you can call (301) 405-0355. Do NOT call the Observatory - there is no secretary there to answer the phone.

Open houses will always go on regardless of the weather unless the University of Maryland at College Park is shut down due to a snow emergency. You can call the university at (301) 405-1000 or (301) 405-SNOW (7669) to find out about closures due to snow/ice.

We can arrange for an interpreter for various languages, including sign language. To do this we need at least 2 weeks notice. Please call (301) 405-0355 in advance. The lecture building and observatory building are wheelchair accessible, but to view through the telescopes it is necessary to climb up 2 or 3 steps on a ladder. If you feel you will need a little extra assistance to look through the telescopes, please call (301) 405-0355 at least 5 days in advance.

Unfortunately, telescopes are not magic and cannot look through the clouds. IF IT IS CLOUDY THERE WILL BE NO VIEWING THROUGH THE TELESCOPES; HOWEVER, the speaker will still give a presentation. Then people will be allowed to go into the building with the telescopes to see them and hear a brief talk on how telescopes work.



# 10th Annual October Astrophysics Conference in Maryland

## Cosmic Explosions!

UMD - College Park, MD Campus

October 11 - 13, 1999

\$300 for FULL registration

For more information call (301) 405-3001

### FINAL PROGRAMME HIGHLIGHTS

(All activities end with discussion except the morning introduction and Wednesday Rapporteur)

Monday, October 11, 1999

- 8:30 Session #1: Introduction  
The First Explosions; Current Issues
- 10:30 Session #2: SN Ia  
The Progenitors of Type Ia Supernovae;  
The Explosion; The Observations
- 2:00 Session #3: Cosmic Implications  
Type Ia Supernovae as Standard Candles;  
Measuring the Universe with Supernovae:  
Height, Weight, and Age; Expansion #2
- 4:30 Session #4: SN II  
Core-Collapse Supernovae; Optical  
Observations of Type II Supernovae; SN1987A:  
the Birth of a Supernova Remnant

Tuesday, October 12, 1999

- 8:30 Session #5: Gamma Ray Bursts I  
The Observations; Gamma-Ray Bursts --  
The Central Engine
- 10:30 Session #6: Gamma Ray Bursts II  
The Fireball; The Afterglow; The Future
- 2:00 Session #7: Jets

Tuesday, October 12, 1999 con't

- The Formation of Astrophysical Jets;  
Blazars, Jets, and the Unification of AGN  
Micro-quasars
- 4:30 Session #8: Novae  
Thermonuclear Runaways on Accreting White  
Dwarfs: Models of Classical Novae Explosions  
Nucleo-synthesis, Triggers and Expansion in  
Type I X-Ray Bursts; XRB Observations
- 7:00 Astronomy on the Lighter Side

Wednesday, October 13, 1999

- 8:30 Session #9: Stellar Explosions I  
Stellar Flares: How Common? How Important?;  
Solar Flares
- 10:30 Session #10: Stellar Explosions II  
Accretion Disk Eruptions in FU Orionis Variables;  
Eta Carinae
- 11:30 Rapporteur

Last updated on 09-20-99 by Susan Lehr.  
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### Last Month's Astro-News

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Saturday: September 25, 1999 0711 GMT

A European Ariane 44LP rocket blasted off from Kourou in French Guiana this morning, carrying into orbit the U.S. Telstar 7 communications satellite onboard.

Friday: September 24, 1999 2145 GMT

- NASA is to abandon efforts to contact the Mars Climate Orbiter spacecraft, effectively declaring the spacecraft dead. Tracking stations around the world have been listening out for probe since it went missing on Thursday as it attempted to enter orbit around the Red Planet.
- The world's first commercial high-resolution Earth imaging satellite, Ikonos, was launched today from Vandenberg Air Force Base, California, atop a Lockheed Martin Athena 2 rocket.

Thursday: September 23, 1999 1525 GMT

- The Mars Climate Orbiter is probably lost due to a navigation error that brought it perilously close to the planet, officials said at a news conference a few moments ago. The craft passed 60 km above the planet but should have been 140-150 kms high.

There has been no contact with the probe since its began its Mars orbit insertion maneuver.

- A Lockheed Martin Atlas 2AS rocket lifted off from Cape Canaveral this morning, carrying into orbit a television satellite.

Wednesday: September 22, 1999 1722 GMT

- Mars Climate Orbiter, the first of two spacecraft to reach Mars this year, is set to go into orbit around the red planet to become our first interplanetary weather satellite and a communications relay for the Mars Polar Lander, which will arrive at Mars this December.
- A Russian Soyuz rocket, marketed by the Starsem consortium, lifted off today carrying four satellites for the Globalstar worldwide mobile telephone network.
- An Atlas 2AS rocket is to blast off from Cape Canaveral overnight carrying a television satellite into orbit. The \$250 million mission is due to blast off at 0507 GMT (1:07 a.m. EDT) tomorrow. See our special report for full details and live video coverage.

Tuesday: September 21, 1999 1436 GMT

An international team of astronomers has discovered what may be three more moons orbiting Uranus. If confirmed, Uranus would have 16 regular and five irregular moons, making it the most populated planetary satellite system known.

Monday: September 20, 1999 0348 GMT

- Images released today from NASA's Chandra X-ray Observatory reveal previously unobserved features in the remnants of three different supernova explosions.
- The launch of a Lockheed Martin Atlas 2AS rocket from Cape Canaveral has been delayed because of an approaching tropical storm. The \$250 million mission to orbit a TV satellite is already running a week late because of Hurricane Floyd and technical concerns.
- Galileo spends this week performing a real time survey of the dusk side of Jupiter's magnetosphere (its plasma, dust, and electric and magnetic field environments) while also returning high resolution magnetosphere measurements recorded during last week's encounter with Callisto.

Sunday: September 19, 1999 1422 GMT

The U.S. space agency has awarded a \$4 million contract to a University of Iowa professor to develop and use radar in a search for underground water on Mars. The experiment will fly on Europe's Mars Express probe.

Saturday: September 18, 1999 1715 GMT

Scientists at the University of Arizona say cracks in the surface of Europa provide the most convincing evidence yet that Jupiter's moon has a global ocean.

Friday: September 17, 1999 2135 GMT

NASA's Galileo probe completed its fourth and final encounter with Jupiter's Moon Callisto. The flyby has put the spacecraft on course for a closeup encounter with the volcanic moon Io next month.

Thursday: September 16, 1999 2100 GMT

Penetrating 25,000 light-years of obscuring dust and myriad stars, NASA's Hubble Space Telescope has provided the clearest view yet of a pair of the largest young clusters of stars inside our Milky Way galaxy.

Wednesday: September 15, 1999 1558 GMT

A problem has been detected during testing of NASA's recently launch Chandra X-ray Observatory. Project officials are investigating a reduction in the energy resolution of one of two sets of X-ray detectors in the Advanced Charge-coupled Device Imaging Spectrometer (ACIS) science instrument.

Tuesday: September 14, 1999 2112 GMT

A team at Steward Observatory of the University of Arizona has built the first true detector arrays for the far infrared. The arrays will be mounted into an instrument for the Space Infrared Telescope Facility (SIRTF), a major NASA observatory to be launched in late 2001.

Monday: September 13, 1999 1349 GMT

Reduction campaign this week, the twelfth encounter of the Galileo Europa Mission. During the encounter, the spacecraft performs the fourth in a series of four close flybys of Jupiter's moon Callisto. The flybys were designed to incrementally change the spacecraft's orbit, bringing it nearer to Jupiter with each orbit in order to allow for close flybys of Jupiter's volcanic moon Io.

Sunday: September 12, 1999 2149 GMT

The launch of a Lockheed Martin Atlas 2AS rocket has been delayed to check an avionics box aboard the rocket. Further launch attempts are likely to be threatened by the approach of Hurricane Floyd.

Saturday: September 11, 1999 1640 GMT

The High Resolution Camera, one of the two X-ray cameras on NASA's Chandra X-ray Observatory, was placed into the focus for the first time August 30. The first target was LMC X-1, a point-like source of X-rays in the Large Magellanic Cloud. After checking the focus with LMC X-1, Chandra observed N132D, a remnant of an exploded star in the Large Magellanic Cloud.

Friday: September 10, 1999 2116 GMT

The camera on board NASA's Mars Climate Orbiter has snapped its first look at the red planet while it was still 4.5 million kilometers (2.8 million miles) away. The image released by NASA today shows Mars as a tiny red "half moon" dot.

Thursday: September 9, 1999 2116 GMT

As wiring checks continue on the space shuttle fleet, NASA announced today its tentative new launch schedule. The Hubble Space Telescope repair will fly in October ahead of a radar mapping mission which had been scheduled to go first, That mission will be delayed until November.

Wednesday: September 8, 1999 2116 GMT

The University of Arizona and the Australian National University are to join forces to make it easier to spot and track asteroids headed towards Earth. A little-used telescope at the Siding Spring Observatory (near Coonabarabran, Australia) will be equipped with modern detectors and computers to carry out a search for potentially hazardous asteroids.

Tuesday: September 7, 1999 0256 GMT

Astronomers have used the world's two most powerful radar telescopes to make the most detailed images ever obtained for a large asteroid in a potentially Earth-threatening orbit.

Monday: September 6, 1999 1349 GMT

Galileo spends this week transmitting to Earth pictures and other science observations from a second pass through data stored on the spacecraft's onboard tape recorder. The second pass allows the replay of data lost in transmission to Earth.



## Editor's Eyepiece By Mrs. Cynthia Hunter-Shupe

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### Newsletter

This issue is lacking the lunar and solar calendars because I did not receive them. All are encouraged to submit content for the newsletter no later than the 20<sup>th</sup> of each month as a text file/.txt and graphic files as either .gif or .jpg to myself - astro@contingent.com, 10316 Lewis Drive, Damascus, MD 20872.

### Internet

I have not had the time to get my site together and apologize. I am hoping to have it done by the middle of this month, but can't make any promises with every thing else I'm involved with.

I am submitting a web page form of this newsletter to Curt at the executive meeting on the 1<sup>st</sup> of this month. The prior two issues I have scanned and submitting as graphic images to be added to the site.

There are a number of other electronic forms of communication available on the Internet which I am submitting to Curt for him to add links on his site to. Check out his site for updates. Some examples include e-mail lists, e-news lists, and bulletin board discussion forums. My husband also recently became a semi-active participant with a local Damascus, MD area e-mail list of participants that share their observations. If you are in the area and interested in more information feel free to email us astro@contingent.com for more information.

### Astro-photography

Anyone that wishes to share their works are encouraged to send either Curt or myself a copy of your picture/s either paper or electronic email file attachments to be posted on the web.

### Astro-photography scrap booking

I am scheduling educational workshops that provide information and resources on how to store and log pictures using SAFE materials that do not 'turn' or crack with age. Contact me if you are interested via phone 301-482-1384 or email astro@contingent.com.

The Mason-Dixon Astronomer (MDA) is the monthly newsletter of the Westminster Astronomical Society (WAS) of Maryland and is mailed free of charge to members. Club officers are Skip Bird, President; Brian Eney, Vice President; Phil Schmitz, Secretary; Paul Henze, Director at Large. Membership rates are \$15 Family and \$13 Single. Forward remittance to Treasurer Carl Koch, 16 Highstream Court, Germantown, MD 20874. Use of material published herein is permitted if credit is given to the author and MDA. The MDA is edited by Mrs. Cynthia Hunter-Shupe (301-482-1384). Written contributions are always encouraged by the 20<sup>th</sup> of the month prior to the month of publication as text file email attachments or postal mailed to 10316 Lewis Drive, Damascus, MD 209872. The WAS web site can be viewed at [www.erols.com/roelle/was](http://www.erols.com/roelle/was).

## The Mason-Dixon Astronomer

*Westminster Astronomical Society*  
10316 Lewis Drive, Damascus, MD 20872



### **MEMBER BENEFITS**

**Monthly Club  
Newsletter**

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Membership &  
Newsletter**

**Discount on  
Astronomy Sky &  
Telescope**

**Group Membership in  
International Dark Sky  
Association**