The Meteor

The Newsletter of the Greenbelt Astronomy Club
Volume 9, Issue 113 October-November, 2002
The <Meteor shower> Edition

The Meteor is the official publication of the Greenbelt Astronomy Club, Greenbelt, Md. and is distributed monthly as a privilege of membership. Articles and other contributions are welcome. Membership in the Greenbelt Astronomy Club is open to anyone interested in astronomy. The club meets on the last non-holiday Thursday of each month at 7:30 p.m. at the H. B. Owens Science Center.

The Greenbelt Astronomy Club is a not for profit community based organization with the goal of encouraging public interest in science and education in general, astronomy in particular.

More detailed information on our club activities and organization can be found at our web site. The Editor of this newsletter, Albert T. Sheldon, Jr. Ph.D. can be contacted at: greenbeltastroclub@yahoo.com

The Clubs location on the world wide web is: http://lheawww.gsfc.nasa.gov/docs/outreach/gac/GAC.html

Next Greenbelt Astronomy Club Star Party and Meeting
A star party is scheduled for Saturday, November 9 and 30, at James Wolfe Ball fields in Greenbelt. A map is available on the club web site. Hopelessly overcast skies will cause this event to be canceled. You are invited to attend and bring a friend with cookies. Since star parties are dedicated to observing the night sky, they will only be held if the sky is clear enough to permit observing. Star parties will not be held if skies are overcast or mostly cloudy.

The next regularly scheduled meeting of the Greenbelt Astronomy Club will be Thursday, November 21 at 7:30 PM at the H. B. Owens Science Center on Greenbelt Rd. in Lanham, Md. Theme for the meeting is TBA. All events and meetings are open to anyone with an interest in astronomy and cookies.

The Log Page

Articles needed for future editions of The Meteor.
Astronomical Events

Greenbelt Astronomy Club Star Future Guest Speakers

When is a Planet not a Planet?

On October 7, 2002 a member of the Greenbelt Astronomy Club posted an email regarding the discovery of a new object in the solar system. This discovery prompted an email debate between members of the GAC as to the correct classification of this object. Some members thought that the object should be classified as a planet and others provided counter-point. The dust (star!) has not settled and a forum on definitions in astronomy will be held to help clarify the possible classification of this object. The forum will be moderated by Bill McHale, President, Greenbelt Astronomy Club on November 21, 2002 at the H.B. Owens Science Center.

Upcoming Events and Star Parties

November Calendar

By Dave Mitsky

All times are EST

- **Nov 1**<sup>st</sup>  Asteroid 109 Felicitas (magnitude 10.7) is 1.4° S of 55 Arietis at 7:00 p.m.; asteroid 1 Ceres is close to the 13<sup>th</sup> magnitude galaxies NGC 163 and NGC 165 tonight.
- **Nov 2**<sup>nd</sup>  The 5.9 magnitude spectroscopic binary star ZC 593 (SAO 93721, HIP 18735) is occulted by the 95 km B-class asteroid 431 Nephele in the Harrisburg, Pennsylvania area at ~7:48 p.m.
- **Nov 3**<sup>rd</sup>  The equation of time is at maximum for 2002 - the sun is 16.47 minutes ahead of clock time (mean solar time); the moon is 0.5 degree SSW of asteroid 3 Juno (magnitude 11.2) at 7:00 a.m.; the moon (33°22'; 358,153 km) is at perigee at 7:46 p.m.
- **Nov 4**<sup>th</sup>  Uranus is stationary in right ascension at 4:00 a.m. Prograde or direct (eastward) motion resumes; the moon is 1.9 degrees NNE of Mercury at 5:00 a.m.; new moon (lunation 988) occurs at 3:34 p.m. - large tides will occur.
- **Nov 5**<sup>th</sup>  Peak of the Southern Taurid meteor shower (5 to 10/hour).
- **Nov 6**<sup>th</sup>  The moon is at the descending node (longitude 248.8 degrees) at 10:23 a.m.
- **Nov 7**<sup>th</sup>  Neptune (magnitude 7.9) is 2° S of the star SAO 163811 (magnitude 7.1) tonight.
- **Nov 9**<sup>th</sup>  Jupiter reaches western quadrature at noon - eclipses of the Galilean satellites will now be easier to see
- **Nov 11**<sup>th</sup>  First quarter moon occurs at 3:52 p.m.
- **Nov 12**<sup>th</sup>  Peak of the Northern Taurid meteor shower (5 to 15/hour);
  Mercury is at the descending node through the ecliptic plane at 8:00 p.m.
- **Nov 13**<sup>th</sup>  Mercury is in superior conjunction with the sun at 11:00 p.m.
- **Nov 16**<sup>th</sup>  The moon (29°27'; 405,797 km) is at apogee at 6:30 a.m.
- **Nov 17**<sup>th</sup>  Uranus reaches eastern quadrature at 7:00 a.m.; the earth passes closest to the orbit of Comet Temple-Tuttle (a nodal crossing of the progenitor of the Leonids) at 3:00 p.m.
- **Nov 18**<sup>th</sup>  Asteroid 44 Nysa (magnitude 9.4) is at opposition at 1:00 a.m.;
  Europa partially occults Io from 3:08 to 3:14 a.m.; Venus is stationary in right ascension at 11:00 p.m. - direct motion resumes.
- **Nov 19**<sup>th</sup>  The peak of the Leonid meteor shower is compromised by a nearly full moon - an hour long meteor storm might possibly occur beginning at 5:36 a.m. According to one prediction; full moon known as the Frosty or Beaver Moon occurs at 8:34 p.m.; the deepest penumbral lunar eclipse of 2002 begins at 6:32 p.m. and reaches maximum (88% of the lunar diameter will be in the partial shadow of the earth) at 8:47 p.m.
- **Nov 20**<sup>th</sup>  The moon is at the ascending node (68.6 degrees) at 6:25 p.m.
- **Nov 23**<sup>rd</sup>  The sun enters Scorpius at an ecliptic longitude of 240.90 degrees at 4:00 a.m.; Mercury is at aphelion at 5:00 a.m.
- **Nov 24**<sup>th</sup>  The moon is 3.0 degrees S of Pollux (the closest appulse of the moon to a first magnitude star in 2002) at 8:00 a.m.; Venus is at the ascending node through the ecliptic plane at 11:00 a.m.
- **Nov 25**<sup>th</sup>  The moon is 3.0 degrees NNE of M44 (the Beehive Cluster) at 9:00 a.m.
- **Nov 27**<sup>th</sup>  Last quarter moon occurs at 10:46 a.m.
- **Nov 28**<sup>th</sup>  The moon is 0.04 degree S of asteroid 4 Vesta (magnitude 8.0) at 10:00 p.m.
The Meteor

- **Nov 29th**: The sun enters Ophiuchus at an ecliptic longitude of 247.8 degrees at midnight; asteroid 1 Ceres is stationary at 1:00 p.m.
- The **moon** reaches maximum libration in longitude (+7 degrees) on November 9th and maximum libration in latitude (+7 degrees) on November 13th. The minimum libration in longitude (-6 degrees) occurs on November 25th and the minimum libration in latitude (-7 degrees) on November 27th.
- **Venus** begins a favorable morning apparition this month as it climbs the sky rapidly and grows to almost its peak radiance of -4.7 magnitude. It may be visible low in the east by November 10th. Through a telescope Venus will appear as a very thin crescent, which will shrink in apparent size from 61.6" to 44.9" but will increase in illuminated extent. Mars changes little in brightness and size (from magnitude 1.8 to 1.7 and 3.8" to 4.1") during November and remains low in the southeastern sky in the constellation of Virgo at sunrise.
- **Jupiter** continues to brighten and grow in apparent size (magnitude -2.1 to -2.3, 37.0" to 40.5"). It rises in the late evening, entering Leo on November 23rd. Saturn rises during evening twilight and moves eastward from Orion into Taurus on November 21st. During November Saturn also becomes increasingly prominent as its magnitude increases from -0.2 to -0.4 and its diameter from 19.8" to 20.4".
- Thirty deep-sky objects for November: M31, M32, M110, NGC 404, NGC 752 (Andromeda); NGC 772 (Aries); M103, NGC 185, NGC 436, NGC 457, NGC 654, NGC 663, NGC 896, Trumpler 1 (Cassiopeia); NGC 40, NGC 188 (Cepheus); NGC 246, NGC 247, NGC 584 (Cetus); NGC 7814 (Pegasus); M76 (Perseus); M74, NGC 488, NGC 524 (Pisces); NGC 253, NGC 288, NGC 613 (Sculptor); M33, NGC 672 (Triangulum)
- **Nov. 9th, and 30th, and Dec. 7th and 28th 2002**: Greenbelt Astronomy Club Star Gazing at James Wolfe Ball fields in Greenbelt, Md. Open to the public, No admission. Begins at dusk, scheduled to last until at least 10:30 PM. Since star parties are dedicated to observing the night sky, they will only be held if the sky is clear enough to permit observing. Star parties will not be held if skies are overcast or mostly cloudy.
- **Nov. 21st**: Greenbelt Astronomy Club monthly meeting.
- For more information about what is in the sky this month, visit [Sky & Telescope's Sky at a Glance](http://www.skyandtelescope.com).
- Astronomy News for the National Aeronautic Space Administration [NASA](http://www.nasa.gov).

---

The Business Summary

**Board of Directors and Observatory Committees Meeting of Thursday, July 18, 2002**

By Valerie O'Brien
Secretary, Greenbelt Astronomy Club

The members of the Greenbelt Astronomy Club met at 7:30pm on Thursday, September 19, 2002. The meeting was held in the Greenbelt Community Center. Present were William McHale, Doug Love and Valerie Elliott.

Club President, William McHale who dispensed with the reading of the June 27 meeting minutes, called the meeting to order.

**Announcements:**
- The Greenbelt Astronomy Club will be celebrating its 10th Year Anniversary on Dec. 30, 2002. A potluck party is planned on that date and all are welcome to attend. It will be held in one of the Greenbelt Public Library Meeting Rooms.
- The Goddard trips to Caroline Furnace are scheduled for the weekend of October 4 – 6, 2002. Contact Keith Evans with the Goddard Club at evans@umbc.edu for details.

**Business Item: Greenbelt Public Library Display**
- The club has plans to create an astronomy display at the Greenbelt Public Library in one of the display cases. If you would like to participate in this project, contact club president, Bill McHale at the following: wmchal1@umbc.edu
The Meteor

Business Item: Astronomy Club T-Shirts
- The club has plans to change the design of the T-shirts. If you have ideas for a new design, please contact club secretary, Valerie Elliott at the following: elliottv@ba.ars.usda.gov.

Meeting adjourned at 8:05 pm.

Star Party Report of November 2, 2000

Mars bars, or “Ed-able” Astronomy?
By Ed Able

It was cold when we began to set up at 5PM. Then it got colder.

The 22" Dob I had borrowed from my neighbor was there, alongside the club’s, now baby-looking, 17.5" Dob. A few stragglers asked when the Planets would arrive: “Couple of hours.” “Will you be here?” they asked. Kevin answered, “Yes”. I kept my mouth shut since it was already cold (“A couple more hours”? I thought. I will be FROZEN!)

The ice formed. The grassy dew accumulated on the shoes and hid itself onto the first two steps of the ladder. It was easy to find however! The first misstep told you where the ice was hiding. Kevin’s scope transport box had 1/8” of ice/frost already.

The larger Dob had Encoders and was easily programmed to accurately point. M13. Ring. M31. M32. We should have searched for M110 and the current Nova, but didn’t. Kevin knew what to look for so he guided the expedition. At one point, Tom and I agreed that one asterism looked like a jetliner with two engines for power. Kevin laughed and said that’s the “Owl”. Still looked like a plane to me!

It was cold and thus time for some cookies and a candy bar (Mars bar, would you believe.). Don’t litter but tuck the wrappers away.

Off to another part of the Galaxy: Again, our tour guide asked what it looked like after I took my eyepiece from my pocket and focused. “Must be the Bat nebula!” I exclaimed. I asked Tom to verify what it looked like to him. “A VERY dark patch in the sky in the shape of a bat!” he agreed. After taking another look, I noticed that it was indeed from our Solar system, however: a piece of the Mars wrapper in the eyepiece barrel! Kevin enjoyed himself!

It was still cold; but the shivering abated. The chattering of teeth no longer drowned out the “Wow!”s. There were the Pleiades. One visitor exclaimed: “Jewels of the Night!” Saturn was already sharp in Kevin and Ron’s scope. It looked creamy white in the 22” Dob: too bright! Orion showed her wings clearly along with the full Trapezium. Collimation would have bettered the sharpness, but it was neatly discernable, making a smile grow from ear to ear.

But now it was tomorrow already, and time to go; taking our smiles with us. The cold was gone.

Greenbelt Astronomy Club Meeting of July 25, 2002
By Valerie O’Brien
Secretary, Greenbelt Astronomy Club

The members of the Greenbelt Astronomy Club met at 7:30pm on Thursday, September 26, 2002. The meeting was held in the Planetarium of the Owens Science Center.

Club President, William McHale who dispensed with the reading of the September 19 meeting minutes, called the meeting to order.

Announcements:
- There are some left over items such as posters from the Labor Day Festival. Anyone interested please contact the club president.
Slide Presentations
  o Doug Love showed slides of his trip to Indiana where he took the 17" scope to explore the dark skies.
  o Matt and Valerie Elliott shared slides from their honeymoon in Hawaii. The show consisted of slides of the moon, stars, volcano, and other natural wonders.

Main Presentation: The T.I.E. Project with Howard University: Lou Mayo (Raytheon/NASA/GSFC)
  o The club has been given the opportunity of participating with the Howard University in the use of the scopes at their facility off Edmonston Road. Training is planned for October in 2 sessions. Steve Lesnik will be coordinating with Lou Mayo. For more information see: vtie.gsfc.nasa.gov

The meeting was adjourned at 9:08 pm.