The Meteor is the official publication of the Astronomical Society of Greenbelt, Greenbelt, MD. Articles & other contributions are welcome. Membership in the Astronomical Society of Greenbelt is open to anyone interested in astronomy. The Astronomical Society of Greenbelt is a not-for-profit community-based organization with the goal of encouraging public interest in science & education in general, astronomy in particular. More detailed information on our club’s activities & organization can be found elsewhere at our website. The editor of this newsletter, Craig Levin, can be contacted at clevin AT ripco.com. Unless specified otherwise, all items in this newsletter were written by the editor.

Editor’s Notes

This is a larger than usual issue! We have a sales pitch from the Astronomical League, an invitation from the Goddard Space Flight Center for next month, TWO articles from George, AND news of a method to find the locations of galaxies that doesn't depend on red shift, developed by a member of the Society of Amateur Radio Astronomers!

Elected officers for 2009-2010

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<th>Office</th>
<th>Name</th>
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<tr>
<td>President</td>
<td>Ray Stevens</td>
<td>stvns.jacht AT yahoo.com</td>
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<td>Vice-President</td>
<td>Martha Gay</td>
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<tr>
<td>Secretary</td>
<td>Craig Levin</td>
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<td>Treasurer</td>
<td>Sue Bassett</td>
<td>wb3enm AT amsat.org</td>
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### Astronomical Events Around Greenbelt in Sept. 2010

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<td>Greenbelt’s Labor Day Festival, also a star party at Northway in the evening</td>
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<td>Sidewalk Astronomy at Roosevelt Square</td>
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### Star Party & Business Meeting Reports

The officers didn't hold a meeting in August.

**Aug. 14 & 15**: Clouded out.

**Aug. 21**: Doug went down to the observatory at 8 PM, to find that he could just get a brief peep at the Moon before the clouds came in. It looks like we'll have to do some groundskeeping soon.

**Aug. 26**: We held a very abbreviated general meeting, just to point out that we are only doing an info table on Labor Day & to get people to staff it & bring nifty things to show off. Then, we departed *en masse* to the visitors’ center at Goddard to help the Goddard Astronomy Club at a special James Webb Space Telescope event. We were there for over 2 hours & showed different double stars, the Moon, & Jupiter to dozens of people, mostly children & their parents.
Aug. 28: Elizabeth & I arrived about half an hour after the star party actually began. Martha told me we already had 3 visitors who had heard about the star party through the Washington Post, enjoyed the experience, & left. The sky had more haze in it on the 28th than it did on the 26th, but our site is much darker, of course. The stars of the show while we were there were Jupiter & the Moon, with Uranus & a couple of Messier objects playing supporting roles. The bug problem was ferocious, so we decamped after about 2 hours.

Asg & Gac partner for NASA/Goddard JWST Star Party
by G.W. Gliba

On Thursday evening, August 26, the ASG, along with their sister organization, the GAC, held a joint star party at the NASA/Goddard Visitor's Center for a special JWST event sponsored by the NASA/GSFC Education Office. The star party followed two talks by two NASA/GSFC James Webb Space Telescope project members. There was a talk on the JWST science by Dr. Amber Straughn, & a talk on the JWST engineering by Dr. Paul Geithner. It was estimated that 150 people attended the talks & about 100 people attended the star party. About 15 members of the ASG and GAC attended & brought a dozen telescopes. Thanks to all who attended this event to make it a success.

Perseids and Cloudy Fireballs
by G.W. Gliba

Lynne & I were able to go to our cabin at Mountain Meadows in Mathias, WV, from August 11 to August 14. We had mostly cloudy conditions for star gazing every night. However, through breaks in the clouds, I was able to get a couple of possible usable meteor observing sessions in. Interestingly, after it had clouded-up on the peak morning of the Perseids, August 13th, I saw about a -6 Perseid Fireball through the clouds at 6:13 UT! You could see that it was yellow & coming out of the radiant even with the overcast skies that rendered all of the stars & even Jupiter invisible. Anyway, I didn't count it in my official AMS & NAMN reports, as it was 36 minutes after I quit recording meteors, but I will fill out a fireball report. Several meteors were seen during the brief periods of clear skies.

Unfortunately, because the conditions were mostly cloudy, we missed the early evening parade of the Moon & planets that we were looking forward to seeing. However, I took advantage of a few sucker holes to see some meteors & the Milky Way. There were a couple periods of clear skies when Lynne & I got to see about 80% of the visible Milky Way, but those moments were brief. Although I saw most of the meteors between us, Lynne did see a couple, & we both saw a nice 1st magnitude yellow Kappa Cygnid in Aries together at 1:32 am EDT on the morning of August 13th. A couple other Kappa Cygnids were seen by me casually, including a beautiful -3 magnitude yellow-green fireball seen at 1:18 am EDT on the morning of August 12th under a rare period of clear skies. I was also able to see an Antihelion meteor & a couple other Perseids casually, including one with a wavy trail that left a train. These types of meteors must be rare, as I only remember seeing one other. That was ten years ago, during the Extraordinary Geomagnetic Perseid Meteor Shower.

About 30 Perseids were seen total over four nights. Ten of them were seen casually. There were 20 Perseids seen in 1 hour & ten minutes of formal observing. Even with the marginal conditions, I was able to see four fireballs in 1 hour & 43 minutes over two nights of mostly cloudy skies, two were Perseids, the one mentioned above & another of about -4 magnitude seen several seconds later on August 13th. A -3 Kappa Cygnid fireball & a -3 Alpha Capricornid fireball were seen the night before that. What is amazing is that 3 of the 4 fireballs seen were seen through cloudy skies. There were also a
couple yellow meteors, a -2 & -1 magnitude Perseid, seen through the thin overcast clouds on the morning of August 14th. They looked like faint yellow blobs of light moving away from the region of the Perseid radiant. They were pretty strange looking, & not obvious.

This was the first time since the 1992 Perseid maximum that I was able to see a Perseid fireball through the clouds. I think this is probably only possible if the clouds are low & not too thick, but I must say that I was surprised to see them at all during the cloudy periods when I was doing a vigil, checking for possible sucker holes. Sometimes a blob of light a couple degrees in extent was seen where Jupiter was. I actually had to work hard just to get the 70 minutes of usable meteor data over a four night period, from August 11th to August 14th. It wasn’t really hard work though as I was entertained by the Barred Owls, Screech Owls, and Field Crickets in the meadows. I also used my Night Vision I.R. scope to look for bears & other critters, but didn’t see any. It was well worth it, even though I missed most of the meteors.

The 2011 Astronomical Calendar: Specially priced for League members
by John Jardine Goss, the VP-elect of the Astronomical League

The Astronomical League is pleased to announce a special offer for our members from the Universal Workshop, the producers of Guy Ottewell’s popular Astronomical Calendar. They are making the 2011 edition of the Astronomical Calendar available at a discounted price. There are plenty of good reasons why it has been published for over thirty years. The 2011 edition will not disappoint!

Packed throughout its 84 pages are monthly sky charts; daily celestial highlights; charts, tables, & explanations of planetary movements; eclipse times & paths; & lunar occultation specifics. There are extensive descriptions of the year’s meteor showers & periodic comets, as well. This calendar tells, in clear language, what events occur & when they happen.

League members can order this incredible compilation of the year’s celestial events for $19.95, shipping included (standard ground shipping to US addresses, only). Volume discounts, beginning with a minimum of 11 copies, for clubs are available. But, to take advantage of the free shipping offer, you must order by Friday December 31, 2010, and either use the special website, www.Universalworkshop.com/clubs.htm, or call (800) 533-5083. The newly edited Astronomical Companion is also available at $19.95, shipping included — if it is ordered at the same time as the Astronomical Calendar. Universalworkshop.com accepts Mastercard, Visa, Discover, American Express, & PayPal.

Place your order today!

Volunteers needed for International Observe the Moon Night event
by Lora Bleacher, NASA/GSFC

Hopefully you’ve already heard about International Observe the Moon Night (InOMN - http://observethemoonnight.org), an effort to bring together amateur astronomers, educators, scientists, & the general public to observe & learn about our nearest neighbor. Amateur astronomers are needed to support Goddard Space Flight Center’s InOMN event on Sept. 18 at the Goddard Visitor Center from 6:30 pm to 10:00 pm. The first 20 people to volunteer to bring their telescope to the Moon/star party will get a free t-shirt, VIP parking, & special refreshments after the event has ended!
In addition to a Moon/star party, Goddard’s event will also include hands-on activities, guest lectures, a Science On a Sphere presentation, & a tour of Goddard’s Laser Ranging Facility. Be sure to tell your friends & family about it!

To volunteer to bring your telescope to the Moon/star party, please email Lora.V.Bleacher@nasa.gov (& don’t forget to let her know what size t-shirt you prefer as well).

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A New Cosmography?

Last month, when Elizabeth & I were at the National Radio Astronomy Observatory at Green Bank, WV, I picked up a copy of this year’s Proceedings of the Conference of the Society of Amateur Radio Astronomers. One of the presenters, Bruce Rout, presented three articles with novel evidence & interpretations that could change the map of the cosmos. He’s also developed his work further & has made it available by presenting it on Vixra, a preprint site that is open to the public.

Mr. Rout’s first article is about a spiral galaxy in the southern sky, NGC 3198. He discovered that NGC 3198’s shape is described by its mass & the time it takes for gravitational interactions, since gravitons can’t travel faster than the speed of light. Furthermore, he also pointed out that it would be easier & more precise, mathematically speaking, to treat spiral arms as bars of evenly distributed matter. He discovered that this also eliminated any requirement for dark matter to explain a galaxy’s shape. In doing this, he’s provided independent verification of the conclusions of Shanks & Sawangwit, which were presented in July’s Meteor.

Mr. Rout’s second article relates the speed of a galaxy’s rotation to its mass & actual diameter, which enables us to find out how large any galaxy is by finding its rotation. In this case, he has examined NGC 4258. Mr. Rout found that more massive spiral galaxies generally spin faster, so that one can measure a galaxy’s size & mass by figuring out how tightly wound up it is. Once one has the actual diameter of the galaxy, finding out how far it is from the Milky Way involves simple trigonometry, in which we know the size of one side of a triangle (the actual diameter of the galaxy) & the size of one of the angles (the angular size of the galaxy).

Mr. Rout checked that his method of finding galactic distances produces results comparable to the methods using water masers, which are thought to be areas in nebulæ & the cooler areas of black hole accretion discs where water molecules are subjected to radiation or collision & re-radiate the energy they absorbed as microwaves. Once you have the rotational speed of the galaxy & the distance the maser’s source has travelled over time, you can find the distance using trigonometry as above.

Mr. Rout’s third article may be the most controversial. Using his method, which he’s nicknamed "Roxy’s Ruler", he has determined the distances to over one hundred galaxies & compared them with the distances found through their redshifts. He’s found that the redshift of a galaxy may not be an accurate measure of how far away it is.

This leaves our current map of the cosmos in disarray. If redshift is unreliable, how will we be able to find out how far elliptical or irregular galaxies are from us, if we can’t use Cepheids, water masers, or similar methods? What about quasars, whose redshifts put them far beyond most galaxies? Both the Big Bang & the old steady state hypotheses assume that redshift's more of a property of the cosmos than of each individual galaxy, so this reopens the question of their validities, too. Perhaps the great amateur radio astronomer, Grote Reber, was correct when he wrote Endless, Boundless, Stable Universe in 1977?