METEOR


METEOR is the official publication of the Greenbelt Astronomy Club 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 the month at 7:30 pm EST at the H.B. Owens Science Center. Address of the Editor is G.W. Gliba, 58-D Crescent Road, Greenbelt, Maryland 20770.

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Greenbelt Astronomy Club

The monthly meeting was held on September 26th at 7:30 pm EST at the H.B. Owens Science Center. The successful club Greenbelt Labor Day Festival table was mentioned. Astronomy Day 1997 was also discussed, but a date has not been set yet. Hopefully the H.B. Owens Science Center will help again this year with use of the facilities and a free planetarium show. We will probably have many of the displays that we had last year. The club observatory was also mentioned.

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Greenbelt Labor Day Festival

Several Greenbelt Astronomy Club members helped to make the annual Labor Day Festival in Greenbelt a big success. Displays on the menace of light pollution to the environment and astronomy were well received by the many folks who stopped by to see us. Special thanks go to GAC members Sue Bassett, Tom Trunk, Matt Elliott, Frank Coorsen, Tom Bridgman, Lynne Gilliland, and George Gliba for the time they spent attending the table, talking to folks, and answering questions. This is a chance we have every year to create more public awareness about light pollution to the general public. As with Astronomy Day in the Spring, it gives us an opportunity to educate the public about the menace of light pollution. People need to see the stars, just as much as birds and trees; so we have to work to make this a better planet for all life. Every little bit we do helps.

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Supernova 1996an in NGC 1084

Being a type-II SN, this star has stayed at its discovery magnitude of 14th for over two months. It was last seen at the Goddard Optical Site with the 12-inch Goto cassegrain telescope on the morning of September 21st. The SN is located 15 arcseconds east and 22 arcseconds north of the galaxy nucleus. It may still be visible in early October, but you will have to get up early for this one, as it is near eta Ceti, which rises late. In a dark sky, it should be easy in a 10-inch if it doesn't fade. With the bad local light pollution, it was barely visible in the 12-inch Goto cassegrain telescope. The parent galaxy is about 11th magnitude, and fairly easy to spot.
Comet C/1996 Q1 (TABUR) and Hale-Bopp

The new comet, found by Australian amateur astronomer Vello Tabur visually with an 8-inch reflector on August 19th when at 10th magnitude, was observed. It was spotted by folks who attended the Blackwater Falls Astronomy Weekend on Saturday, September 7/8. It cleared up nicely after Tropical Storm Fran moved through. This comet was then located in Orion, near the belt, and was at about 8th magnitude. It was seen in 10x50 and 12x63 binoculars, after it was spotted with homemade 6-inch reflector binoculars made by Forrest Hamilton. Tabur had a fairly condensed central condensation, and an elongated coma, but no tail was really seen.

Two weeks later, on the morning of September 21st, Tabur was seen out at the Goddard Optical Site. It was then about 6.5 magnitude and in the club of Orion. In the 12-inch Goto cassegrain it showed a stellar central condensation of 11th magnitude, surrounded by a dense inner coma, which was surrounded by a diffuse outer coma. There was also a hint of a fan tail. This comet should continue to get brighter into early October as it approaches both the Earth and the Sun. The positions taken from the IAUC 6460 are:

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On September 7th comet Hale-Bopp was observed. It was seen with the naked-eye and various binoculars. It was bright at 5th magnitude, considering that it's still 3 a.u. out from our star! It looked like a fat guppy. We got a good view with Hamilton's 6-inch binoculars, which showed its fan tail. The tail was only about half a degree in length, which was a lot less than what it was on August 10th, when last seen in dark skies. Also the central condensation was more diffuse than it was then, but it was still a beautiful sight in the dark skies of Blackwater Falls, West Virginia.

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Aries-Triangulid Meteor Shower - by G.W. Glica

Although several observers saw meteors from this radiant, there still wasn't total agreement that this should be considered a new annual shower. I was really disappointed when Lynne and I went up to Mountain Meadows near Mathias, West Virginia, above the dense fog, on the predicted peak night of September 11/12, only to see a few meteors coming from the Aries-Triangulum area. Two other meteors from the A-T area were seen at Blackwater Falls on Astronomy Weekend Sept. 7/8. In all, only six A-T meteors were seen in four hours of observation. Not enough for confirmation. So, this may either not be an annual shower, have rates that are too low to verify for most years, or was only seen for two years. It may be periodic in nature as well. It is clearly unresolved at this time.

On the night of September 11/12, I was also able to help with verification of a new apparent radiant in the constellation Taurus, between the Hyades and the Pleiades, seen by ace meteor observer Bob Lunsford in California. From 6:28 to 8:28 UT, on the morning of September 11/12, I saw five swift meteors coming
from a radiant near the RA 64 DEC +19 reported by Lunsford one day earlier on the NAMN meteor observers network. Four of the six A-T meteors, and all of the September Taurid meteors seen were plotted.

Comet and meteor expert Gary W. Kronk thinks that the A-T meteor shower may be periodic, which explains why very few meteors were seen this year. He said that this activity could be represented by an orbital period of about 5.5 to 6 years. Certainly a nice number to indicate the parent might have been a comet from Jupiter's family. So, the story of this stream isn't over yet. More meteor observers should continue to watch this radiant every year for any activity, as this may turn out to be a periodic and very interesting meteor stream.

There is more than scant observational and historical evidence that the A-T stream has two branches, a Northern and Southern branch. The Northern branch seems to be richer in faint meteors, while the Southern seems to have fewer, but brighter meteors. Gary Kronk thinks that these two streams are the result of a dispersion effect, and that the Alpha Triangulids are a more dispersed stream than the Alpha/Gamma Arietid branch.

This could imply that a later stream is the newest filament, as streams will experience some separation effects, with age and planetary perturbations. According to British IMO telescopic meteor expert Malcolm Currie, a lot depends on the distribution of the meteoroids around the orbit. If the A-T core is more dispersed than most other periodic showers, it may intersect the Earth's orbit in the spring, and we could see activity in the halo of the core. He says, if this conjecture is correct then we may not have seen the best of the A-Ts yet (if the center of the core is close to the Earth in mid-September).

However, these different explanations may not be sufficient to explain the observations fully. Clearly much more data, from many observers will be needed to help sort out the details of the A-T stream in the years ahead.

Gary Kronk says that further observations—both visual and telescopic are needed. Although not much visual activity from this stream is expected for next year, we should observe it anyway. The period of 1998 to 2000 could be a very interesting time to help confirm or dispel the theory that the stream is periodic. If we assume that faint particles have spread throughout the A-T stream, telescopic and especially video observations would be most important during the next few years.

Source - NAMN meteoroobs network

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Some Dates to Remember

October 12th - New Moon Public Star Party
October 20-24 - Maximum of Orionid Meteor Shower
October 31 - Greenbelt Astronomy Club Meeting
November 11th - New Moon
November 16/17 - Maximum of Leonid Meteor Shower
November 21st - Greenbelt Astronomy Club Meeting

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