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 Owens Science Center. The address of the Editor is: G.W. Griba, 58-D Crescent Road, Greenbelt, Maryland 20770.

Greenbelt Astronomy Club

The January meeting was held at Owens Science Center on the 25th. Dr. Wayne Warren Jr. talked on the October, 24th 1995 Total Solar Eclipse in India, and showed a video he took and gave some of the results obtained thus far. He is part of a group of astronomers who observe eclipses on the edge of totality. This group goes to total solar eclipses to help determine the solar radius, and learn more about the Lunar profile. Dr. David Dunham, who was at the meeting, was at the northern edge of this eclipse.

Astronomy Day will be on April 20th this year. It will be jointly sponsored again by the Owens Science Center, Goddard Astronomy Club, and Greenbelt Astronomy Club. There will be the usual planetarium show, displays, and star party.

The proposed Greenbelt Public Observatory was discussed briefly. It was moved to table this discussion for another meeting.

Nominations for new officers was held. The results follow:

President - Doug Love  Vice President - Russ Waugh
Secretary - George Griba  Treasurer - Eileen Campbell

The next meeting is February 29th (leap year) at the Owens Science Center.

Nova Cassiopeiae 1995 - A peculiar nova

Slowed its fast decline from its true maximum in mid-December at the end of the year. It remained rather constant at 9th magnitude until mid-January when it resumed its decline. This is the same brightness it stayed for about 45 days after its initial rise from 18th magnitude, and its approximate discovery magnitude at the end of August 1995. It then faded to 9.7 magnitude in a few days, only to brighten again to 9.4 magnitude, where it stayed for a few days before fading again to 9.8, only to rise again to 9.5 magnitude by January 25th.

So, the nova seems to be dropping slowly, but also fluxuating as it does. Observers should continue to monitor this star for sudden changes. It should still be visible with a small telescope and is well placed for evening observation.
American Astronomical Society Meeting

The annual AAS meeting was held in San Antonio, Texas the week of January 11th thru 15th. Among the highlights of the meeting was the announcement of the discovery of planets around two solar-type stars, the possible solution to the old missing mass (dark matter) problem, and recent results of the NASA/Hubble Space Telescope deep sky survey.

The two solar-type stars that have planets are 47 Ursae Majoris, and 70 Virginis, which are both 5th magn. stars. Paul Butler of the University of California, and Geoffrey Marcy of San Francisco State University used radial velocity data from the Lick Observatory. Newly developed techniques allow measurements of tens of meters per second spectral resolution, which made them possible to find. As there are only a few naked-eye solar-type stars, it looks like planets around solar-type stars might be the rule, and not the exception.

Also announced was the discovery of machos instead of wimps (massive condensed halo objects instead of weak interacting mass particles) as the identity of the missing mass, postulated but never found until recently. These machos are thought to be dim white dwarf stars from the original stellar population born shortly after the Milky Way formed. They were found when looking for and finding micro-lensing events among the stars of the Large Magellanic Cloud. Seven events were seen during the search. Cosmologist say these burnt out white dwarf stars can account for all of the missing mass (dark matter) in clusters of galaxies.

Finally, last of these exciting finds, were the results of the HST deep-sky survey. Taking a very deep CCD picture of a rather blank area of the sky in the constellation Ursa Major, they found galaxies everywhere. In a small area of sky of only 1 square arcminute, they found over 1,500 galaxies! This means that HST can probably see over 300 billion galaxies over the whole sky!

---

Some Winter Double Stars

There are many fine double stars in the winter sky that can be split with small telescopes. Although a good refractor is best for close doubles, wide ones can be seperated with almost any telescope. To me a double looks best using the minimum power it takes to seperate them.

In Orion there are some nice easy double stars. There are several in the sword area near the great nebulae M42 and M43. The bright star Rigel has a nice 6.8 magnitude companion 9.5 arc second away. About 100x should seperate this star from the 0.1 magnitude primary. Sigma Orionis is not only double, but is a triple star located just below the most eastern star in the belt of Orion. The double are the 3.8 and 6.6 magnitude stars about 13 arc seconds seperation, with the third star of 6.7 magnitude about 43 arc seconds away. All are B-type stars. Lambda Orionis, in the head of the hunter, is another pair of B-type stars 3.6 and 5.5 magnitude in brightness 4.4 arc seconds apart. Medium to high power is needed to seperate these suns nicely.

Castor in Gemini is a famous multiple star system consisting of at least six stars, although only two can be split with a telescope. The double star you can split are each in turn spectroscopic binaries. The visual double are 1.9 and 2.9 magnitude and seperated by 3.5 arc seconds. Both are A-type stars. Medium to high power is needed to split the pair, which is a pretty sight.

Source - The Observer's Sky Atlas - by E. Karkoschka copyright 1990
President's Column
by Russ Waugh

Happy New Year! Like almost everyone else, I have a list of New Year's resolutions. Among them is a resolution to spend more time looking at the night sky, with or without a telescope. In other words, to observe!

The new year also brings election time for the Greenbelt Astronomy Club. I urge all members to consider serving in one of the offices. I will not seek another term as president. On the other hand, I fully intend to remain active in the club. With that in mind, let me look back over the past year, and ahead to the future.

Club membership has grown, and we've had some very nice talks presented at monthly meetings by club members and visitors. We are becoming known in the area for our star parties. Newcomers and casual observers always feel welcome at our gatherings. We have made a bit of progress toward building an observatory: we have some preliminary estimates on costs (thanks to Terri Womack), and the Greenbelt Parks and Recreation Advisory Board has expressed its support for our efforts.

So, what's next? I believe we must continue, as always, to recruit new members. We must also keep all members interested in the club by presenting interesting speakers at the monthly meetings. Star parties should remain a high priority, including such special events as eclipses (2 in 1996) and Astronomy Day (Saturday, April 20). Finally, we need to push harder and faster for an observatory. With warm weather approaching we want to have things in place (read: money) to begin actual construction.

How can we accomplish these and other goals? I think we now have a sufficiently large membership to organize ourselves into committees (oooh, I know that word doesn't sound so good). In some cases the committees could really be a single person. In general, my idea is to begin dividing the workload. We have already done this to some extent, and I thank all members for their efforts in our activities. Perhaps now is the time to set up some permanent committees (or assignments, if you prefer). Here are some tasks I have in mind:

Publicity - responsible for sending notices to newspapers about meetings, star parties, and special events.
Speakers - responsible for arranging speakers for club meetings and other events.
Star Parties - responsible for overall organization of star parties (arranging for telescopes, maybe coffee and cookies for guests).
Observatory - responsible for planning strategy, writing letters, making contacts with regard to observatory construction.
Librarian - we have a small collection of past issues of Sky and Telescope, Astronomy, and other magazines, to which I can add a few of my own. They are housed at the Owens Science Center. Until such time as we have our own building, I'm happy to keep them there, but I'd like to make them accessible to club members. Anyone interested in helping to create a catalog of these resources would be most welcome. I guess you can tell I feel ambitious for the future. Maybe it's because I'm cooped in by the storm of the century (I suppose they never heard of Jupiter's Red Spot, a storm larger than earth that has been raging for over a century!).