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Newsletter of the Amateur Telescope Makers of Boston
Including the Bond Astronomical Club
Established in 1934
In the Interest of Telescope Making & Using

March 2004 Newsletter

President's Message...

HERE IS SOME news that those of you using the clubhouse should be aware of. The Ed Knight Observatory is now the temporary home to a Celestron C-14, set up by a group from Lincoln Labs. It will be located there for 3-6 months and will be used for Mars tracking testing. They will obey all ATMoB rules and regulations and will minimize stray light that could affect ATMoB observations (e.g. use only a lap top with a red screen). Club members John Blomquist and/or Larry Swezey will be present and coordinating their needs.

Dr. Jeff Mendenhall has offered to give a talk to the club about the project they are working on. In addition, permanent power will very soon be brought to the observatory. They have set up work areas in the observatory, so remember to pay attention to the extra telescope when opening and closing the observatory and using the Shupmann.

I have decided to go forward with plans to celebrate the 70th anniversary of the founding of the ATMoB. We will have a catered dinner in the Phillips Auditorium on Saturday, March 27th, 6:30-10PM. The cost will be $30 per person. RSVP and check may be sent to me. Our speakers will be our own club historian Anna Hillier who will show slides from the club's history, and Dr. Owen Gingerich who will talk about his new book (http://www.cfa.harvard.edu/ep/authornight.html).

See details in the invitation, which follows. As announced at the February meeting, the director of Haystack and members of his staff toured the clubhouse in early February and agreed to renew our lease for another five years. The new lease is expected shortly. We are also still working on the location for the club's Astronomy Day 2004 efforts. My good friend Bob Godfrey, better known as Barlow Bob, frequently sends me interesting items to share with the club. His latest item is titled "Photographic Moon Book" and is a free lunar atlas that may be downloaded and then accessed as a web-based version, as a CD version, or in PDF to make a printed book. It comes from Alan Chu and is available at http://moonbook.hkas.org.hk/ We also thank Steve Beckwith for the 2004 Chandra Calendar, which now hangs in the clubhouse.

-*Eileen Myers*-

February's Minutes...

Eileen Myers opened the 766th meeting of the Amateur Telescope Makers of Boston with some more recollections from the historical annals of the ATMoB. Following that we were introduced to the speaker for the evening, Glenn Chaple, who spoke about variable stars. Glenn very cleverly interwove both the facts about what variable stars are and the different means by which they vary, along with the methods of observing these stellar objects as an amateur.

There are 18 types of variable stars, from eclipsing binaries, stars that vary due to geometrical obscuration, to long term Mira variables, red giant stars that oscillate in and out and vary over many magnitudes. In between we have classical Cephieds, and RR Lyra stars. These have very short periods and smaller amplitude variations, ideal for CCD observations.

Glenns' favorites, however, are the cataclysmic variables, stars that remain fixed for long periods of time and then go into outburst suddenly, rising in amplitude by 6 or more magnitudes. Glenn recalled his first experience with one of these, SS Cygni, complete with nightly drawings from the eyepiece of his 3" Edmund Astroscan telescope. Using projected drawings we all saw and experienced, as he did in October of 1980, the many repeating nights of non activity, one after another, after another, after another - almost leading to a loss of interest - almost pushing him towards other pursuits, when finally - after two anxious nights where he was unsure but felt that the star appeared to be brightening, SS Cygni exploded! - Kabooooom!! – from mag 14 to mag 10.5 to mag 8.0, and beyond. He was watching the universe in action and it had a very life changing effect on him. This, second to a fortuitous conversation up at Stellafane a year earlier with Janet Mattie, the director of the AAVSO, was what got Glenn hooked on variables. Since then he has been observing prolifically, at a rate approaching 6000 estimates a year. He has passed the 50,000 mark and says that he is out there EVERY clear night. His only real enemy is the wind; Something we can all understand I'm sure.

This was a great talk and a wonderful inspiration to get out there and make magnitude estimates. The business meeting followed with presentations by the board members and committee members. John Reed informed us that there are now two saw-horses to be used to keep cars from coming onto the field after dark until cleared by the members on duty in order that astrophotos won't be ruined. He also informed us that a walkthrough of the clubhouse with the Millstone Hill people went very well. They were pleased with the work done on the property and have agreed to renew our lease for another five years. Assistance is going to be provided in connecting a better electrical service to the house as well.

Charlie McDonald informed us of the availability of new star party guidelines document. Dick Koolish told us of a talk at the Mount Auburn cemetery, Bigelowe Chapel on March 27th about famous people at the cemetery, including Alvan Clarke. Mario informed us that all the eclipse tickets have been taken, with a slight chance for a few cancellations that could be taken advantage of. Eileen briefly spoke of the new Nasa Night Sky network that the ATMoB has joined. Eileen also informed us that Astronomy Day at the Museum of Science has been cancelled although there may be a star party on the garage roof the Friday before. Upon the completion of all other informal announcements the meeting was adjourned.

- *Michael Hill* -

Membership Report…

This month we would like to welcome two new members: CARL, A. GEYER, Concord, MA MEHUL RANDERY, Westborough, MA

- *Shilpa Lawande, Membership Secretary* –

Clubhouse Report...

The clubhouse schedule is here.

-*John Reed, Clubhouse Director*-

Variable Stars Classifications

by Michael Hill

Inspired by last months talk about variable star observing, I have compiled a short summary of the primary variable star types. There are of, course, other more obscure types in the classification scheme but when observing as an amateur astronomer these are the ones you will most often come across and work with.

The most common types are listed below with the approximate period lengths in days and the average range in magnitude.

Type	Period	Range
RR Lyra	P = .05-1.2d	0.3-2 mag
Cephied	P = 1-70d	0.1-2 mag
Mira	P = 30-1000d	4-5 mag
RV Tauri	P = 30 – 150d	2-3 mag
Semireg.	P = 30 – 150d	2-3 mag
Irregular	N/A	1-2 mag

There are also a number of types that do not follow the normal cyclic variations as those listed above but are nevertheless most interesting to

professional and amateur astronomers alike due to the unpredictability and the nature of their variation.

R Corona Borealis Spends most of the time at maximum brightness but occasionally drops up to 9 magnitues for a few months.

U Gem Normally at minium with periodic bright peaks to maximum

Z Cam Similar to U Gem except interrupted by standstills midway between min/max for periods of many months.

SU UMa Similar to U Gem but with two types of peaks to maximum; One short (1-2d) and faint and the other longer (10-20d) and brighter.

And Lastly . . . Eclipsing Binaries Two stars rotating about one another, where one periodically blocks the light from the other.

2004 Winter Star Party

February 16 – 22 West Summerland Key US Route 1, Mile Marker 34, Florida

By Bruce Berger

This was my second Winter Star Party, and in some ways it was better, and in some it was not. I drove down this year, and that was better because I didn't have to deal with packing and shipping my equipment – twice, and airports and car rentals and all of the related expenses.

My driving mate was Joe Bergeron, an astronomy artist from Binghamton, NY. (http://www.joebergeron.com). We met in Scranton and shared driving and travel expenses. I left Friday morning at 4:00, got Joe at 9:00 and arrived at my parent's house in Boynton Beach, Florida 1550 miles and 27-1/2 hours later. Joe and I left there Sunday afternoon and arrived at WSP about 6:00 pm. Opening day was hot, and by 4 PM my neck was red (redneck already?). My scope setup was on a grassy berm just 50 feet from the southern shore of West Summerland Key with Paul Valleli, Gary Jacobson and Brian Lula set up nearby. Monday night offered some clear skies and great observing weather, but the clouds kept coming and going. I must have hit the sack early that night because I was up by 6:00 on Tuesday and shooting pictures of the sunrise out over the water. Unfortunately Tuesday's clouds never cleared, but the absence of clear skies sent Gary and I down to Sloppy Joes on Duvall Street in Key West, where the people watching provided almost as much entertainment.

Wednesday looked like it would be clear, so I borrowed Paul's ToUCam and set up with my TV102 and a 2X TV Powermate. The stacked shots of Jupiter and Saturn, captured in 40 degree temperatures and 15-20 mile wind gusts, were my first using a webcam and certainly made a believer out of me. The shots were really, really good, and I only wish that I had a similar setup last August for Mars.

It was really super to see the Southern Cross rising out of the muck just above the western shore, followed by Eta Carina, Omega Centauri, and later Beta, then Alpha Centauri. I got some 30-second wide-angle tripod shots of these that look promising but need some processing before showing them off. Thursday night's weather was again bad, so I headed into Key West, this time for dinner with some friends from up north.

On Friday, the clouds just wouldn't let up, and at the door prize giveaway Tippy D'Auria announced that the National Weather Service predicted another bad night. But Attila Danko, author of the Clear Sky Clock that many of us use, came to the rescue. Attila had coded a cell phone version of the clear sky predictor especially for the WSP, and he and I tested it using my web-enabled cell phone. Atilla predicted that the skies would clear by 7:00 and stay until 12:00. Well he was a little off, because the skies didn't clear until 8:00, but they stayed clear at least until I hit the sleeping bag at 2:00.

Back to that door prize giveaway – my luck held out and I took away an Intes Micro Herschel Wedge, complete with 2" neutral 1000 and polarizing filters! I tried it out just after sunrise on Saturday and I'll tell you that it beats a Baader filter hands down. I have 2 Baader filters, a film version and a glass one, both white light. I can see sunspots pretty clearly with either of them, but the wedge gave me much more surface detail, and I can't wait to try it out with higher power closer to midday.

Gary, Joe and I packed up later Saturday morning – Gary off to rejoin his family in Orlando, and Joe and I off to lunch with my parents before the long drive home. I met some wonderful people down there, including the machinist that worked on the first Parallax Instruments Series 125 mount; my mount to be specific, and some great people from Germany, England, Canada, and about 15 of the states.

Will I do it again next year? Well this was reported to be the worst weather for any of the previous 19 WSP's, so odds are that next year will

be better. The fire ants that plagued some folks never touched my skin. But I may go off next year in search of darker skies, perhaps to Texas or Okie-Tex. But if Florida sounds inviting in the middle of February, especially if next Febraury is like this February, then my recommendation is to be one of the first 600 people to sign up for WSP 2005. It is a sellout every year.

ATMoB & STM Members at WSP – 2004 Pictured are: (standing l-r)
Paul Valleli, Gary Jacobson, Bruce Berger, Alan 'Rif' Rifkin (STM), Tom C. (STM) and kneeling, Tony Costanza (STM)

Star Party Thank You

The star party at the Hennigan school went off very well, thanks to the participation of the following ATMOB members: Eileen Myer, Virginia Renehan, Dan Windchell, and Tony Flanders. We had students and parents from one 5th grade class, and some students from two others. All together between 30 & 40 people attended. We viewed Venus, Moon, Mars, Saturn, Jupiter, Orion Nebula, & M35 under clear skies & average seeing. Many thanks again to those who helped.

Howard Le Vaux