



# STAR FIELDS

NEWSLETTER OF THE AMATEUR TELESCOPE MAKERS OF BOSTON, INC.

Vol. 3, No. 1

January 1992

## OUR JANUARY MEETING...

Thursday, January 9, 1991, 8 p.m.  
Phillips Auditorium, Harvard-Smithsonian  
Center for Astrophysics

**THE PROCESS OF ALUMINIZING MIRRORS** is the subject of this month's talk by Timothy J. Loomis of Vacucoat, Inc., Amherst, NH.

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Join us for a 5:45 p.m. pre-meeting dinner with our speaker at the Marino Ristorante & Market, 2465 Mass. Ave., Cambridge, MA., 617-868-5454.

## DECEMBER MEETING HIGHLIGHTS...

Our December meeting was attended by about 63 members and guests. The Secretary read the minutes of last month's meeting and announced that Deep Sky and Telescope Making magazines will cease publication with the January issue. Because of dismal November weather and poor clubhouse attendance, the Observing and Workshop Committee Chairmen had little to report. The Treasurer announced that our loan to the Alcon 91 committee was repaid along with a profit of about the same amount. The president informed us that Member-at-large, John Reed, had resigned his office and that the Executive Board appointed Anna Hillier to fill this position until our June elections. Marion also asked for a volunteer to coordinate Astronomy Day activities and one to be responsible for meeting refreshments. Vice President, Bernie Volz, agreed to lead the Astronomy Day activities. A couple of members raised objections to the way the Executive Board approved the purchase of CAT for the club's Maksutov. David Aucoin gave a report from Stellafane on the progress of the observatory for the 13-inch Shupmann. Phil Rounseville said that he and Scott Milligan are finishing up the optics for the scope and are striving for a 1/30 wave system. First light may be in April. Mario Motta described how he succeeded in replacing mercury lamps on his street with more acceptable lighting. Only a month after announcing he was going to begin a 32-inch mirror, Mario showed us the now 81 lb mirror blank that had been beautifully honey combed by sandblasting. Of course, our December meeting would not be complete without Tal Mentall's annual recitation of "Twas the Night Before Christmas" which seemed to be done with particular gusto this year. Finally, our speaker, Dr. Nathaniel Carleton, described an interferometric optical array of three 45-cm

telescopes to be built on Mt. Hopkins in Arizona. The array will have a baseline of from 5 to 37 meters and will be primarily working at the 2 micron wavelength. It will be used to research star diameters and surface features, circumstellar phenomena, and active galactic nuclei.

## A VISIT TO YERKES OBSERVATORY

by Ken Laurie

I had a great time visiting former ATM'er John Briggs at the Yerkes Observatory, Williams Bay, Wisconsin in mid-November. John is a member of the observatory staff working on a variety of interesting projects, one of which is a plan to set up an observatory at the South Pole. The previous week's finger-crossing and clean living paid off because the night I visited was clear, and I had a chance to observe with the 40-inch refractor while John set up some instrumentation for a laser artificial guide star experiment that he is also involved with. The scope has a 63 ft. focal length, so even with a big erfle eyepiece, I was viewing the moon at over 400x, practically moving from crater to crater along the terminator. It's not a scope to use on a Messier marathon, since the moving parts weigh 25 tons, and you take a long walk with the eyepiece end every time you move to another part of the sky! The handling in comparison with a 41-inch Cassegrain I used later that night was like the difference between a cruise ship and a motorboat! I'll show a few slides of my visit at the next show-and-tell meeting.

## THINGS YOU MAY WANT TO KNOW...

DEEP SKY and TELESCOPE MAKING magazines will cease publication with the January issue. Odyssey will continue publication by Cobblestone Publishers, Peterboro, NH. Those with subscriptions to these magazines will be notified by mail as to how their remaining subscription will be redeemed. -- Ed Los

ASTRONOMY DAY 1992 is May 9. Our Vice President, Bernie Volz (508-881-3614) is the ATMofB coordinator for this event that will be held again at the Boston Museum of Science. Bernie has already talked to our contact there Noreen Grice, Education Coordinator, Hayden Planetarium. She would like our participation by: (1) giving talks on topics like asteroids, comets, and meteoroids to mesh with their CosmoScope show, (2) presenting an exhibit of amateur astronomy including mirror making demos and solar observing, and (3) taking part, especially with telescopes, in the evening star party. Let's starting thinking now about how to best

present the ATMoB to the public and how to make this event extra special this year. Everyone interested in taking part in this annual event contact Bernie or sign-up at the January meeting.

THE ALCON 91 FINANCIAL ACCOUNT has been closed by John Reed and I and the balance has been turned over to ATMoB Treasurer, Tony Costanzo. A summary of the proceeds is:

\$500.00	Return of ATMoB advance
\$136.00	Proceeds of \$1 per registrant
\$429.00	ATMoB share of the profit
\$565.00	Net Income.

Even with the eclipse and bad economy, we were able to generate a profit. The ATMoB should seriously consider hosting a future national or regional convention not only because it is a worthwhile activity, but also generates revenue. --Bernie Volz

SIGN-UP FOR BAXTER DARK SKIES TRIP now to reserve space for the dates you want. Choose any number of days within the 2 week period prior to Labor Day (Sept. 7). The fee of \$3 per day must also be paid when you sign up. Contact me at 617-391-9290 or at the meeting. --John Samolyk

AN ANTIQUE TELESCOPE SOCIETY group is currently being formed, and as the name suggests, will be concerned with the history, use, restoration, etc. of old telescopes. It is being organized by Bart Fried, 514 Launfall Rd., Plymouth Meeting, PA 19462 (215-278-0123). Future plans include a convention at the Naval Observatory, a periodical, and other events. If your interested, contact Bart Fried. --Ken Laurie

AN OPEN INVITATION TO OBSERVE JUPITER on Friday or Saturday nights from now through this Spring with the 18-inch refractor in Amherst still stands (see Dec. *STAR FIELDS*). Bernie Volz (508-881-3614) will organize a car pooling trip if there is enough interest. Directions to the observatory:

Rt. 2 West to Rt. 202 South, to Rt. 9 West, to Rt 116 South, to Snell St. (3rd right on Rt 116S). The observatory is on a dirt road (on left) off Snell St. Or, take Mass. Pike (I-90) West to Rt. 32 (Palmer), to Rt. 181 North, to Rt. 202 North, to Rt. 9 West, to Rt. 116 South to Snell St.

ATMoB PROCEEDS FROM THE SALE of the Spectroscope kits is \$30. Those who ordered kits, but haven't picked them up yet see me at the January meeting. --Ted Poulos

WE WELCOME NEW ATMoB MEMBER Robert Royce of Northford, CT. We are starting the 1992 with a total of 261 members, down a little from last year at this time.

LEONARD BARISANO of Attleboro, MA passed away recently. Leonard was a member of the the ATMoB since 1975 and was the individual who donated the optics of our club's 16-inch telescope.

DOES ANYONE HAVE A COPY of the ATMoB By-Laws whose last amendment date is June 10, 1982. I would

like to collect all versions of the by-laws and write an amendment history. --Dick Koolish

### **ATMoB ACTIVITIES...**

THE STAR PARTY for the Killam School, Reading, MA is scheduled for Friday, Feb. 7 at 7 p.m. with a snow date of Feb. 14 reports Ed Wallner (508-358-7938) ATMoB coordinator of this event. The location is the school at 333 Charles St., Reading. Take Route 123 to Exit 40, "Rt. 129 Wakefield Center, N. Reading." Follow rotary to "Haverhill St." sign (Rt. 129 E.). Follow Haverhill St. for 0.9 miles to Wakefield St. Turn left on Wakefield for 0.3 miles to Charles and turn right for one block to Killam school on the right. Park on right side or in front of school. A warmup room will be available to talk to and show the students star charts. Debbie McCulley (617-944-1770) is the school contact.

AN ECLIPSE PHOTO by ATM'er Joseph Rothchild won Astronomy magazine's 'Best Wide-angle View.' The photo published on page 41 in the November 1991 issue showed the eclipsed sun plus the planets Mercury, Jupiter, Mars and Venus. Congratulations Joseph!

RECENT DONATIONS TO THE CLUB. Steve Cariddi of the *Starry Messenger* gave us a 17 minute videotape of eclipse day at La Paz. Bernie Volz is appending it to the other eclipse videotapes so the club archives will have a record of the event. Former member, Mike Hurwitz, donated a file of information concerning telescope-related patents which he compiled during research for a possible book. Mike moved to the darker skies of Arizona, and discontinued his research. The file is at the clubhouse. Ken Laurie donated a carousel projector to the club which also is at the clubhouse. Thank you all for your donations.

JOHN REED, a former Member at Large, co-chairman of Alcon 91, and a very active member of the ATMoB must curtail some of his activities for a while for reasons of health. We all wish him the very best, thank him sincerely for all the past work he has done for the club, and await his active participation again.

GALAXIES by Timothy Ferris, original large, hardcover edition that sold for \$75 is available for a donation of \$15 or more. Only a few copies left. Contact Steve Mock 617-825-5870.

PLEASE ADVISE THE PRESIDENT a week or so in advance of our meeting if you plan to raise any new or old business that will require a discussion by the membership. This is the only way I can establish a workable agenda for our meetings. --Marion Hochuli

RICHARD KOOLISH SENT A LETTER to the Executive Board members dated 12-17-91. It was in response to the board's approval at their Sept. 28th meeting to the purchase of a CAT for the club's Maksutov scope. The gist of the two page letter was that because there were only five board members present when the by-laws call for a minimum of six, any decisions made by the board

are therefore void. The approval of the CAT has been withdrawn until the subject has been voted on by the membership.

To quote from the letter, "In order to help prevent problems like this from occurring in the future, I am proposing the following amendment to the by-laws..."

**AMENDMENT:** Article VIII, Executive Board: Section 5: Reports: All of the actions taken at all meetings of the Executive Board shall be reported to the members of the corporation. They shall be reported by the secretary at the next regular meeting of the corporation and shall be published in the next regular notice sent to members of the corporation.

**IS THIS AMENDMENT NECESSARY** since the by-laws already state in Article VII, Section 4, Secretary: "The Secretary shall keep...a true record of all meetings of the corporation and Executive Board in a book to be kept therefor at the principle place of business of the corporation, which shall be the property of the corporation and open at all reasonable times to the inspection of any member of the corporation". The minutes of our monthly and Executive Board meetings have been made available at every meeting in the ATMoB Reference Book always available on the rear table. If the membership wants a reading of the Executive Board minutes and their publication in *STAR FIELDS*, this can be done by simply requesting it without need of an amendment to the by-laws. --Ted Poulos

### **ATMoB MEMBER PROFILE...**

"I like to observe" said Paul Comba a long time ATMoB member. And what does he observe? Asteroids. Of the some 4000 and rapidly growing list of new asteroids, Paul has logged in some 520 since he began observing them in 1976. This was no easy feat considering these objects are nearly all 13-14 magnitude, his observations are made from Brookline, and he must make at least two observations separated by a couple of hours in order to confirm by the object's movement that he has found the asteroid. Nevertheless, Paul says he enjoys the hunt. He recently traded-in his C8 on a C11 because he reached the limit of the C8's aperture. Paul was born in Italy where he became interested in astronomy as a boy by pouring over the solar system section of his brother's encyclopedia and then began observing as a teenager with a 4-inch brass refractor. In the 1950's, he became professor of mathematics at the University of Hawaii and later moved to this area where for the past 30 years he has worked on software development for IBM in Cambridge. Having recently retired from IBM, he now plans to move to Prescott, AZ in a few months where he plans to build an observatory, and continue his asteroid observations under darker skies. If this spurs your interest in asteroid observing, get yourself a good 14 mag. atlas (Paul has used two photographic atlases, the Falkauer Atlas and Atlas Stellarum) and a subscription to the Minor Planet Observer, Box 818, Florissant, CO 80816 (\$17 per Yr.).

**BAXTER**

by George Tucker

crystal stream  
blue sky  
near mountains  
tame deer

distant cities  
cast shadows  
upon  
the land

stars circle  
thoughts wander  
to  
city cares

a moment  
in flight  
return  
to earth

### **NEED FOR A CAT ACCESSORY?...**

At the September 28th Executive Board meeting, our Observing Chairman, Ed Dougherty, presented a proposal for adding a CAT accessory to the club's 6-inch Maksutov telescope. He felt we needed the convenience of this accessory when we conduct public observing sessions for scouts, students, and other young people as well as inexperienced new members and other visitors. The motivation of these individuals is to look through a telescope and see something they have not seen before. It should be our purpose to satisfy this curiosity by showing them a variety of celestial objects and maybe turn them on to astronomy. In these situations, it frustrating to wait in line at the scope while your host is trying to find an object. Sure we have members who are great "star hoppers", but frequently they are not around on Saturday nights at the clubhouse. Others, therefore, must fill in and a CAT accessory can be a real security blanket for them. Observing should be the important thing and the telescope just a tool, and the most convenient to use tool is the best one. In any case, let's discuss this issue and resolve it. --Ted Poulos

### **A DIFFERENT APPROACH TO PLANETARY CCD IMAGING, PART 3**

by Ed Dougherty

All solar system images except the terminator of the moon suffer from deceptively low contrast. But after a few minutes of visual observing, the brain makes a correction and images appear better than they really are. Like the eye, an electronic imager can vary the apparent contrast, but to a much greater degree. The final electronic image can have almost any contrast and brightness level we desire by just adjusting a couple of controls. An electronic system can actually exceed the contrast ability of the eye or photographic film by a large factor and bring out detail lost to all other techniques.

Finally, if the CCD imager provides a real time signal in the standard composite video TV format, it can be viewed on any number and type of standard monitors, or TV sets simultaneously, and can be transmitted and recorded with normal low cost VCRs and Camcorders. It's an easy task to connect your TV set to a real time CCD camera and watch Jupiter occult a satellite on the living room TV with your family and friends!

To record a planetary image with a CCD system like mine, you adjust the variable magnification to make the image fill the frame and focus the image while watching the monitor. Optimize the brightness and contrast using the remote control box controls. Record a few minutes of images during the best seeing moments on a standard VCR. Later, off line, we select the individual best seeing images from the video tape and using standard electronic techniques "stack them" in the same fashion we do with photographic negatives to produce a final composite image. The result is that the short exposures take advantage of brief moments of good seeing, and stacking averages out much of the noise and

variability. With atmospheric turbulence effects essentially eliminated, and the contrast and brightness enhanced, we become limited only by the diffraction effects of the optical system. Or are we? But this is another story for a future article.

**EDITOR'S NOTE:** To see how a Japanese amateur has used similar techniques to those Ed has been describing, see "Using a CCD on the Planets", S&T, Feb. 1992, pages 209-215.

### **MARKETPLACE...**

**FOR SALE** 13-inch Dobsonian that is available for examining at the clubhouse. Price \$400. An Astroscan telescope. Price \$225. Call Monique Reed, 817-881-8031.

**FOR SALE** Tandy Color Computer II with disk drive and monochrome monitor. Great for a young person of someone wanting to learn BASIC. Price \$45. Call Ted Poulos, 817-568-5127.

**FOR SALE** 10-inch, f/10 Galaxy mirror with enhanced coating and Novak cell, 2-1/4" cervit diagonal, curved spider diagonal holder, 2" short Novak R&P focuser. Lot price \$800. 1-1/4" R&P focuser, \$20.

### **EXECUTIVE BOARD 1991-92...**

**PRESIDENT:** Marlon Hochull, 803-888-0141  
**VICE PRESIDENT:** Bernard Volz, 508-881-3814  
**SECRETARY:** Ted J. Poulos, 817-568-5127  
**MEMBERSHIP SEC:** Edward J. Los, 803-880-6219  
**TREASURER:** Anthony Costanzo, 508-521-4209  
**MEMBERS AT LARGE:** Mario Motta, 817-334-3648  
Anna Hillier, 817-881-8338  
**PAST PRESIDENTS:** 1989-90 David Aucoin  
1987-89 Gary Walker  
1985-87 E. Talmadge Mentall

### **COMMITTEES...**

**OBSERVING:** Edward Dougherty, 508-458-8857  
**WORKSHOP:** Greg Chase, 817-272-9394

JMI Motofocus for Newtonian focuser, \$75. Steve Mock 817-825-5970.

**WANTED** Telescope Making #30 to complete my collection. Call Bob Collera 817-275-9482.

**FOR SALE** Quantum 4, a 4-inch Maksutov, enhanced silvered mirrors, recently aligned by manufacturer, with mount, drive, camera adapter, 18 mm Claude Plossl, and original wooden case. Price \$1350. Peter Bealo, 603-382-7039.

### **FEBRUARY STAR FIELDS DEADLINE...**

January 29th is the deadline for items to be included in the February issue of *STAR FIELDS*. Mail or phone your contribution to Ted Poulos, 18 Cushing Rd., Brookline, MA 02146 (817-568-5127).

### **HOW TO FIND US...**

**MEETINGS:** Held the second Thursday of each month (September to July) at 8 p.m. in Phillips Auditorium, Harvard-Smithsonian Center for Astrophysics, 60 Garden St., Cambridge, MA. Parking available on the grounds.

**CLUBHOUSE:** Open every Saturday from mid-afternoon to late evening. It is the white farmhouse on the grounds of MIT's Haystack Observatory in Westford, MA. Take Rt. 3 north from Rt. 128 or 495 to exit 33 and proceed west on Rt. 40 for 5 miles. Turn right at the MIT Lincoln Lab, Haystack Observatory sign at the Groton town line. Proceed to the farmhouse on the left side of the road. Since clubhouse attendance varies with the weather and other activities, it is wise to call ahead: 508-692-8708.

**FIRST CLASS**

AMATEUR TELESCOPE MAKERS OF BOSTON  
c/o Edward J. Los  
7 Cheyenne Drive  
Nashua, NH 03083