



STAR FIELDS

NEWSLETTER OF THE AMATEUR TELESCOPE MAKERS OF BOSTON, INC.

Vol. 3, No. 2

February 1992

OUR FEBRUARY MEETING...

Thursday, February 13, 1991, 8 p.m.
Phillips Auditorium, Harvard-Smithsonian
Center for Astrophysics

THE UNIVERSE THROUGH ROSAT COLORED GLASSES -- X-Ray Astronomy Today is the title of this month's talk by Dr. Rick Harnden, a research physicist at the CfA and a native of Pittsfield, MA. Dr. Harnden received his BS from Yale in 1967 and his PhD from Rice University in 1972. He is both an instrument designer and X-Ray astronomer. He worked on the Einstein X-Ray Observatory project and did analysis of data from this highly successful spacecraft.

Join us for a 5:45 p.m. pre-meeting dinner with our speaker at Joyce Chen's restaurant, Rindge Avenue, at Route 16 near the Route 2 rotary in Cambridge.

JANUARY MEETING HIGHLIGHTS...

About 55 members and guests attended our January meeting. The usual executive reports were given. The president announced that Committee Chairmen and other executive budgets for the period of Feb. 1 to Sept. 1992 are due by Feb. 1. She reminded us that this was the third time she has requested the budgets required by the by-laws. At a short Executive Board meeting following the regular meeting, the date of Feb. 9 was set for a board meeting at the clubhouse to approve these budgets. Ed Dougherty gave a report on the status of the club's 20-inch scope and asked how we should proceed further with it. A active and fruitful discussion ensued which lead to a decision to hold a meeting early in February at the clubhouse to plan how an observatory can be built to house the scope. The president circulated a sign-up sheet for those interested in working on the 20-inch project. She then asked for a discussion of the CAT accessory issue. Another good discussion followed. Finally, a show of hands was requested to indicate the membership's feelings on whether this purchase should be made. About 31 favored the purchase and 8 opposed it. The board will decide this issue at a future meeting. Dick Koolish reviewed his letter to the board and his proposed amendment to the by-laws. The amendment will be voted on at the February meeting. Kevin McCarthy announced that he has gained possession of a 70-inch, f/8 fused silica mirror and discussed with members how it might be used. Mario Motta asked for anyone who

would like take part in the Lynnfield School system's March/April sessions on astronomy. John Samolyk took Baxter trip reservations and Bernie Voiz asked for members who want to give talks on Astronomy Day to contact him. Copies of a new club membership list was made available by Ed Los. Finally, our speaker Timothy Loomis of Vacucoat gave us a run down on the steps necessary to properly strip, clean, and aluminize a mirror.

WILL THE 20-INCH SEE FIRST LIGHT IN '92...

Well it looks encouraging again to judge from the active discussion of the club's 20-inch scope at the last meeting, and the large number of members signing up to work on the project. A clubhouse meeting is scheduled for Saturday, Feb. 15 at 7 p.m. to discuss ways to build an observatory for the telescope. All members interested are urged to attend. Also we need someone to come forward and act as leader and coordinator of this project.

To summarize the history and present status of the ATMoB 20-inch telescope, I've gathered the following information from various individuals. If anyone can add further details to this story, please contact me and I will continue to make updates.

The 20-inch mirror blank was given to the club by Dr. Harlow Shapley. Purportedly, it was a blank used to test the 'new' Pyrex glass for the 200-inch mirror. According to Ken Launie, the first reference to the design of an ATMoB 20-inch telescope was in a tongue-in-cheek article in the Jan-Feb 1938 issue of The Telescope (see ATMoB Bulletin, May 1987). However, the blank and scope's early history is fuzzy. Ed Knight remembers making a protective crate for the blank in the 50's. The early grinding of the mirror was probably done under the supervision of Jim Gagen (now deceased) by Charles Avila and Chester Cook. One or more tubes and mounts for the scope were started or completed in the past, but are no longer to be found. The final figuring and testing of the mirror was done in the 1970's by Dennis DiCicco. He has a notebook of test data and says that the mirror has a figure of 1/4 to 1/3 wave and if used with a 8-inch diagonal probably 1/4 wave.

In the summer of 1987, a committee of Gary Walker, Ed Dougherty, Scott Milligan and maybe others was formed with the intent of making a trailer mounted Dobsonian that would allow transporting the scope to

dark skies. Between the formation of this committee and now, the telescope's current tube and mount were designed and built by Gary Walker. It currently consists of an open frame tube and a split yoke equatorial mount both made of wood. It is a folded Newtonian design with a focal length of 100 inches. Over the past year, Ed Dougherty has beefed-up the structure with aluminium, and added motor drives to both the right ascension and declination axes. He completed a nine point suspension cell for the nearly 100 lb. primary mirror and the supports for the secondary and tertiary mirrors. The 8-inch secondary mirror was ground and polished by Larry Sullivan. The tertiary mirror and 2-inch focuser were purchased. The scope is now fully assembled and laser aligned and is located in Ed Dougherty's basement. All it now needs is for the optics to be aluminized and an observatory to house it.

--Ted Poulos

THINGS YOU MAY WANT TO KNOW...

THE ANNUAL LOWELL LECTURES at the Boston Museum of Science will be held this year at 7:30 p.m. on five successive Wednesday nights beginning April 1. Their theme is: Once Invisible--Astronomical Discoveries of the Space Age. Tickets for each lecture are free, but must be requested in advance by sending a S.A.S.E. to 1992 Lowell Astronomy Lectures, Hayden Planetarium, Science Park, Boston, MA 02114-1099. There is a limit of four (4) tickets per lecture. Requests for more than eight tickets, require additional postage. The lecture titles are:

- April 1 "Cosmic Discovery" Martin Harwit, Dir. National Air and Space Museum.
- April 8 "COBE, GRO, and the Big Bang" Robert Kirshner, CfA.
- April 15 "Surprises From the Space Telescope" Eric Chaisson, ST Science Institute.
- April 22 "Magellan's Circumnavigation of Venus" John Wood, CfA.
- April 29 "The X-Ray Sky: Einstein to AXAF" Harvey Tananbaum, CfA.

STUNNING CCD IMAGES OF SATURN obtained by amateur astronomer, Donald Parker of Coral Gables, Florida were published in Astronomy (Jan. 1992, p. 90) and CCD News (Winter, 1991). He used a 16-inch f/16

reflector with a Spectrasource Lynxx CCD camera and a 1.3 sec. exposure. The images (computer processed by Richard Berry's software) show the planet's rotating and changing cloud features and attest to Don's expertise, the quality of the relatively low cost Lynxx camera, and the advanced state of amateur CCD imaging and image processing. Incidentally, Don Parker took part in Alcon 91.

THE STATE OF MAINE has passed a new light pollution law that took effect Jan. 1, 1992. It requires that new outdoor lights paid for by the state to be aimed downward so they don't light up the sky. It also requires officials to consider alternatives to new highway lights, such as lower speed limits, reflectors and lines. The law does not apply to private properties. The bill's sponsor said an amateur astronomer who was having trouble seeing the stars because of diffused light in the sky helped to inspire the bill. --IDA Newsletter #13

AN ASTRONOMY FORUM sponsored by the Rockland County Amateur Astronomers will be held on Saturday, March 14 at the Rockland Community College in Suffern, NY. Registration is \$4 before March 1 and \$5 thereafter. Al Nagler will be exhibiting and will off 70% off on eyepieces that have small cosmetic flaws. For more info call Al Green, 914-735-4163 --Marion Hochuli

DARK SUCKER THEORY. For years, it has been believed that electric bulbs emitted a substance or energy called light. Recent information has proven otherwise. Electric bulbs don't emit light, they suck dark. Thus we call these bulbs dark suckers.--Ames Sundusters Newsletter via IDA NWS #13

ATMoB ACTIVITIES...

NEW OBSERVERS who would like help in learning to find their way around the night sky, use a telescope more effectively, or assistance in any other observational need, contact DICK KOOLISH, Arlington, MA (617-646-6086). He is the Inaugurator and first volunteer in a new ATMoB Observer's Guide program. It is a 'grass roots' effort to provide one-on-one observing assistance to anyone requesting it. Watch for additional volunteers to our Observer's Guide cadre.

THANKS TO STELITA CRONIN for continuing to provide us with refreshments at our monthly meetings. She certainly could use some help though. Volunteers

ROSE IS ROSE by Pat Brady

Courtesy of Ken Launie



should contact Marion Hochuli, 603-888-0141.

AN AMENDMENT TO THE ATMob BY-LAWS was proposed by DICK KOOLISH in January and will be voted upon at the February meeting. Passage requires the affirmative vote of two thirds of the members present. The amendment reads as follows: Article VIII, Executive Board: Section 5: Reports: All 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.

THE 6-INCH GREGORIAN telescope made by PHIL ROUNSEVILLE was one of the 10 top telescope ideas of 1991 according to an article in the January issue of S&T. Congratulations Phil, your hard work on this scope has been rewarded again!

CONGRATULATIONS to BOB KOSAKOWSKI and his wife on the birth of their son in December.

OUR MAY MEETING will be held on FRIDAY evening May 15. Our speaker will be Bruce Schwoegler, weatherman from WCVB-TV.

THE ATMob WELCOME the following new members, and we hope that you and other recent new members will take an active part in our club. Let us hear of your interests, activities, ideas, and needs.

Michael R. Beath	Brighton, MA
Scott Garren	Brookline, MA
Daniel E. Robedeau	Amherst, NH
Bryan D. Stone	Chelmsford, MA
Paul E. Shanabrook	Dracut, MA

ANOTHER APPROACH TO VIDEO IMAGING...

by Ted Poulos

In the past three issues of *STAR FIELDS* one way of using a video camera in astronomy was described by Ed Dougherty. Another way to capture moon, sun, and planetary images with a video camera is to use a computer and a frame grabber. This method is still limited to imaging bright objects because of the 0.033 second maximum exposure permitted by the standard TV video frame rate. However, this technique has the advantage of permitting computer image processing and the digitizing of existing photos and slides. Even real color imaging is possible by combining three images taken through red, green, and blue filters.

The frame grabber is a computer interface device that takes as its input a standard TV signal from a video camera, camcorder, VCR, or laser disk player. It grabs one frame of video in real time (1/60 sec.) and digitizes the picture and stores it in computer memory and as a disk file. The image file can then be displayed at any time in black and white on the computer's monitor and/or image processed, printed, or imported to other computer programs.

I recently bought the Supervision 8 frame grabber recommended by Compute magazine and made by IDEC, Inc., 1195 Doylestown Pike, Quakertown, PA 18951, 215-538-2600. This unit is relatively low priced (\$270). It is a half size plug-in card for any PC or clone that is equipped with either a VGA monochrome or color monitor. The card provides an image resolution of 256 x 244 pixels and 256 levels of gray even though monitors can only display 64 gray tones. Software is supplied that allows you to capture the image, save it in a .TIF or one of three other popular file formats, print it using a dot matrix or laser printer, and perform basic image processing functions on the image. My unit performs very well in its initial tests, and I particularly like one feature that allows you to view a real-time video image on the computer monitor (updated 5 times per sec.) before you press the Esc key to capture a frame. This makes the focusing task easier. I plan to use the unit with a B&W CCD camera that has higher resolution and sensitivity than the one Ed used. I'll report on how the system performs astronomically in the future.

There is another moderately priced frame grabber that is a stand alone unit that operates several years from a 9-volt lithium battery. It can be located near your telescope and connected to your computer located 25 to 50 ft away by means a cable and the computer's serial port. Pressing a button on the unit grabs a video frame and stores it in the unit's internal memory. The image can then be down loaded to the computer in 14 seconds at any convenient time. This frame grabber (PFG-1) has a resolution of 320 x 200 pixels and 64 gray levels. Its price is \$269 and is available from Portable Technologies, P.O. Box 20763, Castro Valley, CA 94546, 415-537-4954.

MARKETPLACE...

FOR SALE Criterion 6-inch f/8 Newtonian telescope, sturdy equatorial mount with clock drive. White fiberglass tube that rotates and adjusts for balance, etc. 2 eyepieces. Little used Near mint condition in original box. Price \$375. Jack Flanagan, 508-263-5533.

FOR SALE 10-inch, f/5.6 Newtonian with Dobsonian mount, E&W diagonal, Novak hardware. Mirror made by owner. Price \$500. Scott Milligan, 508-448-2596.

FOR SALE Alt-Azimuth mount, hand driven, with both table top mount tripod and full size Stitz medium weight tripod. Price \$75. John Reed, 617-861-8031.

FOR SALE An Astroscan telescope. Price \$225. John Reed, 617-861-8031.

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 \$600.

1-1/4" R&P focuser, \$20. JMI Motofocus for Newtonian focuser, \$75. Steve Mock 617-625-5870.

WANTED TO BUY Telescope Making #30 to complete my collection. Offering \$5. Bob Collara 617-275-9482.

WANTED TO BUY A 14-inch or larger mirror. B. Van Boomen, 29 Gilgil St., Charlesville 7490, South Africa.

FOR SALE Quantum 4, a 4-inch Maksutov, enhanced silvered mirrors, recently aligned by manufacturer, with mount, drive, camera adapter, 16 mm Clave Plossl, and original wooden case. Price \$1350. Peter Bealo, 603-382-7039.

COMING EVENTS...

Feb. 9 ATMoB EXECUTIVE BOARD MEETING at the clubhouse at 6 p.m.

Thru June MYSTERY OF THE DARK MATTER and NIGHTSCAPES: A TOUR OF THE NEW

EXECUTIVE BOARD 1991-92...

PRESIDENT: Marion Hochull, 603-888-0141
VICE PRESIDENT: Bernard Volz, 508-881-3614
SECRETARY: Ted J. Poulos, 617-566-5127
MEMBERSHIP SEC: Edward J. Los, 603-880-6219
TREASURER: Anthony Costanzo, 508-521-4209
MEMBERS AT LARGE: Mario Motta, 617-334-3648
 Anna Hillier, 617-861-8338
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, 617-272-9394

ENGLAND SKY at the Hayden Planetarium. For more info, call 617-723-2500.

Feb. 15 ATMoB CLUBHOUSE MEETING ON 20-INCH telescope, 7 p.m. For more info, call Ed Dougherty 508-458-8857.

Feb. 20 CfA MONTHLY OBSERVATORY NIGHTS, "Farthest, Brightest, Most Powerful: The Emerging View of Quasars" by Belinda Wiles, CfA, 8 P.M., Phillips Auditorium, CfA, Cambridge, MA. For more info call

MARCH STAR FIELDS DEADLINE...

February 27th 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 (617-566-5127).

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

Nashua, NH 03063
7 Cheyenne Drive
c/o Edward J. Los

AMATEUR TELESCOPE MAKERS OF BOSTON