



STAR FIELDS

NEWSLETTER OF THE AMATEUR TELESCOPE MAKERS OF BOSTON, INC.

Vol. 2, No. 5

May 1991

OUR MAY MEETING...

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

SOLAR CHROMOSPHERE STUDIES using the K (Ca II) spectral line is the subject of a talk to be given by Dr. Han Eitenbroek of the Center for Astrophysics. A solar researcher since 1985, Dr. Eitenbroek investigates how computer generated theoretical spectra match real spectra.

The chromosphere is the tenuous layer of gas, a few kilometers thick, that lies just above the sun's visible surface (photosphere). It derived its name (literally "color sphere") from the characteristic reddish-pink color it displays when it becomes visible for a few seconds at the onset and end of a solar eclipse. At other times it is too faint to be seen against the brilliance of the photosphere. It is studied at any time, however, by use of a spectrograph, the slit of which is placed tangent to the solar disc. Observations are then made in one of the wavelengths emitted by the chromosphere. It can be examined across the entire solar disc by means of a spectroheliograph or a monochromatic filter (see page 3).

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Join us for a pre-meeting dinner with our speaker at 5:45 p.m. at the Changsho Restaurant, located at 1712 Mass Ave. in Cambridge, near Linnean St.

AN AUCTION of astronomical stuff and other things will be held at our June meeting. All the proceeds from the sale of donated items and 10% of the sale price of member sold items will help swell the ATMob coffers.

APRIL'S MEETING HIGHLIGHTS...

Our April meeting was attended by about 53 individuals. Plans for Astronomy Day were reviewed by John Reed. Bernie Volz reminded everyone that they were welcome to join the Alcon 91 committee on their trip to UMass on Sunday, April 14. Dick Koolish announced the CfA will host a "Children's Night" on May 10. He also reminded everyone of a the PBS Monday nights series "The Shape of the World". David Aucoin collected orders for the HST kit, and Sai Vallabha sold copies of the beautiful book. Galaxies, at a bargain basement price. From the president's appointed group of six members, a nominating committee of three was elected via paper ballot (see

page 3). Marion Hochuli and Phil Roundesville discussed the possibility of conducting formal clubhouse mirror making classes starting this Fall under the tutelage of Phil.

The remainder of the meeting was devoted to a show and tell. Mario Motta showed a light weight, easily disassembled equatorial mount for a 6-inch refractor that he is taking to LaPaz. He reminded everyone that any such mount must be adjustable to the latitude of LaPaz, 24° 10', and permit the scope to be pointed nearly vertically, since the sun will be only 50 from the zenith. Ed Wallner showed slides from his trip to the southwest that included scenes from near the eclipse sight in Baha Calif. Photos of the Maria Mitchell Observatory on Nantucket were the subject of Anna Hillier's slide show. Phil Rounesville displayed his 6-inch Gregorian and described why this classic design was easier to build than a Schmidt-Cass. and how well it performs for planetary objects. By means of slides taken last Summer and Fall, Gary Walker showed us the building of his and Vladimir's 14 ft domed observatories in central NH. At this stage, only Gary's is enclosed; Vladimir's will completed this year. Finally, John Costello ended the show and tell with spectacular photos of fireworks over Boston and many other early morning scenes around the Hub and his hometown, Medford.

ATMoB ACTIVITIES...

On the night of March 16, STEVE MOCK (someone nicknamed him the "Mad Messier Maniac") observed a total of 68 Messier using his 14-inch Odyssey. According to the clubhouse log, he ended his marathon at 4:45 a.m. JOHN SAMOLYK was also present during most of this heroic event. A few nights later during the Pleiades occultation, March 20, JOSEPH ROTHCHILD conducted a star party at the Countryside school in Newton for two classes of second graders and their parents. Using a 4-inch refractor and a 10-inch Odyssey, the group of nearly 100 people got to observe four planets: Mercury, Venus, Mars, and Jupiter. On April 6, SCOTT MILLIGAN aligned the optics of the club's 6-inch Shupmann, but was unable to give it a star test because the clouds moved in. That same evening, over 12 members of the BU Astronomy Club and their sponsor, Dr. Kenneth Janes, visited the clubhouse. A brief break in the clouds allowed them to observe Venus, Jupiter, and M42. GREG CHASE took time out from managing our clubhouse to run in the Boston Marathon. STELITA CRONIN saw him after the

race and reported that Greg was exhausted, all wet, and hungry. Several member's telescopes were pointed skyward at the clubhouse on Friday, April 19 for use by David Heustis (Skyscrapers, Inc.) and his BMOS Telescopic Astronomy class.

ASTRONOMY DAY REPORT...

Thanks to all those ATM'ers that turned out and made Astronomy Day at the Boston Museum of Science a success again this year. The talks by TED POULOS, BERNIE VOLZ, and JOHN REED/MARGARITA DROZDOFF in Wright Theater were well attended. Several people expressed interest in the ATMob by requesting a copy of the next issue of *STAR FIELDS* on a signup sheet provided by MARION HOCHULI. STEVE MOCK set up a scope equipped with a T-Scanner on the plaza in front of the museum and attracted a lot of solar viewers. Mirror grinding was demonstrated in the Atrium by BRUNO NARDELLI, DANIEL FELDKHUN, and PHIL ROUNDSEVILLE. SCOTT MILLIGAN'S mirror grinding video was also shown continuously through the day. Video astronomy was beautifully demonstrated by ED DOUGHERTY with images on four monitors. TED KOCHANSKI, a new BMOS Exhibit Interpreter, was explaining astronomy to museum visitors using props on his astronomy cart. Telescopes were displayed by JOHN SAMOLKY, SAI VALLABHA, PHIL ROUNDSEVILLE, ED DOUGHERTY and TED POULOS. A special big thanks goes to JOHN REED for organizing this even and trucking a great deal of it to the museum. Thanks also to other members like PAUL CICHETTI and HARRY GOLD who helped out and others who gave moral support by just being there! Finally, we received a great letter of appreciation for our efforts from Noreen Grice, Education Coordinator of the Hayden Planetarium.

ATMoB/ALCON 91 UPDATE...

Although ALCON 91 planning continues with the committee members working on a millions of details, we still need YOUR help. First, REGISTER and do so as soon as possible! Second, volunteer YOUR help during the convention. We need assistance in:

- Manning the registration desk and ATMob "sales" desk.
- Helping to set-up and tear-down the various convention rooms.
- Running errands, such as picking up snack food, coffee, and juice at the supermarket for the hospitality suite.
- And many more such tasks!

Call John Reed (617-861-8031) and volunteer to help out with one of these tasks.

Third, we need members to conduct "how to" sessions for beginners in areas such as:

- Mirror grinding

- Mirror testing
- Telescope making
- Astrophotography (several sessions each evening covering a specific area)
- Observational techniques (again, several sessions for specific areas)
- And others you may be interested in conducting.

YOUR ideas are welcome. YOUR participation is NEEDED. Please call Paul Cicchetti (508-433-9215) for more details and to volunteer your help.

NOTE: Meal plans for children (under 12) are \$24.75 instead of \$30. Also children under 12 are free in the dorms, but you must supply your own cots.

ANNOUNCEMENTS...

THE JUNE ISSUE OF *STAR FIELDS* will be the last until September since we will not have formal meetings in either July or August. ATMob activities will, of course, not take a hiatus because we have the Solar Eclipse of July 11, the ATMob/ALCON 91 convention at UMass August 7-9, and Stellafane, August 9-10 to look forward to. Also clubhouse activity increases during the warm weather. The deadline for the next issue of *STAR FIELDS* is May 30. However, if you wait to the last minute, chances are there will be no room for your item. Send your contribution to Ted Poulos, 18 Cushing Rd., Brookline, MA 02146.

CALENDAR, EVENTS, or WHAT'S HAPPENING COLUMNS from your local newspaper with info on where to send calendar items are needed. Bernie Volz wants to compile a mailing list of these columns which we can use to promote ATMob activities. Bring them to the May meeting and give them to Bernie or Ted Poulos or send them to Bernie Volz, 1108 Windsor Ridge Dr., Westboro, MA 01581.

CLUBHOUSE OPENING AND CLOSING procedures training will be conducted by Greg Chase, Workshop Committee Chairman, on Saturday May 11 at 7 p.m. in

ASTRO-NOT by Rich Burrier



the clubhouse. Any member who wants to be on the authorized list for key sign out must complete this training. Next such training will not be conducted for at least 6 months.

IN RESPONSE TO THE MOSQUITO editorial in the April issue, ATMOB member, Alan Pugh of Holbrook, suggested a way of keep the mosquitoes off you by applying a diluted solution of Avon's bath oil 'Skin So Soft'. Being a bath oil, it certainly can't be as toxic as some of the ingredients in the commercial spray-on repellants. As soon as I can find an 'Avon Lady' I'm going to give it a try. Bernie Volz sent me info on a bat-house that could be installed on the clubhouse grounds to encourage bats to set up housekeeping. Apparently, New England Brown Bats eat up to 600 mosquitoes an hour. -- Ted Poulos

MEMBERSHIP RENEWAL must be made by August 24 (if you don't want an interruption in your S&T or other subscriptions). To save mailing costs, your renewal notice will not be sent to you separately this year, but instead will be included in the June issue of Star Fields. WATCH FOR IT, clip it out or xerox it, and send it together with your S&T renewal notice and check for \$35.00 (\$20.00 for students or members under 21) to our Membership Secretary: Edward J. Los, 7 Cheyenne Dr., Nashua, NH 03063.

ASTRONOMICAL SOFTWARE MEETING? Would you like to have one of our meetings this Fall devoted to the subject and demonstration of astronomical software? How should it be conducted, what should be included? Do you want to take part? Contact Carl Hein at our meetings or call him at 508-263-0076.

OUR ANNUAL ELECTION OF OFFICERS will take place at our June meeting. At this May meeting, the nominating committee of George East, Ken Laurie, and headed by Tal Mentall will announce their selection of candidates to fill the places of retiring officers and other members of the Executive Board. According to the club's By-Laws, members can offer additional nominations from the floor at the June meeting provided that written notice of the name(s) of the person(s) to be nominated, and the signatures of at least seven members is filed with the Secretary by not less than 10 days before the June meeting.

THE ATMOB AND AMATEUR ASTRONOMY promotional brochure has been reprinted in a more attractive format and is available for distribution to prospective new members. If you hear of someone (friend, relative, colleague, etc) that might be interested in the ATMOB or should be aware of our club, give the person(s) name and address to Ted Poulos so that he can send the individual(s) a copy. A membership application is part of the brochure.

ATMOB ECLIPSE EXPEDITION T-SHIRTS. I am taking orders for delivery in June. See me at the May meeting or order by phone (617-334-3648) or mail (806 Lowell St., Lynnfield, MA 01940. Price \$10. Please state size. -- Mario Motta

INTRODUCING THE SPECTROHELIOGRAPH...

by Ted Poulos

As background information for our talk this month, it seems appropriate to introduce one of the most important tools of the solar astronomer, the spectroheliograph (SH). Many amateurs are familiar with the hydrogen-alpha filter accessory for scopes which allows solar observation in light of the 656.3 nm wavelength of hydrogen. This interference type, monochromatic filter transmits light over a very narrow band of wavelengths (typically less than 0.1 nm wide) centered on the hydrogen alpha spectral line. The SH, devised by George Ellery Hale in 1892, accomplishes the same thing, but is more flexible because any wavelength can be selected for observation.

The SH is similar to any astronomical spectrograph except that it employs two slits, not only an entrance one but an exit one also. The entrance slit selects the light from a thin strip of the solar image. The light is optically collimated and allowed to fall on a series of prisms or a diffraction grating to produce a high dispersion spectrum. The spectrum appears as a ribbon of adjacent bands of color, but is actually made up of thousands of side by side slit images arranged in order of wavelength. A moveable exit slit is placed in the focal plane of the spectrum. It can be set to isolate any one wavelength and allow that light to fall on a photographic plate located behind the exit slit. If the image of the sun is allowed to drift across the entrance slit while the photographic plate is driven at the appropriate rate behind the exit slit, an image of the sun in the chosen wavelength will be produced on the film. This image is a spectroheliogram.

By use of the SH, chromospheric phenomena and prominences may be studied at any time over the entire solar disc. The sun can be observed in the light of hydrogen, calcium, helium or any other element. Incidentally, the SH works whether the selected wavelength is an emission (bright) or absorption (dark) line of an element. The dark lines in the solar spectrum only look dark in comparison to the background continuous spectrum; there is plenty of light in them to be recorded.

ASTRO-TRIVIA...

WHY WOULD IT BE TOUGH to see the Milky Way this month even if you had really dark skies? See bottom of page for the answer.

ALL METEORITES that fall or are found in the United States are included in the National Antiquities Act and must be given or sold to the Smithsonian Institution in Washington, D.C.

Answer: In Spring when Coma Berenices is nearly overhead and marking the direction of the north galactic pole, the Milky Way rings our horizon and is hidden in the haze.

MARKETPLACE...

FOR SALE Meade 2045 4-inch Schmidt-Cassegrain, fork mount, setting circles, motor drive, slow motion control, equatorial wedge and tripod. Accessories include carrying case, 5x24 rt. angle finder, and 6 and 25 mm eyepieces. \$800 or best offer. Joseph Gallo, 617-846-9356.

FOR SALE Motofocus for Meade LX5, LX6 and Motodec for 2080/2120 and LX2-6. Both brand new in original boxes, never used. Originally \$175, yours for \$99. Call Eric Burwen, 508-682-7755.

FOR SALE 3.5-inch standard Questar (circa 1972) with cervit mirror, special coating, piggy-back mount, and fully loaded with accessories. Star tests excellent. Interferometric test showed an honest 1/20 wave figure. \$2200. Call Phil Roundseville, 508-250-0217.

EXECUTIVE BOARD 1990-91...

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VICE PRESIDENT: Scott Milligan, 508-448-2596
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OBSERVING: John Reed, 617-861-8031
WORKSHOP: Greg Chase, 617-272-9394

FIRST CLASS

COMING EVENTS...

- May 6-20 THE ASTRONOMERS series on PBS Ch. 2, Monday nights 8 p.m.
- May 11 CLUBHOUSE PROCEDURES TRAINING, Greg Chase, 7 p.m. (see page 2).
- May 16 Cfa MONTHLY OBSERVATORY NIGHTS, "Finding Your Way Around the Night Sky: An Introduction to Backyard Observing" by Alan M. MacRobert, S&T, 8 P.M., Phillips Auditorium, Cfa, Cambridge, MA. For more info call 617-495-7461.
- May 18 VERNONscope AUCTION at Mapes Auction Gallery, Vestal, NY, 607-859-7000.

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.

REGISTER NOW!
DON'T MISS ATM/B/ALCON 91

AMATEUR TELESCOPE MAKERS OF BOSTON
c/o Edward J. Los
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