



STAR FIELDS

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

Vol. 13, No. 4 April 2002

This Month's Meeting...

Thursday, April 11th, 2002, at 8:00 PM
Phillips Auditorium, Harvard-Smithsonian
Center for Astrophysics

This Month's Speaker...

THIS MONTH'S speaker will be Josh Winn, and title of his talk will be "Gravitational Lenses." Josh is from Deerfield, Illinois (near Chicago). Dr. Winn completed his undergraduate and graduate work at MIT, taking a one-year break in between to attend Cambridge University in England as a Fulbright scholar. He received his Ph.D. in physics last June, and is now an NSF postdoctoral fellow at the Harvard-Smithsonian Center for Astrophysics. Josh also writes occasional articles about science for *The Economist* and *Sky & Telescope*.

Join us for dinner at 5:45 PM at the Changsho Restaurant located at 1712 Mass Ave. in our fair city, Cambridge.

President's Message...

APRIL IS the month that marks the start of many fun astronomy related activities. See the list of upcoming events written in this newsletter.

We start this month with our first major event, Astronomy Day. **On Astronomy Day, Saturday April 20th**, our club will be one of many other astronomy clubs within the Northeast, along with several local schools and colleges, convening at the Museum of Science in Boston. We will be there for the entire day, showing the public what amateur and professional astronomers do, as well as defining educational opportunities.

The Astronomy Day exhibits will be on the second floor, green wing (inside the Nichol's Gallery) and basically just two floors up from where we have been setting up. There is a freight elevator that leads to that area from the first floor. There will be museum staff in the lobby to direct exhibitors to Nichol's Gallery starting at about 7:30 a.m. They will provide ATMob exhibitors with nametags so that we can freely come and go from the exhibit

halls. There will also be free parking for those people assisting at the ATMob table, presenting a talk, or setting up telescopes for solar or evening observing. People can temporarily park in the Museum driveway to unload. However all cars must be re-parked in the Museum Garage before 9 am. They will provide two tables and a VCR. They are asking that all groups have participatory activities for the people to do.

There are astronomy-related lectures throughout the day designed to capture the interest of the tyro. We typically have a hands-on demonstration of how to make a telescope mirror. We will need to bring some tarps to use in our mirror grinding demonstration area so that the floor doesn't get wet, as this particular area in the Museum has wall to wall carpeting.

Members also bring along their telescopes to demonstrate the differences and attributes between reflector and refractor telescopes. We also explain how amateurs contribute to science through the organization of the AAVSO. Others set up their telescopes outside on the sidewalks during the day to reveal stunning views of the sun with its associated sunspots and solar flares.

The day ends with a star party on the top floor of the museum's parking garage, planned for 8-10 p.m. This star party attracts hundreds of people and it gives many of them their first look through a real telescope. It is on the rooftop where all the magic happens. This is where those who have never looked up at the heavens to observe the stars naked eye or gleaned a view of the Orion nebula through a real telescope, begin to understand the power of the attraction of our hobby. You can see the excitement in their faces and hear it in their voices. It happens on those dark, clear nights looking up at the vast expanse of stars that they begin to experience this great sense of awe. It happens when they look through our simple instruments and see faint objects hundreds of light away. It happens every time we show up on Astronomy Day.

If you would like to help out and join in on the magic, contact me at work via email bcollara@agfa.com or call John Reed at 781-861-8031.

Don't forget to sign up for our Baxter State Park camping trip. The sign up sheet will be available at the next meeting, or contact me via bcollara@agfa.com. It's \$4 per night per person. The dates are from July 3 to July 11, 2002. **-Bob Collara, President-**

March's Minutes...

PRESIDENT BOB COLLARA opened the February meeting (745th) of the Amateur Telescope Makers of Boston, including the Bond Astronomical Club. GEORGE FOSTER provided the club with name tags which members wrote their names on and will wear at club meetings. Members spoke about their observations of the hypernova in M74. MARIO MOTTA explained that a hypernova is a super-luminous supernova, up to 100 times brighter than "normal" supernovae of type Ia, which occurs when very massive stars explode at the end of their nuclear lives. (The SN 2002ap progenitor star has been estimated at least 40 solar masses.) Members also commented on Comet Ikeya-Zhang ("ee-KAY-uh JONG"). Some members observed the comet from the rooftop just before the meeting.

Our speaker, Dr. Jay Pasachoff, spoke about the Sun and solar eclipses. He started by talking about discoveries made during solar eclipses. At an eclipse, when there is just a little ring of the

Sun's chromosphere showing, a slitless spectrum (light falling on a grating and allowed to disperse) produces rings of chromosphere in all of the different colors. French astronomer Pierre Jansson used this technique at a solar eclipse expedition to India 1868. He discovered helium by examining the yellow lines in the spectrum of the Sun, recognizing the lines that corresponded to sodium, and then carefully noticing another line that he found to be helium. Astrophysicists also looked at the corona spectroscopically, but could not identify some of the Sun's radiation since they could not be identified with those emitted by any of the then known chemical elements. They were attributed to a mysterious element, unknown on Earth, to which the name "coronium" was given. However, there are no gaps in the periodic table of the elements into which such a substance could be fitted, so it was eventually realized that it was a still unidentified element radiating under abnormal conditions. Later it was determined that coronium is found only when gases are at temperatures of millions of degrees. This discovery is what also led to our understanding that the solar corona is very hot. Dr. Pasachoff explained how X-rays are used today to see the corona and described several X-ray solar spacecraft. He showed photos of many different eclipses. The first good predictions of the path of an eclipse were made by Halley for the eclipse of 1715. New analysis by the French also shows that Halley was the first one to work out the Saros (about 18 years 11 days). The Babylonians actually used an 18-1/2 year Saros period based on the Moon.

At the end of the meeting Prof. Pasachoff autographed and sold copies of his latest books: *Peterson Field Guide to the Stars and Planets* and *Nearest Star: The Exciting Science of Our Sun*.

At the business meeting club officers gave their reports. The father of friend of the club CAROL O'CONNOR passed away, and Carol donated to the club her father's telescope along with his eyepieces. PAUL VALLELI TAPED taped the Chronicle TV show in which several ATMob members were interviewed. Paul edited a master tape without commercials and made several copies. The master copy was donated to the club. Anyone wanting a copy (\$2) should phone or email their request to the Club Secretary. The tape was shown at the meeting. MARIO MOTTA described his recent tour of Mt. Wilson. Bob spoke about the July ATMob Baxter State Park camping trip.

Bob announced that the Nominating Committee will be elected at the upcoming April meeting. The Nominating Committee will select a slate of candidates for 2002-2003 club elections. The slate will be announced in May. Elections will be held in June.

-Eileen Myers, Secretary-

Membership Report...

WE WARMLY welcome new members VIRGINIA RENEHAN from Gloucester MA and BRIAN LULA from Princeton MA.

The club wishes to convey its sincere sympathy to DAVE PROWTEN on the loss of his mother, and to MARION HOCHULI on the loss of her brother. -John Small, Membership Secretary-

Treasurer's Report...

FOR THE month of February, we had \$533.99 in revenue and \$23.30 in expenses for a net income of \$510.69 for the month.

As of February 28, 2002 our assets were:

Checking Account - Regular	\$ 12,997.46
Investments	\$ 26,001.67
Total Current Assets	\$ 38,999.13

Of the total, \$2,641.21 is in the Land Fund and \$155.00 is for clubhouse key deposits.

For the first 9 months of this fiscal year, we've had \$14,571.25 in revenue and \$11,339.30 in expenses for a net income of \$3,231.95. This compares with a net income of \$4,899.23 for the first 9 months of the previous fiscal year. -Bernie Volz, Treasurer-

Clubhouse Report...

Clubhouse Saturday Schedule

April 6	StarConn	Wesleyan University in Middleton CT
April 6	John Small	Tom Wolf
April 13	John Panaswich	Art Swedlow
April 20	ASTRONOMY DAY *** ATMoB members are needed to help out	Boston Museum of Science *** See President's Message for details
April 20	Peter Psyhos	Dave Richardson
April 27		Work Party #4
April 27	Dave Prowten	Gary Walker
May 4	Rich Burrier	John Panaswich
May 11	Steve Mock	Eileen Myers
May 18	NE Astronomy Forum	Rockland, NY
May 18	Bruce Berger	Mike Hill
May 25		Work Party #5
May 25	Steve Clougherty	Bruce Gerhard

TWO THINGS were accomplished at the last work party. The most significant was the assembly and starting of the Mosquito Magnet. It may be a little early, but it will start preventing some to those buggers from laying more eggs. The next thing we did was erect a temporary frame wall inside the new observatory, paralleling the east side. This will be used in the next several weeks to support the wall once the blocks are removed from the box beams and the rails and wheels are installed. Thanks to BRUCE BERGER, DICK KOOLISH, PETER PSYHOS, and ART SWEDLOW. -Paul Cicchetti-

Observing Report...

A FEW of the "die-hards" hung on long enough to do a mini-Messier marathon on Saturday March 16. A good number of folks arrived at the clubhouse early Saturday evening anticipating clear skies. However, clouds rolled in by 7:30 PM and we were completely clouded out! Miraculously, STEVE MOCK, JOHN REED and I hung in there and feasted on a wide variety of deep sky delights until 1AM!
-Steve Clougherty-

Two Comets Visible...

THE FOLLOWING was taken directly from *Sky & Telescope's* website <http://skyandtelescope.com/>

By April 6th **Comet Ikeya-Zhang** (C/2002 Cl) will be better placed for viewing in the morning sky, rising in the northeast about an hour before the Sun. Skywatchers in the Northern Hemisphere will likely get their best views in late April, when the comet makes a slow trek from Cassiopeia into Cepheus and then Draco. Use *Sky & Telescope's* interactive sky chart to plot the comet's path during April and May.

Comet Snyder-Murakami, C/2002 E is currently visible in medium-size telescopes as a 10th-magnitude glow moving north-northeast in the morning sky, from Aquila to Sagitta and then to Vulpecula. The comet should remain around 10th magnitude until early April, after which it will slowly begin to fade. Amateur CCD imagers should be able to keep track of it throughout spring and beyond.

(The website <http://www.spaceweather.com> may also have information on locating the comets.)

Astronomy Events Calendar 2002...

April 6	StarConn	Wesleyan University Middletown CT
April 20	ASTRONOMY DAY *** ATMoB members are needed to help out	Boston Museum of Science *** See President's Message for details
May 18-19	North East Astronomy Forum & Telescope Show	Rockland NY (Used to be held nearby in Suffern NY)
June 15	ATMoB Club Picnic	Clubhouse Westford MA
July 3 - 14	ATMoB Camping	Baxter State Park, Maine
July 12-14	Arunah Hill Days	Cummington MA
August 9-10	Stellafane	Springfield VT
September 6-8	Connecticut Star Party	Colebrook CT
September 6-8	Conjunction	Northfield MA
September 14	ATMoB Club Picnic	Clubhouse Westford MA
October 5	Astro Assembly	North Scituate RI
October 25-26	AAVSO and International Dark-Sky Association Fall Meeting	Boston

Star Party Thank You's...

THE SKIES cooperated with the ATMoB organization on the night of March 21st at the Morey Elementary School in Lowell. Science Specialist Pat Keegan organized a long-awaited Star Party, where over two hundred children and their parents enjoyed the wonders of the heavens, after an excellent slideshow presentation by BILL TOOMEY. After telescope viewing, they enjoyed homemade chili, cake, cookies, snack crackers, and juices provided by the teachers. My personal thanks to CHARLIE MCDONALD and JOHN SMALL for their advice and support, and a tip of the hat to PETER BEALO for the excellent

planning guide. The telescopes were out in force that night: a Big Thanks to BRUCE BERGER, JOHN BLOMQUIST, MICHAEL CARNES, CHARLES EVANS, ED KNIGHT, ED LOS, EILEEN MYERS, INDIA WOOD, and prospective new member BERNIE KOSICKI. The next day there was a follow-up article in the *Lowell Sun*, with a picture of ED LOS and his scope. The kids are already

talking about “next year” and the teachers have critiqued the night’s activities. First on their list: more chili! **-Jack Drobot-**

AT A Wilmington Middle School star party CHARLIE MCDONALD returned the donation the school planned to give to the club. Instead the donation was used towards the purchase the Astroscan 2001 Telescope seen in the photo below. Shown in the photograph are Charlie McDonald, and Principal Suzanne Garfield accepting the donation. Also at the star party was retired engineer Dr. William Anderson, who had been involved in the effort to place the first cameras on Mars.



THE March 21st STAR party in Winchester took place, despite high winds and partial clouds. I thank PETER PSYHOS and JOHN REED for their help. **-Steve Clougherty-**

Upcoming Star Parties...

THERE WILL a Town of Harvard star party on Wednesday, May 8. It will be held at the Depot Rd. Soccer Field. Contact is Eileen Myers at starleen@charter.net

GARY JACOBSON and I are helping to co-sponsor an Art and Astronomy month at the Chelmsford Library. Events are planned for the whole month of May, but there will **be three observing sessions** during which we will **need the help of many ATMob volunteers:**

Saturday, May 4, 2002

Radio Astronomy

Astronomers from [Haystack Observatory](#) will do a demo of an SRT (radio telescope) at 11 a.m., and talk about the work they do at Haystack Observatory in Westford. I estimate this will take an hour or so, and all are invited to attend.

Solar viewing - in the library's parking lot just before and after the above program Solar observing will be from 10AM to 11AM, and then again from 12 Noon-?

Thursday, May 16, 2002 at sunset (set-up starting around 7:30pm) Note: Sunset is 8:15pm
Star Party I - at the Paul Murphy Field Soccer fields on Mill Road

Thursday, May 30, 2002 at sunset (set-up starting around 7:30pm) Note: Sunset is at 8:30pm
Star Party II - at the Paul Murphy Field Soccer fields on Mill Road

Directions to soccer fields: The star parties are at the soccer fields on Mill Road in Chelmsford. From Rte 3 take Exit 29 onto Rte 129 and head towards Chelmsford. Take a left at the very first light onto Elizabeth Drive and then stay left. You will be on Mill Road. The soccer fields will be about a mile down on your left. We'll try and put up signs ahead of time.

Please email me at berger@attbi.com if you can help.

Some of the other scheduled activities are: **Thursday, May 9** at 7:30 Kelly Beatty, executive editor of *Sky & Telescope*, *Telescope Clinic and How to Buy a Telescope*; **Thursday, May 23** - author Chet Raymo; **Wednesday, May 29** Kelly Beatty on light pollution. **For the complete schedule for the events in May:**

http://www.chelmsfordlibrary.org/programs/events/art_and_astro_nomy.html

-Bruce Berger-

Other News...

Dark Sky Bill Update...

I HAD a talk with Rep Jim Marzilli (Arlington) the sponsor of the Mass Dark Sky Bill. He states that for the first time ever, Rep. Finneran (Speaker of the House) has commented favorably on this Bill. This is a significant development, as the bill currently is in Ways.&.Means Committee, and nothing at the State House moves to the floor without Finneran being in favor of the bill. The bill may become part of a general energy legislation that is being developed. SO, just maybe, this is our year! As Legislative affairs person for the Massachusetts Medical Society, I have offered to go to any meeting to help push this, and will continue to keep all informed.

There is more good news. For the International Dark Sky (IDA) meeting at the Boston Museum of Science on October 25th this year, I have been in contact with John Kerry's staff (Richard Leavitt, advisor for energy matters, and Nancy Sullivan, his personal scheduler). I have also spoken personally with Senator John Kerry about dark sky issues. He is inclined toward our cause, and is considering being the Keynote speaker for the fall meeting. He apparently cannot give a commitment now, because the fall Senate schedule has not been made. I have sent all details to his staff and am hoping for word in the next few months. I will keep all informed as details come out. **-Mario Motta-**

1946 Grinding and Polishing Machine Article...

RECENTLY I was sent a copy of a paper on a grinding and polishing machine that had appeared in the March 1946 issue of *Popular Mechanics* that was referred to as a "power grinder" for grinding mirrors for telescopes. If any member would like a copy of

this, I will be glad to send copies. Just send me your e-mail and home address: Tom Lucia, 103Cogswell St., Haverhil, MA 01832
ftlucia@aol.com
-Tom Lucia-

Needed: Volunteer Scientists, Engineers, and Technology Experts...

A CLEARINGHOUSE of information on a wide range of volunteer opportunities for scientists, engineers, and technology experts in the Boston area is being put together to help out local grade and high schools.

Our very first volunteer, in what is still a network in development, was ATMoB member JERRY SKALA, who was very generous with his time and offered to be a judge in the recent Science Olympiad held at Framingham State College. The Cambridge Public Schools called on short notice, and while I sent out notices to a few professional groups, the only one that came through was ATMoB!

I know we have lots of very skilled people in our group, and I am just writing to make you aware of this, in case you have an interest. I am setting up a network of scientists (sciencecorp.org - in development) who will participate in whatever way works for their schedules and level of interest. We will be offering dozens of options for participation to enable people to contribute whatever time they feel comfortable with (e.g., one hour a month is OK) from wherever they want (from their home computer or in a classroom). For example, we are going to help answer teachers technical questions on new developments in science, tell them where to get additional info, materials, and so on, on the full range of scientific and technical disciplines.

This is not as intense as Project Astro, which is a great program, but requires more time than many people have. If you think you might be interested and want more info, send me an e-mail at some point in the next couple of months and I will send you the URL as soon as we get the website up and running (probably a month or so). I will NOT give your names to anyone. This is likely to be funded by the National Science Foundation. And thanks again to Jerry - the kids and teachers at the Cambridge Ringe and Latin School who participated in the Olympiad really appreciated the help! My email is kathleen_cunningham@abtassoc.co

-Kathy Cunningham-

Audio Pronunciation Guide...

AN AUDIO Star Pronunciation Guide can be found at:

<http://www.earthsky.com/Features/Skywatching/pronounce.html>

For Sale...

Best offer: Cave Astrola 12.5" f/5 telescope, German equatorial mount, motor drives on both axis, 8x50 finder, 3" guidescope, camera bracket, and manual. The tube has a good deal of peeling and is in need of a paint job. Call Don Greeley at 781-749-3645 or email at djgreeley1@cs.com

May Star Fields deadline is SUNDAY, April 28th

Email articles to Star Fields Editor / ATMoB Secretary

Eileen Myers at starleen@charter.net

Articles from members are always welcome.

POSTMASTER NOTE: First Class Postage Mailed April 5, 2002

Amateur Telescope Makers of Boston, Inc.
c/o John Small, Membership Secretary
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How to Find Us...Web Page www.atmob.org

MEETINGS: Held the second Thursday of each month (September to July) at 8:00PM in the Phillips Auditorium, Harvard-Smithsonian Center for Astrophysics, 60 Garden St., Cambridge MA. For INCLEMENT WEATHER CANCELLATION listen to WBZ (1030 AM)

CLUBHOUSE: Latitude 42° 36.5' N Longitude 71° 29.8' W

The Tom Britton Clubhouse is open every Saturday from 7 p.m. 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 Rt. 495 to Exit 33 and proceed West on Rt. 40 for five miles. Turn right at the MIT Lincoln Lab, Haystack Observatory at the Groton town line. Proceed to the farmhouse on left side of the road. Clubhouse attendance varies with the weather. It is wise to call in advance: (978) 692-8708.

Heads Up For April...

To calculate Eastern Daylight Time (EDT) from Universal Time (UT) subtract 4 from UT.

Comet Ikeya-Zhang (C/2002 C1) better placed for viewing in the morning sky, rising in the northeast about an hour before the Sun. Best views in late April, May. **Comet Snyder-Murakami**, C/2002 E2 10th-magnitude glow moving north-northeast in the morning sky, from Aquila to Sagitta and then to Vulpecula. Will soon fade. Apr 7 - Daylight Savings Time begins - change clocks forward. Evening planets: **Venus** (mag -4), **Jupiter** (mag -2.2 to -2.0), **Saturn** (mag +0.1), **Mars** (mag +1.5 to +1.6), **Mercury** (mag -1.5 to 0.0). **See them all, and the Moon, on Astronomy Day, Sat. April 20th.**

Sun Apr 7 - Double shadow transit on Jupiter 7:57pm EDT (23:57 UT) - Ganymede and Callisto.

Mon Apr 22 - Lyrid meteors peak at 10:30 UT, 15/hr, 49km/sec, radiant halfway between the bright star Vega in Lyra and mu Herculis. Print copy of NAMN star chart #3 at <http://www.namnmeteors.org/charts.html>. Go to www.spaceweather.com for the radio meteor rate and to listen to meteor radio echos.