



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. 2 February 2002

This Month's Meeting...

Thursday, February 14th, 2002, at 8:00 PM
Phillips Auditorium, Harvard-Smithsonian
Center for Astrophysics

This Month's Speaker...

THIS MONTH'S speakers will be ATMoB and AAVSO (American Association of Variable Star Observers) members MIKE HILL and ED LOS. The title of Mike's talk will be "Monitoring Solar Flare Activity with a VLF Radio Receiver". He will be talking about his equipment, observing program and his involvement with the AAVSO Solar Division. The title of Ed's talk will be "The McWilliams Magnetometer".

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...

OUR CLUB camping trip reservations for Baxter State Park have been confirmed for the nights of July 3rd through July 14th and departing on the day of July 15th. There will be a sign up sheet at the next meeting for you to indicate what nights you intend to stay. The cost is \$4.00 per person per night. A dollar of that fee will go to the club. There is limited space so please be sure to sign up early. This should be a really great trip. New Moon will be on the 10th so there should be plenty of dark sky.

Telescope making at the clubhouse continues. Several members believe BRUCE BERGER might be done with his mirror because during the last Clubhouse-Knife-Edge-Measuring-Marathon it measured out to 7th wave p-v on the wave front. But Bruce believes that the edge can be improved so he might attempt one last touch up. Go Bruce!

In the mean time, one of our younger members PAUL SOUNTSOV has been diligently working on his 8" f/6 mirror. He only works on the mirror Thursday nights at the clubhouse and has successfully hand ground the correct curve and has started to

polish out the mirror. Paul has done a fine job so far. He demonstrates true determination and persistence. Go Paul!

As a reminder, Astronomy Day at the Museum of Science will be held on the 20th of April this year. We could always use volunteers. Please join us.

-Bob Collara, President-

January's Minutes...

PRESIDENT BOB COLLARA opened the 744th meeting of the Amateur Telescope Makers of Boston, including the Bond Astronomical Club. Our guest speaker was Dr. Sun Kwok, professor of astronomy at the University of Calgary and Killam Fellow of the Canada Council for the Arts. The title of his talk was "The Beautiful Mysteries of Planetary Nebulae". Dr. Kwok began by stating that most stars will go through this PN phase, and not become supernovae. In 5 billion years the Sun will expand to 100 times its present size. It will take several hours to rise and set. It will be 3000 times more luminous when it reaches the Earth. Gas will stream from the surface of the Sun, and its nebula will become larger than the orbit of Pluto: many times the size of the solar system. PN expand at approximately 25km/sec, or 90,000 km/hr. The largest PN have sizes of about 2 LY. Their life span, however, is very short, just a small phase in the evolution of a star. The oldest PN detected so far has an age of about 40,000 years. Unlike stars, which radiate in all colors (continuous spectrum), planetary nebulae emit in specific colors and are like giant neon signs in the sky. The central star of a PN is old. It is the descendent of red giants and the precursor of a white dwarf. The discovery of a white dwarf in the Pleiades open cluster was the first indication that stars with huge masses do not become supernovae. Infrared and millimeter observations show that very old red giants are losing mass at rates of 600 trillion tons per second. With late-life weight loss, stars with masses up to 8 times that of the Sun can avoid becoming a supernova. A later developing fast wind acts like a snowplow, plowing through the previously ejected material to create the high-density planetary nebula's shell of excited gas. The morphology of these objects appears to be primarily butterfly shaped, and sometimes there are more than two lobes.

Dr. Kwok has two recent books on planetary nebulae published by the Cambridge University Press: "The Origin and Evolution of Planetary Nebulae" in 2000 and "Cosmic Butterflies" in 2001. The January 2002 issue of Sky & Telescope has an article written by Dr. Kwok.

At the business meeting club officers gave their reports. There were 326 members at the close of 2001. Clubhouse Director JOHN REED announced that he has now counted 90 meteors visible in all of his photos taken during the Leonid Meteor Shower. His conclusion was that the rate did not drop as twilight overtook the sky. Member-At-Large BRUCE BERGER announced that he has so far received over \$1200 in donations towards purchasing a Mosquito Magnet. STEVE CLOUGHERTY gave an Observing Report. ATMoB members present at the meeting voted to spend \$100 and renew the club's membership in the International Dark Sky Association (IDA). LOU COHEN and TOM CALDERWOOD announced the dates for three star parties they will be having. President BOB COLLARA gave more details about the Baxter State Park Camping Trip. Reservations have been made for July 3-14. It should be a fun trip, camping in the wilderness. Campers will

need to bring their own food. It takes an hour driving on a dirt road to get to the camping area. If they chose to do so, folks can hike all day until about 5PM or so, then eat, and then observe late into the night. No radios are allowed in the park. TV's Chronicle Magazine informed Membership Secretary JOHN SMALL that we will be told about 3-4 weeks prior when the footage shot at the clubhouse will be aired. Secretary EILEEN MYERS asked members to write short articles describing some of the interesting astronomy projects they are involved in for the club newsletter. Bob announced that at the February club meeting members would have the opportunity to present some of their own projects. Bob requested that members inform him about what they will be presenting. MARIO MOTTA ran an Observing Quiz/Face-off between experienced observers DAVID AUCOIN and STEVE MOCK.

-Eileen Myers, Secretary-



Cartoon by George Foster

Membership Report...

WE HAVE seven new members this month: RICHARD BAKER from Reading, ISAAC BLEICHER from Newton, JAMES CLEM from Cambridge, SIDDHARTHA DAS from Pelham NH, DAVE HURDIS from Narragansett RI, STEPHEN ODER from Littleton, and DAN SEVCENCO from Malden. Please extend a warm welcome to these new members.

A few members have expressed some mild interest in running for the membership secretary position this year. However, I would like to know if there is anyone 100% committed (I'll even settle for 25%) in running for this position. I will be happy to discuss the duties with you so you can make an informed decision. Please contact me at the meeting to discuss it.

-John Small, Membership Secretary-

Treasurer's Report...

FOR THE month of December, we had \$1,522.49 in revenue and \$1,407.46 in expenses for a net income of \$115.03 for the month.

As of December 31st, 2001 our assets were:

| | |
|----------------------------|--------------|
| Checking Account - Regular | \$ 18,972.45 |
| Investments | \$ 19,006.66 |
| Total Current Assets | \$ 37,979.11 |

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

-Bernie Volz, Treasurer-

Clubhouse Report...

Clubhouse Saturday Schedule

| February 9 | | Messier Marathon #1 |
|-----------------|------------------|---|
| February 9 | Bruce Gerhard | Art Swedlow |
| February 16 | Steve Clougherty | Phil Rounseville |
| February 23 | Eileen Myers | Dave Prowten |
| March 2 | | Work Party #2 |
| March 2 | Paul Cicchetti | Jack Drobot |
| March 9 | Dan Feldkhun | Lew Gramer |
| March 16 | | Messier Marathon #2 |
| March 16 | Steve Mock | Tom Wolf |
| March 23 | Henry Hopkinson | Jim Suslowicz |
| March 30 | | "No Blue Moon in 2002" Work Party #3 |
| March 30 | Rich Burrier | Steve Herzberg |

THE CLUBHOUSE hosted 63 member-visits during January: 31 for Thursday mirror grinding, 21 for Saturday and clear night observing, and 11 for the work efforts. Several short work sessions were followed by Work Party #1 on January 26th. The controller for the front porch light, found shorted and kaput, was replaced with a new battery backup "computer" controller. This required the enlarging of the switch box and covers inside the front door. The new controller procedures are posted on the bulletin board inside the front door.

The remaining textured wood on the roll-off observatory was painted with white stain; we now await Spring. The far barn was cleaned out and the structural wall enclosing the near barn was repaired to original condition. Work was started on the near barn cleanup. Thanks go to PAUL CICHETTI, BRUCE GERHARD, ED KNIGHT, GARY LAMBERT, NEW MEMBER STEVEN ODER, DAVE PROWTEN, PETER PSYHOS, and JOHN REED.

Testing of the new furnace continued under differing weather and operational conditions. There is no water in the oil. The flame peeper checked out ok. The air eductor was removed from the smoke pipe since it did not consistently improve furnace starting. The test with the chimney heater system showed it negatively affected furnace starting, so it will not be used. The furnace is now back in its original installed condition.

The furnace start procedure is like old times. Turn the red furnace shut off switch on and set the thermostat. Please note that the thermostat will shut off 4-degrees above the set temperature. The furnace may cut off one or more times during the startup, usually after a shudder or rumble. If it does, the green ignition light on the burner unit in front of the furnace (in the basement) shows 2-seconds on – 2 seconds off – 2 seconds on... until it resets itself

after its first and second cutoff during a start cycle. After the third cutoff, the green light blinks ½ second off – ½ second on – ½ second off, etc. until you reset the system by pushing and holding the button for One Minute or until the green light blinks twice. Release the button, and the system is reset. Once reset, the above sequence will repeat.

We need to learn how this problem is affected by outside temperatures. Please note on the daily sign-in sheet how many times the furnace cuts off each time you start the furnace. We will learn with your help.

The next work party is March 2nd, when the near barn and evaporator room work will continue.

-Paul Cicchetti and John Reed-

Astronomy Events Calendar 2002...

| | | |
|---------------------|---|--------------------------------------|
| April 6 | StarConn | Wesleyan University Middletown CT |
| April 20 | Astronomy Day | Boston Museum of Science |
| May 18-19 | North East Astronomy Forum & Telescope Show | Rockland 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...

AT THE Barrows Elementary School on January 22nd in Reading there were 11 telescopes and 200 people. I would like to acknowledge and thank those who helped out: PETER BEALO, MATT BENDANIEL, BOB COHEN, BOB COLLARA, JACK DROBOT, ED LOS, PETER PSYHOS, and non-members Matt Cilento, Paul Manning, and Tim Murphy.

AT THE Eveleth School in Marblehead there was a highly enthusiastic crowd of more than 300 in attendance at the first star party I have ever held for students so young. The students were in grades K – 2. I would like to thank BOB COHEN, JOHN REED,

and North Shore Astronomy Club members Jim Foy and Dave Malano, as well as the six parents who brought telescopes.

-Charlie McDonald-

Upcoming Star Parties...

Wednesday, February 13th (backup Friday, February 15th) at the West Somerville Neighborhood School.

-Tom Calderwood and Lou Cohen-

Wilmington Middle School on Tuesday, February 26 (or Thursday, February 28)

Birch Meadow Elementary School in Reading on Tuesday, March 19 (or March 20 or 21) 6:30 start time. 400 students expected.

Killam School in Reading on Monday, March 25 (or March 26 or 27 or 28) Start time 6:45.

Call me at 781-944-6140 to help or for information on any of these star parties.

-Charlie McDonald-

Project Starshine...

SEVERAL SMALL "STARSHINE" student satellites, covered by nearly 1000 small, front-surface aluminum mirrors polished by tens of thousands of students all over the world, are being deployed by NASA from Hitchhiker canisters in Space Shuttle cargo bays. Sunlight flashing from its mirrors was naked-eye visible against star background during certain recurring morning and evening twilight periods, allowing observers to measure the satellite's right ascension and declination by reference to known stars and record timings. The Starshine 4 satellite will be on the STS-114 Shuttle mission to the ISS on January of 2003. 1000 mirrors are needed. Schools are requested to submit an application for mirror polishing kits, which contain three mirrors. Students can polish them and send back the best two. For more information see <http://www.azinet.com/starshine/>

-Anna Hillier, Club Historian-

For Sale...

QUESTAR TELESCOPE, purchased on 12/18/67 (never been used). Asking price \$3,500 (will consider lower offers). Other accessories: carrying case, diagonal, Varipac II, lens cap, camera coupling. Contact John Hamelin (non-member) in Mansfield MA 508-339-7829. Examined but not tested by ATMoB members John Reed and Charlie McDonald.

March Star Fields deadline is SUNDAY, March 3rd

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 February 8, 2002

Amateur Telescope Makers of Boston, Inc.
c/o John Small, Membership Secretary
9 Bear Hill Terrace
Westford MA 01886-4225

FIRST CLASS

EXECUTIVE BOARD 2001-2002

| | | |
|-------------------|------------------|---|
| PRESIDENT: | Bob Collara | day (978) 284-5812 eve (781) 275-9482 |
| VICE PRES: | Steve Hertzberg | (617) 965-2858 |
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| 1996-98 | Peter Bealo | (603) 382-7039 |
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COMMITTEES

| | | |
|-----------------|-------------------|----------------|
| CLUBHOUSE DIRS: | Paul Cicchetti | (978) 433-9215 |
| | John Reed | (781) 861-8031 |
| | Steven Clougherty | (781) 784-3024 |
| HISTORIAN: | Anna Hillier | (781) 861-8338 |
| OBSERVING: | Richard Nugent | (508) 879-3498 |

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 February...

To calculate Eastern Standard Time (EST) from Universal Time (UT) in February subtract 5 from UT.

View **newly discovered and brightening SuperNova 2002ap** in NGC 628 (M74). See AAVSO website for exact location.

View the 9th-magnitude **comet spotted in the constellation Cetus**. It should continue to brighten as it approaches the Sun.

Wed Feb 20 Saturn 0.2° S of Moon. Occultation – don't miss it! For Boston the times are 7:32 PM – 8:45 PM See www.lunar-occultations.com/iota

Wed. Feb 27 Full Moon (Snow Moon, Hunger Moon, or Wolf Moon) largest of 2002. 20 UT - Moon at perigee 356,897 km. Large tides.

Sat. Mar 2 - Zodiacal Light visible in N latitudes in W after end of evening twilight for next two weeks. Look on clear Moonless nights 1 to 2 hours after sunset, around the middle of the ecliptic, near the sun, and the Gegenshein or couterglow, around midnight and around the part of the ecliptic high in the sky. They are caused by sunlight reflected from meteoric dust lying in the plane of the solar system and extending far out beyond the Earth.