



# ECLIPSE



*The Newsletter of the Barnard-Seyfert Astronomical Society*

**October 2002**

## FROM THE PRESIDENT

*by Joseph M. Boyd, Jr.*

As this is my first monthly President's Column in the Eclipse, I want to start by thanking you for the confidence you have placed in me by electing me president of the Barnard-Seyfert Astronomical Society. It is not only an honor, but also a privilege and a challenge, you have handed me. This Society was organized in 1928 and has been a focal point for amateur as well as professional astronomers in the Nashville area since that time. In a future column I will outline the illustrious history of this Society. At this time I simply say that we should continue to be the strong voice for astronomy in this area as those who went before us. They left us a legacy that we can and must fulfill. I look forward to the opportunity to serve you in the coming year.

I would be remiss if I did not express my personal appreciation to our outgoing president, Powell Hall, a true gentleman, whose shoes will be hard to fill. As past president, he will serve this coming year as a member of the board of directors, and will be our elder statesman. I will value his counsel and advice.

You have elected an excellent slate of officers and directors. You have a right to expect them to regularly attend the board of directors meetings as well as the membership meetings, to take an active part in the various activities of the Society, and to make all of our members feel like active participants in all of its affairs.

You have a right to know my vision for BSAS, so here are some of my plans for my term of office:

1. I plan to appoint a long range planning committee to recommend to the membership a set of goals and objectives for the next five years. Arriving at the recommendations will be a lot of work and may even take a lot of time, but the results will be worth every minute and every effort. It should be presented to the board of directors and then to the membership with a professional presentation. Then let the membership decide where it wants to go. If the members buy into the plan, they are likely to support it. It should not be a timid plan, either. The old quotation "make no little plans; they have no power to stir men's minds" is applicable here.

2. Just a few days ago we submitted the Application for Tax Exempt Status to the Internal Revenue Service. When this is approved, it will mean that donations and contributions to the BSAS will be deductible by the donor on his or her income tax return, as a charitable contribution. We must follow through to see that this application is approved, and then I plan to appoint a committee to prepare guidelines for soliciting contributions to help carry out our projects and to actually help in the solicitation.

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### MAGAZINE SUBSCRIPTIONS FOR BSAS MEMBERS

We are always able to accept requests for new and renewal yearly subscriptions to SKY AND TELESCOPE and ASTRONOMY from our members in good standing.

The current yearly rates are as follows:  
SKY AND TELESCOPE: \$29.95  
ASTRONOMY: \$29.00

Checks or Money Orders should be made out to the Barnard Seyfert Astronomical Society (BSAS) and sent to the Treasurer at the following address:

BSAS  
Dyer Observatory  
1000 Oman Drive  
Brentwood, TN 37027

### DUES INFORMATION

On your Eclipse mailing label is the expiration date for your current membership in the BSAS. There will be a two month grace period before any member's name is removed from the current mailing list. You will be receiving a number of warnings informing you that your membership is expiring.

Dues are \$20.00 per year for Regular and Family memberships and \$15.00 per year for Seniors (over 60 years of age), and \$10.00 for students (under 22 years of age). Please call the Dyer Observatory (373-4897) if you have questions. Dues can be sent to:

BSAS c/o Dyer Observatory  
1000 Oman Drive  
Brentwood, TN 37027

### THE ECLIPSE NEWSLETTER

Editor: Bill Griswold  
[bgriz@comcast.net](mailto:bgriz@comcast.net)

#### BSAS Officers:

Joe Boyd, President  
John Harrington, Vice President  
Evelyn Wright, Secretary  
A.G. Kasselberg, Treasurer  
Powell Hall, Immediate Past President

#### Board of Directors

Mike Benson  
John Bradford  
Bill Collins  
JanaRuth Ford  
Bill Griswold  
Kris McCall

Logo Photograph:  
Francisco Diego

## Special Meeting of the Barnard-Seyfert Astronomical Society Board of Directors on September 10, 2002

The special meeting of the Board of Directors was called to order at 7:12 PM on September 10, 2002 in the Jefferson Square Clubhouse by Board Chair Kris McCall. President Powell Hall and Secretary Evelyn Wright were present, with Vice President John Bradford arriving later in the meeting. Board members Mike Benson, Joe Boyd, Bill Griswold, and Lloyd Watkins were present. Also attending were Webmaster Bill Collins and club members Rocky Alvey, JanaRuth Ford, and Larry Southerland, with John Harrington arriving later. Treasurer A.G. Kasselberg (recovering from moving paraphernalia at Dyer Observatory) and Board member Dr. Douglas Hall were not present.

A motion to approve the minutes of the last board meeting as printed in "The Eclipse" was made, seconded, and approved unanimously. There was no treasurer's report due to the treasurer's absence.

Rocky Alvey reported that he and Lloyd Watkins had gone to look over the whole area at Camp Nakanawa, site of TNSP 2002, passing around pictures taken earlier in the day. The snack bar manned by BSAS will be open at select times. BSAS will be responsible for keeping the grounds clear of litter. The speaker schedule may be slightly modified from what is listed in the flyer. Approximately \$3000 has been received, but much of that will go to the camp for fees and meals. **BSAS members should turn in their TNSP 2002 registration applications and payment as soon as possible.** Kris noted that links to the event are on the Cumberland Science Museum website, and flyers are being sent with the monthly star charts Sudekum Planetarium distributes.

Powell Hall reported that he has ordered some Astronomy Calendars that he will sell at cost to those that contact him. Mike Benson noted that the Astronomy Magazine editor is now David Eicher.

Powell Hall will come up with an agenda for the next BSAS members meeting, and will talk with Lonnie Puterbaugh about ballots for the election of board members and officers. As Lonnie was not present, the slate of candidates was assumed to be the same as before:

President	Joe Boyd
Vice President	John Harrington
Secretary	open
Treasurer	A.G. Kasselberg
Director	JanaRuth Ford
Director	John Bradford
Director	(if needed) Bill Collins

The contract between Embassy Suites in Nashville and the Astronomical League has been signed for ALCon 2003. **Mike Benson needs people to volunteer for committee positions, especially publicity and registration.** He will host a meeting at his house on Sunday Sept. 15 at 6:00 PM and will send an email with directions to those that have expressed an interest in planning. The dates for ALCon 2003 are Tuesday July 8 for the executive committee meeting, and July 9-12 for the convention itself. Rocky Alvey mentioned that Vanderbilt has audio/visual equipment that BSAS could borrow.

John Harrington has received no response from The Ensworth School Project about his letter encouraging the use of cut-off lighting. Bill Collins noted that he knows one of the Ensworth board of directors, and tried to explain to him why this kind of lighting is helpful, which caused a round of applause from the group.

Joe Boyd reported that filing for tax-exempt status is waiting on a more detailed financial report from Treasurer A.G. Kasselberg. If the BSAS receives too much money for TNSP 2002 before the report is compiled and sent, the club may not be eligible to file for tax-exempt status.

Regarding Dr. Hall's surprise recognition of service dessert potluck, it was reported that chocolate is Dr. Hall's flavor of choice, with coconut and raspberry totally out of the running, although others will be glad to sample all desserts, no matter the ingredients. John Bradford has arranged for the plaque, and Dyer Observatory will provide soft drinks, plates, cups, and napkins. Powell Hall nominated Rocky Alvey, Mike Benson, John Bradford, and himself to a small committee who will talk about some of the things Dr. Hall has done for the club and astronomy in general.

The October BSAS meeting was considered as a time to give a reception for Dr. Rick Chappell, new Director of Dyer Observatory, since the previously considered date of the joint MTAS/BSAS picnic had already occurred on September 7, 2002 at rather short notice. JanaRuth Ford will ask if Dr. Chappell would like to address the group and discuss his plans for the future of Dyer Observatory.

Mike Benson reported that he has lined up Richard Schmude from Atlanta to speak at the December potluck dinner. Kris McCall noted that the Adventure Tower which was being worked on during last year's December meeting will be operational.

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(Special Meeting of the BSAS...September 10, 2002 , continued from page 2)

Bill Griswold will be out of town starting September 28, and asked that all articles for the October issue of "The Eclipse" be turned in very soon so that he has time to format them. Rocky Alvey noted that he is still being listed as the editor, and suggested that it be changed to Bill Griswold, since Bill is doing all of the work, now. Powell Hall made a motion to that effect which was seconded. Evelyn Wright noted that Bill Griswold had done a wonderful job since taking over the editorship, and the group agreed with applause. The vote was unanimous to accept Bill Griswold as the editor of "The Eclipse".

The next board meeting will be the required meeting of the new board of directors to be held immediately after the annual meeting of the membership, which will be on September 19. It was decided to wait until after the elections to decide when the October board meeting would be, but Kris McCall was leaning toward Tuesday October 8, 2002.

A motion to adjourn was made, seconded, approved, and Kris McCall declared the meeting adjourned at 8:52 PM.

**2002 Upcoming events**

F-Su	Oct	4-6		Camp Nakanawa	TNSP 2002
Tu	Oct	8?	7 PM	Jefferson Sq. Clubhouse	BSAS board meeting
Fri	Dec	13	730-930 PM	Warner Park(Geminids)	public star party

**2003 Upcoming events**

Fri	Feb	7	730-930 PM	Warner Park(Jup,Sat)	public star party
Fri	Apr	25	8-10 PM	Warner Park(Astro Day Eve)	public star party
Sa	Apr	26			Astronomy Day
T-Sa	Jul	8-12		Nashville	ALCon 2003
Sa	Aug	23	8-10 PM	Warner Park (Mars)	public star party

Respectfully submitted,  
Evelyn Wright, Secretary

**ASTRONOMY ITEMS FOR SALE**

BAUSCH AND LOMB CRITERION 4000 TELESCOPE SYSTEM ----- \$300.00  
4 inch SC scope with motor drive, setting circles and detachable legs with solid carrying case, large special finder-scope which is detachable (TELRAD), right angle adapter, 30mm and 8mm eyepieces, manual—excellent shape

TELESCOPE MOUNT ----- \$75.00  
6 foot very heavy 3 inch diameter with adjustable declination

Q BEAM BIG MAX ----- \$15.00  
A 400,000 candlepower spotlight, plugs into cigarette lighter of auto

AUDIOVOX — DC TO AC POWER INVERTER 100 WATTS ----- \$20.00  
Uses dc power from cigarette lighter to provide 120 ac power to telescope motor drive

CELESTRON 11 X 80 GIANT BINOCULARS ----- \$125.00  
Model "Comet Hunter" with fully coated lens, lens covers and carrying case  
These are heavy, therefore I have an attachment to anchor binoculars to a photographic tripod — ADAPTOR PLUS TRIPOD ----- \$20.00  
MODEL 50 BINOCULAR SUPPORT ----- \$35.00  
With straps that go across your shoulders and adjustable base, fits to your chest.

METAL ACCESSORY "SUITCASE" — 20" X 12" X 6.5" ----- \$20.00  
Very sturdy, metal, foam filling, great for lens, cameras and other accessories.

Call Robert Roy 665-1160 (Nashville)

## Minutes of Annual Membership Meeting of Barnard-Seyfert Astronomical Society on September 19, 2002

The meeting was called to order by President Powell Hall at 7:34 PM on Thursday, 19 September 2002 by President Powell Hall in the library of Dyer Observatory. Approximately 40 members and several visitors were present. Powell thanked everyone for the privilege of serving the BSAS and for their wonderful support after his heart attack, especially JanaRuth Ford for her help, and John Bradford for performing the duties of both President and Vice President during Powell's recuperation. Powell also noted that he has some Astronomy calendars for sale for \$9. The minutes of the last meeting stood approved as printed in "The Eclipse".

Outgoing Dyer Observatory Director Dr. Douglas Hall was presented with a plaque that read "In grateful appreciation of Dr. Douglas S. Hall from The Barnard-Seyfert Astronomical Society for Countless Years of Participation & Support — The Stars Will Remind Us." Mike Benson, Powell Hall, and John Bradford expressed their appreciation for Dr. Hall's friendship, instruction, and help over the years, and the hope that Dr. Hall will stay active in the coming years. Everyone was invited to enjoy the desserts (mostly chocolate) that had been brought in Dr. Hall's honor, and to socialize.

The business portion of the meeting began at 8:07 PM. Powell Hall listed the current officers and Lonnie Puterbaugh listed the nominees his committee recommended for the next terms. In each case, nominees were also accepted from the floor. All nominees were elected by acclamation. Those elected were:

President, 1 year	Joe Boyd (board member, immediate past Vice Chair)
V. President, 1 year	John Harrington (light pollution activist)
Secretary, 1 year	Evelyn Wright (immediate past Secretary)
Treasurer, 1 year	A.G. Kasselberg (immediate past Treasurer)
Director, 3 years	JanaRuth Ford (Dyer Observatory Program Director)
Director, 3 years	John Bradford (immediate past Vice President)
Director, 2 years	Bill Collins (Webmaster, filling out Joe Boyd's directorship)

Note: Powell Hall will fill the board director position for immediate past President.

A.G. Kasselberg gave the Treasurer's report noting that there was approximately \$1165.91 in the club's account that was not already earmarked for other things such as TNSP 2002 and magazine subscriptions. There is \$2683.21 in CDs. A.G. requested that anyone who is receiving "The Eclipse" in printed form change over to receiving it by email to cut down on the cost of printing, noting that the board had chosen to not publish the newsletter on the BSAS website. A.G. also noted that he will take membership dues and subscription requests/renewals for "Astronomy" and "Sky & Telescope" magazines at any time.

Rocky Alvey asked that everyone **sign up for TNSP 2002 as soon as possible** because 1) it raises money for the BSAS, and 2) it will be the best star party yet. He will have a program sent out in the next week.

Powell Hall asked Kris McCall if there was any board business to mention. She asked Joe Boyd who mentioned there would be a brief board meeting of the new board at the end of the membership meeting.

Mike Benson discussed ALCon 2003 which will be at the Embassy Suites Hotel (large pink building accessible from Elm Hill Pike in Donelson). There will be a lunch meeting at the hotel for those interested in helping with planning at 12:00 noon on September 30, 2002. The BSAS must soon have an ALCon 2003 Treasurer, and people to write letters to prospective vendors, speakers, and door prize contributors. The theme will be "The Next Decade in Amateur Astronomy". **Please contact Mike to volunteer to help with this national convention that would bring recognition to the BSAS.**

Joe Boyd expressed his appreciation for being selected president, and stated that he is looking forward to everyone participating in upcoming events.

JanaRuth mentioned that Dr. Chappell would appreciate feedback on changing the dates of Dyer Observatory's public nights from the second and fourth Thursdays to the second Thursday and fourth Friday. It was noted that there would be conflicts with high school football games and the public star party scheduled at Warner Park for Astronomy Day Eve.

With a reminder for board members to attend the board meeting immediately following, Powell Hall declared the meeting adjourned at 8:55 PM.

Respectfully submitted,  
Evelyn Wright, Secretary

**Special Meeting of the Barnard-Seyfert Astronomical Society  
Board of Directors on September 19, 2002**

The special meeting of the Board of Directors was called to order at 9:00 PM on September 19, 2002 in the Dyer Observatory Library by newly elected BSAS President Joe Boyd who is the board chair as dictated by the amended bylaws adopted on April 18, 2002. Vice President John Harrington, Secretary Evelyn Wright, Treasurer A.G. Kasselberg, and Past President Powell Hall were present, as were board members Mike Benson, John Bradford, Bill Collins, JanaRuth Ford, Bill Griswold, and Kris McCall. Also present were Lonnie Puterbaugh and Rocky Alvey.

Regarding a reception for the new Director of Dyer Observatory, Joe Boyd volunteered to contact Dr. Chappell to see if he would be willing to attend the October membership meeting and discuss his plans for the future of Dyer Observatory.

Joe Boyd will be making recommendations to fill out the program committee headed by Vice President John Harrington.

Due to TNSP 2002 occurring right after the normal board meeting date in October, a motion was made to set Tuesday, October 8, 2002 at 7 PM as the date and time for the October meeting of the board members. The motion was seconded, discussed, and passed unanimously. Joe Boyd will make a request for the Jefferson Square clubhouse for that night. John Bradford and JanaRuth Ford volunteered to arrange for refreshments for that board meeting.

Joe Boyd will send a letter to find out the status of the club's application to become tax-exempt. Something should be known 60 days after receipt of the application.

Joe Boyd asked for a motion that a suitable plaque be arranged for outgoing President Powell Hall to be presented at the October membership meeting. John Bradford so moved, Mike Benson seconded, and John Bradford will arrange for the plaque. Joe Boyd also asked for authorization for a certificate of appreciation for outgoing Board Chair Kris McCall. A motion to do both was made, seconded, and unanimously approved.

JanaRuth Ford was authorized to contact Dyer Observatory personnel to find out if the club can have access to the past publications and documents of The Barnard-Seyfert Astronomical Society and its predecessor for the club's archive. Some of these documents go back to 1928.

A.G. Kasselberg recommended that actual costs for a minutes book and paper be found out before making a motion to approve a dollar amount for them.

A motion was made to adopt the policy of allowing current and former members of the BSAS to place classified ads regarding astronomical items for sale in "The Eclipse", but the BSAS website classified ad policy will not be affected. The motion passed with no dissenting votes.

Bill Griswold noted that the deadline for submitting items for the October Eclipse was October 24.

It was determined that Kris McCall would still be the coordinator of public star parties for the various parks and organizations in the area. She noted there would be a conflict on Friday, April 25, 2003 if Dyer Observatory changes its star party schedule from the second and fourth Thursdays to the second Thursday and fourth Friday.

With everyone's approval, Joe Boyd declared the meeting adjourned at 9:36 PM.

Respectfully submitted,  
Evelyn Wright, Secretary

**THE BERGQUIST C-14 TELESCOPE STEWARD LIST**

Our club telescope is available for use by club members on a first-come basis. To use the telescope please call the person who is assigned for that night you choose. Please give the stewards as much notice as possible.

Monday - Mike Benson 615-883-6571  
Tuesday - Lonnie Puterbaugh 615-661-9540  
Wednesday - A.G. Kasselberg 615-661-0231  
Thursday - Lloyd Watkins 615-824-3005  
Friday - John Bradford 615-871-9542  
& Powell Hall 615-872-0162  
Saturday - Jim Reid 615-595-6589  
Sunday - Tom Murdic 615-794-6029  
Alternate - Dudley Pitts 615-837-2696

## Happy Birthday Henry Norris Russell

*by Robin Byrne*

This month we celebrate the birth of a man who, like so many others we have honored, is remembered for only a small part of his vast career.

Henry Norris Russell was born on October 25, 1877 in Oyster Bay, New York. The son of a Presbyterian minister, at the age of 5 Henry's parents showed him something not many get to see: a transit of Venus across the Sun. This was the beginning of Russell's interest in astronomy.

Henry was schooled at home until the age of 12 when he went to the Princeton preparatory school and later to Princeton University. Russell graduated in 1897 with the highest distinction earned to that date by any undergraduate student. Henry remained at Princeton for graduate school. It was at this time that he developed a new way of determining the orbits of visual binary stars. He also did some planetary studies. Henry Norris Russell received his PhD in 1900.

After graduation, Russell worked at the observatories at Cambridge. He was working on a new technique of determining stellar distances photographically. He also continued his work on binary star orbits, but now working on a method that could be used for spectroscopic binaries.

In 1905, Russell returned to Princeton, but now as an instructor. He became director of the university observatory in 1911, and became research associate at Mount Wilson Observatory in 1921.

Russell continued his work on binary stars. His work now concentrated on determining the masses of the stars based on their orbits. He also worked on a technique that used the orbit and mass of binary stars to determine their distance. And, if that weren't enough, he also pioneered the study of eclipsing binaries.

While working on distances to stars, Russell realized that stars fell into two general groups: high luminosity and low luminosity. It was at this time that Ejnar Hertzsprung had shown that low and high luminosity stars had similar spectra. In 1913, Henry Norris Russell plotted luminosity vs. spectral type for a group of stars. What he found was that there is a relationship between a star's spectral classification and its true brightness (absolute magnitude). This relationship became a powerful tool in determining stellar distances. By measuring a star's apparent magnitude and knowing its absolute magnitude the distance could be calculated. This relationship between luminosity and spectral type is usually represented in a graph that is named in honor of the two men who developed it: the Hertzsprung-Russell (HR) Diagram. It was first published in 1914.

Russell went on to develop an interesting, although wrong, theory of stellar evolution in which stars start as large and red, contract becoming smaller and bluer, and then ending as small red stars. Russell also determined, from their spectra, that stars are composed mostly of hydrogen.

Russell took teaching very seriously and was very good at it. He wrote a text book, *Astronomy*, that was the first to include astrophysics and stellar astronomy. This changed the way astronomy was taught from that time on. Russell also was a popularizer of science and published several articles about astronomy and science. (The Carl Sagan of the early 20th century?)

Henry Norris Russell died on February 18, 1957 in Princeton, New Jersey at the age of 79. This man did so much for the study of stars. His work in binary stars helped to understand their orbits, masses and distances. And his study of stellar properties led to one of the most powerful relationships astronomers can use for determining the distances to far stars, thus expanding our knowledge of our galaxy. Although he may only be remembered as the R in HR Diagrams, Henry Norris Russell contributed much to astronomy that is worth remembering.

Reference: The New Encyclopaedia Britannica

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## HOT FLASH

*by Jerry Lappin*

The dog days of August are supposed to be behind us. Nonetheless, there are still some late outpourings from the overheated gray cells of astronomical wizards.

For example, lately, we've had a number of asteroids or dead comets come whizzing by Earth to cause a little consternation. Statistically speaking, it may be about time for another encounter like the one that dug that big hole in Arizona. Everyone seems to be suggesting ways to avoid an actual collision. Some have suggested we send a crew up to strap a big rocket to the rock and send it on its way. Others prefer to use an atomic bomb, either to blow the intruder into a billion small pieces, and what a meteor shower that would make, or, using a smaller charge, divert the threat. All of these assume that the rogue rock is one large chunk. Unfortunately, it appears that most of these bodies are anything but solid, being instead, loosely packed heaps of smaller stuff. Rockets and nuclear blasts would probably do little to change their orbits. Never fear, science always has another answer.

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(FROM THE PRESIDENT, continued from page 1

3. We must make certain the officers keep proper records. This is particularly important now that we have applied for Tax Exempt Status with the IRS. Although that Status will have great advantages to the Society, keeping it will require periodic submission of financial and other records, and it is imperative that they be accurate and current. It is just good business anyway. The same goes for the minutes of both the board meetings and the membership meetings. Since Evelyn Wright took over as secretary, the minutes have been superb. These are exactly what the minutes of a non profit corporation should be. However, going back and finding old minutes of BSAS is a nightmare. Apparently there was no minute book kept in recent years, and it is obvious that no minutes at all were taken of the board of directors meetings. The state law requires keeping minutes of both membership meetings and board meetings, and that they be made available to any member of the organization.

4. We now have an up to date and very workable set of bylaws for the organization. Their adoption gave us the structure to be able to accomplish many of the things all of us want to see happen. We must, however, make the bylaws accessible to all members, and we must be absolutely sure that we follow them. I would like to see every member receive a copy of the bylaws upon joining the BSAS.

5. We need to make drastic changes in how we absorb new members into BSAS. We need to have a new member's kit to present to every new member. It should include a booklet explaining what is available to our members, a copy of the bylaws, a copy of the goals and objectives adopted by the membership, and a copy of the membership list. This will make the new members feel a part of the organization from the start. I propose to appoint a membership committee, the duties of which can include the preparation of the membership kit. In addition, we need to revive our mentoring program.

6. We need to decide what our relationship with Dyer Observatory should be, and then implement it. The new Director of Dyer Observatory, Dr. Charles Richard (Rick) Chappell, has told the board some of his ideas and plans for the Observatory, and they include a strong relationship with the BSAS. Each of us, BSAS and Dyer Observatory, has something to contribute to the other. This time of change of directorship is a golden opportunity for us in the BSAS to have a voice in determining what our respective roles should be. Dr. Chappell will present his ideas to the membership at a future meeting.

7. We need to make a decision regarding the C-14 as well as the scope which we purchased about a year ago. I don't have an answer, but we need one quickly. I expect to appoint a committee to look into this matter and make recommendations.

8. We need to increase our efforts to gain more and better publicity for the BSAS and for astronomy in general. A public relations committee can help with that, and can make and maintain contacts with the various media.

9. We are in a position to offer our services to the children of the area. We should offer to send some of our members into the various schools to encourage an interest in astronomy. When we build interest in astronomy, we also build interest in science in general, something sadly lacking among the students in many of our schools.

I, for one, am VERY enthused about the prospects for BSAS. I can hardly wait to get started, and I look forward to working with every one of you. I hope to get every member involved, because YOU are the BSAS, and it is YOU who will make things happen.

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(HOT FLASH, continued from page 6)

Suppose we fit a rocket with a humongous boxing glove in the form of a kilometers-wide air bag. We then send he pugilistic probe on its way to give the flying rock pile a good punch in the nose. That should slow down all the little bits as they caught up with their retarded leaders and put the whole assembly into another, and hopefully, less dangerous orbit. This grand idea of Erik Asphang of the University of California, Santa Cruz, does involve a few engineering problems such as how to make such an air bag and how to be sure the punch right on the nose. Perhaps it could be tested on a smaller scale by punching out some of the debris from past space launches which is now orbiting the Earth.

**Happenings and Events**

October 1 - October 31, 2002

10/2 Conjunction, Moon and Jupiter

10/4-6 TENNESSEE STAR PARTY 2002! — Camp Nakawana, Crossville, TN

10/5 Zodiacal Light - N. Latitudes in East start of AM twilight (for next 2 weeks); Conj. Moon and Mars

10/6 NEW MOON (Large tides)

10/8 BSAS Board of Directors Meeting 7:00 P.M.

10/10 Dyer Observatory Public Night 7:00-9:00 P.M.; Mercury-Mars quasi-conjunction

10/12 COLUMBUS DAY

10/13 FIRST QUARTER MOON; Mercury at greatest elongation West

10/17 BSAS Club meeting, Dyer Observatory 7:30 P.M.

10/21 FULL MOON (the *Hunter's Moon*)

10/22 Orionid meteors peak

10/24 Dyer Observatory Youth Night 7:00-9:00 P.M.

10/26 Conjunction, Moon and Saturn

10/27 DAYLIGHT SAVING TIME ENDS!

10/29 LAST QUARTER MOON

10/31 HALLOWEEN! ; Venus in inferior conjunction

November 1 - November 30, 2002

11/2 Conj. Moon with Mars, Private Star Party, Natchez Trace site.

11/4 NEW MOON; Moon at Perigee (Large tides)

11/5 ELECTION DAY

11/7 BSAS Board of Directors Meeting 7:00 P.M.

11/9 Private Star Party - Natchez Trace Site

11/11 FIRST QUARTER MOON; Double shadow transit on Jupiter; VETERAN'S DAY

11/14 Dyer Observatory Public Night 7:00-9:00 P.M.; Mercury in superior conjunction (Sun occults Mercury)

11/16 Moon at apogee

11/19 Leonid Meteors Peak

11/20 FULL MOON, Penumbral eclipse

11/21 BSAS Club meeting, Dyer Observatory 7:30 P.M.

11/22 Conjunction, Moon and Saturn

11/26 Conjunction, Jupiter with Uranus

11/27 LAST QUARTER MOON

11/28 THANKSGIVING DAY

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BSAS c/o Dyer Observatory  
1000 Oman Drive  
Brentwood, TN 37027