

ECLIPSE



The Newsletter of the Barnard-Seyfert Astronomical Society

August 2002

President's Message

After three months absence due to illness, I was glad to be able to attend the July meeting of the B.S.A.S and to preside. The cordial welcome you gave me was gratifying. I thank John Bradford, our Vice President, for presiding when I was away as well as arranging for speakers. In July, I presided and John, himself was the speaker. In the President's Message next month, I hope to add a personal postscript to John's good suggestions to amateurs embarking on star gazing, by listing books, old and new, that I have found helpful.

This month I shall mention a curious fact concerning August's full moons and supplement that with a word about the planets and the Perseids.

The curious fact about the full moon in August is that it falls on a day of the month different from every other full moon the same year. This year Fall Moon is on August 22nd. In the other months of this year, ten full moons fall on the same date in two months - 28th of January and March, 26th of April & May, 24th of June and July, 21st of September and October, 19th of November and December. Besides August, only February has a full moon on a date not matched in another month. In 2003 and 2004, February will share dates with either March or April. August, however, will have an unmatched full moon date at least through 2006. Whether this curious little fact is only a temporary oddity, I cannot say.

(continued on page 2)

NOTICE BSAS ANNUAL MEETING OF MEMBERS AND ELECTIONS

The bylaws of the Barnard-Seyfert Astronomical Society were amended by a unanimous vote at the April 18, 2002 regular membership meeting such that this year's annual meeting of members occurs on Thursday, September 19th, 2002 at 7:30 pm at Dyer Observatory with the purpose of electing all officers and two board members.

Evelyn Wright, Secretary

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: Rocky Alvey
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Powell Hall, President
John Bradford, Vice President
Evelyn Wright, Secretary
A.G. Kasselberg, Treasurer
Board of Directors
Kris McCall, Ch.
Mike Benson
Douglas Hall
Joe Boyd
Lloyd Watkins
Bill Griswold

Logo Photograph:
Francisco Diego

Call for Content

by Bill Collins

Hi folks, many of you may not know me, so in way of introduction, I am the current webmaster for the BSAS website and have recently agreed to collect articles for the Eclipse Newsletter. I am writing this to encourage all of you to submit articles for the newsletter and images for the website. I know that many of you are experimenting with the newest technologies available to astronomers, both amateur and professional. Others have excellent knowledge and tips to share with beginners and some may have educational or entertaining stories to publish. Please write these down and send them to me.

I have taken on the task of reformatting text and even typing in articles that are handwritten. I then forward these on to our new Eclipse publisher, Bill Griswold. You may send me articles, either by e-mail or regular postal service. I will type in anything that is handwritten. If you have images to submit for the website, please e-mail them or send me a link where I may retrieve them.

Here are my addresses:

E-mail: bill24@bellsouth.net There is a link to this on the Officers page of the BSAS website at <http://bsasnashville.com>

Snail mail: Bill Collins
7780 Old Charlotte Pike
Nashville, TN 37209

Ideas for articles: Tips for beginners to remember pointer stars and constellations, Mythology about constellations, equipment reviews, trips you've taken that included astronomy (i.e., planetariums, observatories, star parties), book reviews, newest video and computer techniques. Let's hear it!

(President's Message, continued from Page 1)

The two largest planets, Jupiter and Saturn rise in the east before the Sun and are morning stars. The two planets nearest the Sun, Venus and mercury are in the western sky when darkness falls and so are evening stars. The other two gas-giant planets, Uranus and Neptune, are both in opposition this August and so are up all night. Both are in Capricornus, where Neptune will remain for some years. Uranus will move back into Aquarius and stay there for some years. These two planets, after being very close to each other in the sky, are slowly separating. Slow Uranus is leaving even slower Neptune behind. Mars is behind the Sun this August. Pluto is in Ophiuchus.

The Perseid meteors - August 11, 12, and 13 will mainly streak down after the waxing crescent moon has set, i.e. in the later part of the night.

by Powell Hall, President

HOT FLASHES

by Jerry Lappin

August seems to have come early this year with sunshine so bright it could broil your brain. To cool off that red-hot cranium what better way could there be than to allow your brain to drift out into the cold of intergalactic space.

While drifting there among the soothing clouds of ethanol and ice crystals, watching galaxies, quasars, black holes, pulsars and other wondrous cosmic bodies drift past, your thoughts might turn to cosmology. The most attractive thing about cosmology is that no thought or theory is too bizarre to contemplate and nothing is really for certain. Think about this for example. All cosmologists seem now to be in agreement about the age of the universe, between 12 and 13 billion years. But that was yesterday. NASA has just announced that the Hubble has observed a quasar with a red shift indicating that it is about 14.5 billion light years distant. A billion and a half light years too old, probably within experimental error you might think but there's more to this mystery. The spectrum of this quasar shows that it contains an abundance of iron, as much or more than our sun. We all know that iron is a late comer to the cosmos having been forged in the interior of giant stars in their fatal final explosion. Or, at least we think we know that. It took perhaps 6 billion years to accumulate the concentration of iron that's found in the sun. Could that quasar actually be something like 20 billion years old, almost twice as old as the universe? Ridiculous! Maybe there were a lot of "iron furnaces" spewing out iron in the early universe, but isn't that rather ridiculous too? Too much thinking about such things may not be so cooling to the mind and may lead you to believe that cosmology is just a quagmire of uncertainty. Don't worry. Be happy. A nice muddy quagmire is a good place to cool off. Just ask any pig, elephant or hippo.

TENNESSEE STAR PARTY

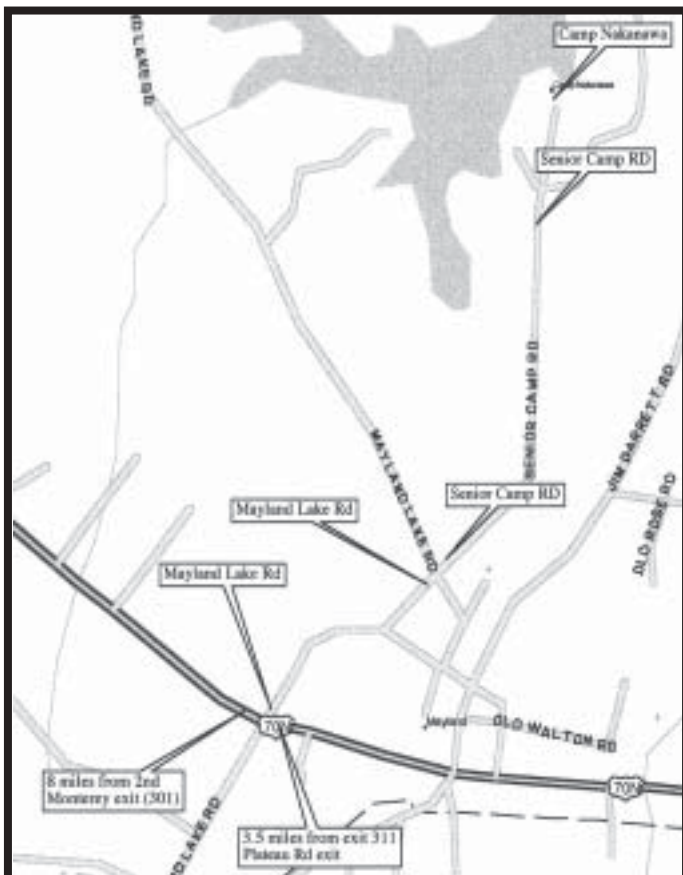
TNSP 2002

BY THE BARNARD-SEYFERT ASTRONOMICAL SOCIETY

October 4-6 at Camp Nakanawa

Have the time of your life with a weekend filled with astronomy.

- Fields filled with Telescopes
- Tons of Astronomy Equipment
- Learn how to do Astro Imaging
- Classes on Learning The Night Sky
- Live Demonstrations of CCD Imaging the Night Sky
- Build a telescope in our Telescope Making Workshops
- Demonstrations of Robotic Telescopes will be in field each night
- Hear talks from astronomers on THE CUTTING EDGE of RESEARCH
- Renowned Author RICHARD BERRY will speak about image processing
- THE ISS-AT TEAM will be there telling about the SPACE TELESCOPE for AMATEURS and MUCH MUCH MORE!!!



Instructions, How to get there.

From the West

From I-40, exit 301 (2nd Monterey exit) turn right onto Hwy 70 and go 8.0 miles to Mayland Lake Rd. Turn left (North) on Mayland Lake Rd.

From the East

From I-40, exit 311, Plateau Rd, turn left on Plateau Rd. and go 1.3 miles to Hwy 70. Turn right on Hwy 70 and go west for 2.2 miles to Mayland Lake Rd. Turn right (North) on Mayland Lake Rd.

Then

Go 0.46 miles (bear left at intersection of un-named road) to Stop sign. Mayland Lake Rd. turns left. You go straight on Senior Camp Rd. for a distance of 0.9 miles to CAMP NAKANAWA

TENNESSEE STAR PARTY 2002

The Tennessee StarParty is a yearly tradition started by the Nashville astronomy club, BSAS (The Barnard-Seyfert Astronomical Society). The event was conceived as a way for all of those in the Tennessee area, with an interest in astronomy, to get together and share this passion. Participants include all ages and experience levels. Some may know very little about the night sky, while others may be professional astronomers doing research on the cutting edge of theoretical astrophysics. It would be difficult to find a better forum for starting down the road to astronomical knowledge than this weekend in October, when we listen to talks, look through dozens of telescopes, and participate in hands-on demonstrations.

What types of activities will be provided? Telescope viewing is one of our main attractions. In the daytime, we will observe Sun through specially filtered telescopes. We will watch for gigantic prominences on the limb of the Sun and examine complex magnetic storms known as sunspots. Amateur telescope makers will have several mirror grinding demonstrations in progress and will demonstrate techniques that produce the highest quality telescopes. Renowned astronomers will give presentations about those wonderful new discoveries that are broadening our comprehension of the universe. "Learning the night sky" classes will be held for those who are beginners. In this class you will learn about seasons, planets, the moon, galaxies and types of stars. After this session you will be able to locate and understand objects in the night sky. Those that choose to purchase the introductory telescope kit will assemble the telescope with the help of BSAS instructors, and use them in-field during our "Learning the Sky" night sessions. These telescopes are of the highest quality and have been provided by Burgess Optical at an incredible discount. These sessions are a way for you to acquire a high quality telescope at the lowest possible price, and learn how to use it, all in one weekend.

Night time telescope observing is paramount at our starparty. With nearly 200 acres of wide open, low horizon prime telescope viewing areas, we will observe heavenly objects till the cows come home! You are welcome to set your telescope up in the viewing field or if you don't have a telescope, just walk from scope to scope looking at whatever object of interest is in the field of view. The range in size and complexity of these telescopes will be remarkable. You will find ingenious handmade scopes of all sizes, the latest versions of high tech automatic telescopes, as well as robotic telescopes that can be programmed and controlled from anywhere on earth.

We are very excited about a special appearance by the ISS-AT Team. ISS-AT stands for the International Space Telescope Amateur Telescope, a project to put a telescope on the ISS that people like you and I can use. The team will be remotely operating their test "Alpha Telescope" FROM THE CAMP NAKANAWA FIELD. CCD images will be taken with Telescope Alpha, whose location is over 1,400 miles away.

The radio astronomers will set up their equipment and demonstrate how signals are captured. from objects such as Jupiter and the Sun. You will learn about Radio Jove, NASA's project which provides radio telescope kits for students and amateurs.

If your interest is astrophotography, BSAS members will be demonstrating film techniques and CCD imaging with presentations showing how to process the images captured during our night sessions. You will also learn how any amateur can participate in science by doing photometry with a small telescope.

Astronomy equipment vendors will display their telescopes and accessories by the truckload. Starparties can be one of the best places to purchase astronomy equipment due to the event discounts.

Camp Nakanawa is a beautiful area near Crossville, Tennessee, with rustic camp facilities perfect for a memorable weekend. With its one thousand acres of forest, fields, and private lake, it is a complete and perfect camp site. The spring-fed lake covers approximately 150 acres. TNSP Participants will also have day activity options such as canoeing, tennis and hiking. The cabins are unheated so you will need to bring appropriate bedding. Camping is also available in our telescope fields. Many tent campers choose an ideal viewing site with their telescopes and equipment setup right beside their camp.

Come join us in October. There will be something for everyone!

TNSP 2002 REGISTRATION

October 4-6 at Camp Nakanawa

Space is Limited. First Come, First Served!

First Name _____ Last Name _____
 Address _____
 City _____ State _____ Zip _____
 Phone Number _____
 Email Address _____

		Number Needed	Line Total
Day Use Only Pass (no meals included)			
\$15 Adult (18 and older)	\$15		
\$6 Teen (13-17 yrs. old)	\$6		
Child (12 and under free)	Free		\$0
Full Pass (Lodging and Day Pass)			
\$30 Adult (18 and over)	\$30		
\$10 Teen (13 -17 yrs. old)	\$10		
Child (12 and under free)	Free		
Camping (covers tent and RVs both nights)			
\$20 Adult (18 and over)	\$20		
\$6 Teen (13 -17 yrs. old)	\$6		
Child (12 and under free)	Free		
Meal Tickets (4 meals will be served) individual meals \$7ea.(circle which ones)			
(Friday Evening Dinner, Saturday Bfast.& Dinner, Sunday Bfast.)	\$28		
Telescope Kit for the "How to Use a Telescope" Class.			
6" Dobsonian Reflector with eyepiece and finder and planisphere	\$175		
TNSP 2002 Tshirt <input type="checkbox"/> M <input type="checkbox"/> L <input type="checkbox"/> X <input type="checkbox"/> XL <input type="checkbox"/> XXL	\$15		
		Totals	



Mail form to:
 TNSP2002
 c/o BSAS
 1000 Oman Drive
 Nashville, TN 37027

Minutes of Regular Monthly Membership Meeting of Barnard-Seyfert Astronomical Society on July 18, 2002

The meeting was called to order at 7:34 pm on Thursday, 18 July 2002 by President Powell Hall in the library of Dyer Observatory. Approximately 30 members and visitors were present.

Powell Hall outlined his agenda for the night consisting of an introduction, reports, business, and the program, and asked for a motion that his agenda be adopted. The motion was made, seconded, and unanimously approved. Powell then gave a welcome to those attending, and thanks for the club's support and concern during his recent heart surgery and recovery. He also discussed a book he is reading again, called **Extreme Stars**, asking if anyone had recognized the star he described in the President's Message section of the July issue of "The Eclipse" newsletter. Someone noted that it was Barnard's Star, Barnard being the namesake of this club.

Powell then asked for a special order that the program be started at 8:15 pm whether or not the business portion of the meeting was finished by then. It was so moved and seconded. In the discussion, the special order was amended so that the program should start *no later than* 8:15 pm. The motion was passed unanimously.

In the reports section of the agenda, Powell called for additions or corrections to the minutes of the June meeting. The June meeting minutes were approved as printed in the July issue of "The Eclipse". Powell also called for additions or corrections to the minutes of the May meeting. The May meeting minutes were approved as distributed at the June meeting. Treasurer A.G. Kasselberg reported that there was \$829.52 in the club account, and \$2500 in CDs, and he was willing to take anyone's membership dues at any time. Someone asked for a welcome of the visitors present, of which there were a few. Since Board Chair Kris McCall was not present, Powell noted the public star party at Warner Park on August 10 for the Perseid meteor shower.

Mike Benson discussed the ALCon 2003 plans, noting that the Astronomical League had vetoed the contract with The Maxwell House Hotel due to the amount of rooms that had to be guaranteed by the club and the AL. Mike is currently in negotiations with Embassy Suites, relating their flexibility in the number of hotel rooms that could be reduced as needed. Total room setup cost is \$300 for the entire week, and rooms are \$95, including a full sitdown breakfast. The only disadvantage noted was the pink color of the Embassy Suites' exterior. Regarding the AL convention for this year, only Mike, Tom Murdic, and their wives are attending from BSAS, and it will be at Salt Lake City, Utah. Powell Hall praised the efforts of Mike Benson and Joe Boyd in the planning and legwork they have done for ALCon 2003 which is scheduled for July 8-13, 2003.

Moving on to new business, Bill Hayden noted that it was good to see Powell Hall back, sparking a round of applause from the group. On a more somber note, Mike Benson explained that Joe Boyd's son who was stationed in Korea had died recently, but details were still unknown. Powell Hall noted that JanaRuth Ford was sending around a sympathy card for everyone to sign. Mike Benson also noted that Mike Abramchik who suffered from Alzheimer's Disease had also recently died and an effort to find out where to send a card should be made.

Bill Collins reported he is the BSAS webmaster, and would also be taking on the duty of accepting articles for "The Eclipse" that he would forward on to Bill Griswold for formatting and distribution. Bill Collins would like help in sending out an email notice to members asking for articles that would be of interest to the club.

Powell Hall reminded everyone that there were three items going around that needed to be signed by those present: 1) the attendance list; 2) the Dyer Public/Youth Night Volunteer sign-up sheet; and 3) the sympathy card for Joe Boyd. Powell then turned the meeting over at 7:58 to Vice President John Bradford to begin his program on getting started in night sky observing.

John related his frustration on his first attempt at night sky observation, and different things that he has learned that streamline the observing process. One was to ask for help from those around you. Most amateur astronomers are happy to help, and everyone involved learns from the experience. Another aid is an inexpensive star chart that he marks to keep track of what he has seen, and what objects are available at a particular time of year in a particular part of the sky, paying attention to constellations and asterisms. John got his charts laminated, and there are star charts that are sold already laminated that are more expensive. John keeps his "hit lists" for the long term, referring back to them from year to year. He also keeps observing log books, noting the conditions and people he met that night. John also recommended the book **Secrets of the Night Sky**. John ended his program at 8:17 and a discussion ensued. Bill Collins expressed his appreciation for John Bradford's help which made Bill's initial observing sessions more productive than they would have been.

Moving on to TNSP 2002, Lloyd Watkins reported that it was scheduled for October 4-6, 2002, and Bill Collins noted that the registration form can be printed from the BSAS website. Powell Hall cited the good work of Joe Boyd on drawing up the legal contract that was acceptable to Camp Nakanawa (na KA na wa) and the BSAS.

Powell Hall brought up the scheduled observation of the Perseids at Warner Park on August 10, and another star party at Long Hunter State Park on September 13. With a last reminder to sign the three items that had been moved to the back table, Powell Hall called the meeting adjourned at 8:22.

Respectfully submitted,
Evelyn Wright, Secretary

Happy Birthday Vostoks 3 and 4

by Robin Byrne & Adam Thanz

This month we celebrate another first in the history of space exploration. Vostok was the first manned space program in the Soviet Union. Planning began in 1956, and the first group of cosmonauts were chosen in 1960. The first six Soviets chosen to go into space were: Yuri Gagarin, Gherman Titov, Andriyan Nikolayev, Pavel Popovich, Valery Bykovsky and Valentina Tereshkova.

The Vostok space craft was composed of a service module and a manned cabin. The service module contained the electrical and propulsion systems. The manned cabin had the ability to send radio and television signals. However, it did not have the ability to maneuver, and the cosmonauts had to eject prior to landing and parachute to the ground. It wasn't until many years later that the Soviet Union revealed this information.

In 1961, Yuri Gagarin became the first person to complete one orbit of the Earth. His flight was followed by Titov's flight, which lasted an entire day. Both of these were important firsts, but the Soviet Union was not finished. After John Glenn became the first American to orbit the Earth, in 1962, the Soviets wanted to one-up the Americans once again.

On August 11, 1962, Vostok 3 was launched with Nikolayev aboard. Less than 24 hours later, Vostok 4, with Popovich, also went into orbit. Two space craft in space at once! But that was only the beginning. The two vehicles came within 6.5 km (~4 miles) of each other. Americans were afraid that this meant the Soviets had the ability to maneuver, and eventually would be able to dock in space. The Soviets were not technologically ready to do these things, although they did not publicly admit this. The craft were so close due to the timing of the launches. However, it certainly made for very good propaganda. The close proximity did not last long, and the two capsules drifted apart.

In addition to the goal of putting two space craft in space at one time, there were other mission objectives. In the Vostok 3 capsule, Nikolayev unstrapped himself and floated free. This was the first time anyone had done that. When Titov had been on his flight, he had suffered horrible space sickness. The Soviets wanted to see if floating would affect Nikolayev. It did not. He also tested upgrades to the system operations, communications, guidance and landing. Meanwhile, on Vostok 4, Popovich was to study communications between the two craft. His craft did experience some problems, which resulted in the temperature dropping to 10 s(C (~50s(F)), but he was able to continue with the mission. The Soviets did not want the world to know about Titov's problem with nausea, so they had worked out a coded message for the cosmonauts if they weren't feeling well, to end the mission early. The message was to say that the cosmonaut had observed some thunderstorms. Popovich actually had observed some thunderstorms and reported it. His mission was ended one day early, even though he felt fine.

After almost 4 days in space, Nikolayev landed in the Karaganda region on August 15. Popovich landed only 15 minutes later, in the same region only 193 km (~115 miles) apart.

Although largely a show of propaganda, the flights of Vostoks 3 and 4 were a major accomplishment. Launching two vehicles less than 24 hours apart is a testament to the coordination efforts of the ground crews. At this time, when the space programs of both the Soviet Union and the United States were in their infancy, to be able to track and communicate with two space craft at the same time was also admirable. So, let's look back on this achievement with profound respect of how much was accomplished in a short time, and how far we have come since then.

References:

Vostok Spacecraft Web Page

<http://www.nauts.com/vehicles/60s/vostok.html>

Radio Observations of Vostok 3 and 4 Web Page by Sven Grahn

<http://www.users.wineasy.se/svengrahn/trackind/Vostok3and4/Vostok34.htm>

Vostok 3 Web Page

<http://www.friends-partners.ru/partners/mwade/flights/vostok3.htm>

Vostok 4 Web Page

<http://www.friends-partners.ru/partners/mwade/flights/vostok4.htm>

Soviet Union in Space Web Page

<http://www.worldspaceflight.com/russia/index.html>

Happenings and Events

August 1 - August 31, 2002

- 8/1 LAST QUARTER MOON; Neptune at opposition.
- 8/5 Conjunction, Moon & Saturn
- 8/8 NEW MOON; Dyer Observatory Public Night 8:00-10:00 PM
- 8/10 Public Star Party - Edwin Warner Park Model Airplane Field 8:00-10:00 P.M.;
- 8/10 Private Star Party - Natchez Trace Site; Conjunction, Moon & Mercury
- 8/12 Perseid meteors peak
- 8/13 BSAS Board Meeting 7:00 P.M.
- 8/15 FIRST QUARTER MOON; BSAS Meeting, Dyer Observatory 7:30 P.M.
- 8/19 Uranus at opposition.
- 8/21 Conjunction, Moon & Neptune, and Venus greatest elongation East, 46°.
- 8/22 FULL MOON; Dyer Observatory Youth Night 8:00-10:00 P.M.; Conjunction Moon & Uranus
- 8/30 LAST QUARTER MOON
- 8/30 Public Star Party at Shelby Bottoms in conjunction with Warner Parks
- 8/31 Mercury greatest elongation East, 27°

September 1, - September 30, 2002

- 9/5 BSAS Board of Directors Meeting 7:00 P.M.
 - 9/6 Zodiacal Light - N. Latitudes in East before AM twilight (for next 2 weeks)
 - 9/7 NEW MOON; Private Star Party - Natchez Trace Site
 - 9/12 Dyer Observatory Public Night 8:00-10:00 P.M.
 - 9/13 FIRST QUARTER MOON; Friday the 13th!
 - 9/19 BSAS Club meeting, Dyer Observatory 7:30 P.M.
 - 9/21 FULL MOON (the *Harvest Moon*)
 - 9/22 EQUINOX
 - 9/26 Dyer Observatory Youth Night 8:00-10:00 P.M.; Venus' greatest brilliancy
 - 9/29 LAST QUARTER MOON
-

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