

Smoky Mountain Astronomical Society

S.C.R.A.P.S.

Society's **Ch**Ronological **A**stronomical **P**aper**S**

From the President - Michael McCulloch

Volume 27, Number 7
July 2004



July SMAS Meeting

Plan to attend the July 9th SMAS meeting at PSTCC, Alexander Bldg, Room 223, 7-9 PM as the topics will include:

- Venus Transit observation reports and photos by various club members.
- *More Mars in 3D* presented with descriptions of the images and new 3D photos released since Astronomy Day.
- Discussion of upcoming club picnic in August at Tamke-Allan Observatory.
- Discussion of alternative sites for observing the Perseids meteor shower (Look Rock is still inaccessible).
- If the weather cooperates, after the meeting we will demo the 5" Burgess refractor graciously donated to the club by Burgess Optical. This scope will be available for checkout by SMAS members.

If you need help learning to operate a telescope, bring it to the meeting and we will be glad to assist!

Remember, the July meeting is the last SMAS regular meeting until October. There will be no SMAS meetings at PSTCC in August and September due to the club picnic and BSF group camping events.

July 10th Public Star Party at Look Pebble

Weather permitting, SMAS will host a public star party at "Look Pebble" on the Foothills Parkway on the night of July 10th. Join us and invite your friends!

July 17th Star Party at Unicoi Crest

Weather permitting, SMAS will host a star party at Unicoi Crest on the Cherohala Skyway on the night of July 17th. The summer Milky Way will hopefully be revealed in all its glory under one of the darkest skies in East Tennessee. Be sure to bring some warm clothes as Unicoi Crest can be quite cool at night even in the middle of summer. Many attendees find this a refreshing change from the hot, humid, and hazy summertime air in the valley.

(Continued)

(Please see the maps on the SMAS web site located under the "2004 Star Party Info!" link or ask for help in finding Look Pebble and Unicoi Crest if needed.)

SMAS Group Camping at Big South Fork in September

Due to delays in getting the word out last month, the deadline for the reduced fee registration has been extended to July 17th. Early response has been sufficient to continue with the event as scheduled, but 9 campsites remain unoccupied. SMAS requests the following:

- Provide a list of all persons that will be staying overnight at your campsite.
- Pay \$10 to Erik Iverson (SMAS Treasurer) to reserve a campsite.

SMAS P.O. Box 53265 Knoxville, TN 37950

Campers can double-up in one campsite if you prefer, however please do provide a complete list of persons that will be staying at each campsite. Additional fees are required by the park for more than 25 total persons hosted in the group area, so we need an accurate count to plan accordingly.

Reservations after July 17th will be \$15 per campsite if any remain open.

| | |
|-----------------------------|--|
| BSF Group Camp Facts | |
| Check-in: | After 2 PM on Friday, September 10th |
| Check-out: | Before noon on Sunday, September 12th |
| Campsite selection: | First-come, first-serve on Friday |
| Total number of campsites: | 17 (8 reserved to date) |
| Facilities: | No electrical hookups at sites Modern, E-II private bathhouse with hot water and showers Large covered pavilion with fire-pit, tables, and electrical outlets Some sites have tent pads |
| Reservation requirements: | List of campers plus \$10 on or before July 17th |
| Observing: | Friday and Saturday nights. SMAS will request the lights be turned-off in the large Bandy Creek Visitor's Center parking area. |
| Further information: | See: http://www.nps.gov/biso/pphtml/camping.html http://www.nps.gov/biso/bandycreekcg.pdf |

What You Missed at the Last Meeting—Angela Quick

Minutes

SMAS Meeting

Friday, June 11, 2004

Main Campus, Pellissippi State Technical Community College

The meeting began at 7:00 pm, with 17 members and two guests present.

President Michael McCulloch welcomed new members: Gentle Wolf and Marj Worley, and David and Susan Fowlkes.

Bob Arr presented a virtual tour of Carl Zambuto's mirror shop, which Carl had made available on his website. Zambuto is known for producing the high quality optics used in many Dobsonian telescopes, including those from Mag1 and StarMaster. (If you want to see what sort of images Zambuto mirrors produce, look through Bob Arr or Michael McCulloch's scopes at a star party.) Included was a discussion of some of the difficulties of producing diffraction-limited mirrors. An alert and responsive audience gained significant insights.

Gerald Calia explained the principles behind Foucault testing, and set up a demonstration using a 10" parabolic mirror and a real Foucault tester. Everyone who wanted to look through the tester was accommodated. Sadly, our classroom simply wasn't quite dark enough to see the dim images. But the principles were clear enough.

Ken Ferguson donated 7 surplus Pelican cases and a large amount of pluck foam to the club. These cases make excellent eyepiece cases. One was kept by the club to house the eyepiece sets Bill Burgess promised (to accompany the 5" refractor). A drawing was held to distribute the remainder to members.

Reminders:

The Big South Fork campout is planned for September 10-11. So far eight groups have reserved a campsite. Michael McCulloch asked for camping fees for those attending the BSF observation and campout. Deadline for paying the \$10 fee to BSF is June 19; thereafter fees jump to \$15. (This deadline has been extended to July 17th. But we still need enough campers (\$150 dollars worth) to secure the E2 area for our group.)

If you have not reserved a campsite, there is still time! Mark the dates on your calendar, send \$10 to Treasurer Erik Iverson via the SMAS mailbox, and join the fun under dark skies.

Thanks to secretaries pro tem Janice Erickson and Bob Arr for providing meeting notes.

The Wiz Issues A Challenge

Dear Wiz,

Here's a hypothetical question for you. Suppose I wanted to view, from Unicoi Crest, the entire celestial equator in the least number of nights. I would be willing to spend all night each night. How many nights would it take?

P. Dreemz

Dear Pipe,

Someone might answer quickly, "two, roughly six months apart". That would work, but I don't think that's what you meant.

If you wanted to observe nightly until you had seen the entire celestial equator, you'd have a passel of variables to account for: season, clouds, haze, irregular horizon, twilight, etc. Observing automatically drags in all of those incalculable and/or arbitrary difficulties. May I suggest a more specific way to ask the question?

Re-stating the question:

Calculated from Unicoi Crest (N35°20', W84°02'), what is the least number of nights it will take a point on the celestial equator, which reaches the western horizon exactly one hour after sunset, to reach the eastern horizon exactly one hour before sunrise?

Phrasing it like this insures that it's an entirely nighttime activity, and it's independent of the observing variables. (While one hour is arbitrary, at least it's practical.) To begin with, your starting date would be critical, because you get a lot more dark during the winter than during the summer. So for the absolutely least number of nights, your span of nights needs to be balanced on the winter solstice.

We must acknowledge that some of our criteria are only approximations. For example, when the target point on the celestial equator eventually reaches the eastern horizon an hour before sunrise, it probably will not be exactly 60 minutes before sunrise. It might get there 59.2 minutes before sunrise on one day, but 60.7 minutes before on the next day.

(continued)

Since the final answer we seek is essentially rounded off to the closest day, the approximations may or may not actually make any difference. (Rounding any calculations off to the closest minute is good enough.)

Those factors stated, I hereby challenge any and all lovers of orbital mechanics to measure, calculate, divine, compute or guess the answers to the re-stated problem, above.

Specifically,

1. What is the least number of nights?
2. What night should it begin?

Use whatever strategy you like, but if you simply ask someone else to give you the answers, at least acknowledge the source. Drop your answer in the Answer Box at the next meeting. Winners will be appropriately reviled. Oh, excuse me. I meant revealed.

SMAS Picnic

Lee Erickson has volunteered to coordinate this years SMAS picnic.

It is to be held at Tamkie-Allen on Saturday, August 21. Add it to your calendar now!

We will eat at 6:00 pm, so be there somewhat before to help set up.

Next month Lee will start coordinating what to bring, so now is the time to start thinking up something.

And if you really can not wait to commit to something, you can contact Lee at: leerickson@earthlink.net or his cell phone 865-805-2437.

SMAS Board

President— Michael McCulloch
Vice President—Lee Erickson
Secretary—Angela Quick
Treasure/ALCOR—Erik Iverson

Observe Chair—Ron Dinkins
Webmaster—Mike Fleenor
SCRAPS Editor—Peter Bush

Editor—Peter Bush

Please direct articles and pictures to me at: **865-453-8376** or pbush1@bellsouth.net.

Also note the deadline for submissions posted on the calendar (attached). It's my goal to work on the newsletter the last weekend of the month so members will receive it by the 1st of the following. Any and all ideas regarding SCRAPS content are welcome, and will be given due consideration.

*** Special call for Pictures *** I'd like to include some of your pictures and drawings of celestial objects. If you have some you'd like to share, e-mail me a copy for an upcoming SCRAPS!

July 2004

| SUN | MON | TUE | WED | THU | FRI | SAT |
|--|-----|-----|--|-----|---|--|
| | | | | 1 | 2 <i>Full Moon</i> | 3 |
| <div style="border: 1px solid black; padding: 5px; width: fit-content;"> UTK—roof of Neilson Physics Building on The Hill at UT TAO —Tamke-Allan Observatory Public Stargaze Watts Bar Lake, Roane County </div> | | | | | UTK | TAO |
| 4 4th of July  | 5 | 6 | 7 | 8 | 9 SMAS Meeting PSTCC RM 223 7 PM | 10 Public Star Party Look Pebble Mercury & Mars Conjunction (at sunset) |
| 11 | 12 | 13 | 14 | 15 | 16 UTK | 17 Star Party Unicoi Crest <i>New Moon</i> TAO |
| 18 | 19 | 20 | 21 Moon Near Jupiter (dusk) | 22 | 23 SCRAPS Submission Deadline ***** | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | 31 <i><u>Blue Moon</u></i> See Below |
| | | | | | | <div style="border: 1px solid black; padding: 2px; text-align: center;"> www.obliquity.com/astro/bluemoon.html </div> |