Smoky Mountain Astronomical Society

Volume 28, Number 3
March 2005

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

Society's **C**h**R**onological **A**stronomical **P**aper**S**

Note: Altered Date

March 18th SMAS MEETING

PSTCC, Main Campus, Hardin Valley Road
Alexander Bldg, Room 223

From The President—Mike Littleton

SMAS, like all healthy organizations, changes leadership periodically to infuse fresh ideas into it. To accomplish this, our constitution and bylaws prohibit any individual from holding a particular office more than two years in a row. I have been a member since 2000 and thought it was time to serve in one of the society's offices. I hope to serve the membership well during the following term and request your active participation in the society's continuing growth. Our society needs to give our thanks to the outgoing officers, Michael McCulloch, Lee Erickson (2005 secretary-elect), Angela Quick, and Erik Iverson (2005 vice president-elect), for their outstanding performance.

Erik and I were trying to decide what should be the direction for SMAS in the upcoming term. Consequently, we assembled a survey of SMAS members' interests. A little over half of the members responded and the results are on Page 3 of this issue of SCRAPS. We ranked each topic with a weighted score and totaled the results from most interest to least interest. High on the interest list were talks on practical astronomy topics, public outreach programs on astronomy, and use of the SMAS Yahoo Group for SMAS announcements and useful links. Low on the list were workshops for grinding telescope mirrors, increased use of TAO for our private star parties, news articles on the Yahoo Group, and hosting a Starfest-type observing event. On some of the topics, one must look at the data as well as the weighted score. For example, it appears there are a number of members who would be interested in grinding mirrors even thought its weighted score was low.

(Contintued)

Our direction for SMAS is still under development, but here are a few areas were it is complete:

- Most SMAS meetings will include one practical astronomy topic.
- SMAS will host one Astronomy Day type event in 2005.
- SMAS will continue to sponsor (usually) two star-parties each month. One star-party will be for members and friends, and the other for public outreach.
- The office of Vice President will have specific duties.
- The club will continue to conduct a summer picnic and December holiday dinner.

I urge all the members to actively participate in SMAS's activities. SMAS has much to offer you in your interest in astronomy.

Election Results

2005-2006 SMAS Officers

Michael Littleton *President*

Erik Iverson *Vice President*

Ron Dinkins *Treasurer*

Lee Erickson *Secretary*

Mike Fleenor *Webmaster*

Order Asked	**Survey** (19 Respondents)	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Weighed Score
2	I like classes/observing sessions on practical astronomy (like "How to Measure an Eyepiece FOV").	0	0	1	10	8	**83**
19	SMAS should hold an Astronomy Day / Week Event.	0	0	2	10	7	**81**
15	I would like to see SMAS announcements on the SMAS Yahoo Group.	0	0	3	9	7	**80**
18	I would like to see useful links, files, photo albums, etc., on the SMAS Yahoo Group.	0	0	2	12	5	**79**
17	I would like to see members' observing reports on the SMAS Yahoo Group.	0	0	4	9	6	**78**
9	I would be interested in going on local daytrip-style fieldtrips to observatories, planetariums, etc.	0	1	3	12	3	**74**
1	I like presentations on theoretical astronomy (like Dr. Guidry's Cosmology talks).	2	1	2	7	7	**73**
16	I would like to see astronomy-related discussions on the SMAS Yahoo Group.	0	0	7	8	4	**73**
23	I would like to make a SMAS calendar or other products available for sale to finance society projects.	0	1	7	5	6	**73**
24	I would contribute money to SMAS to finance society projects.	0	0	8	8	3	**71**
8	SMAS should have more star-parties where we focus on member observing (i.e., not public outreach).	0	3	5	7	4	**69**
3	I would be interested in building telescopes.	1	2	6	7	3	**66**
7	SMAS should have more starparties where we focus on public observing.	0	1	10	7	1	**65**
11	I would like to help with Tamke-Allan Observatory's Public Nights.	2	1	7	7	2	**63**
5	SMAS meetings should be more focused, for example having meetings with a single theme.	0	1	12	6	0	**62**
10	I would be interested in going on trips to astronomy resorts like in New Mexico.	1	2	8	7	1	**62**
20	SMAS should give out its own observing awards.	1	2	9	5	2	**62**
21	SMAS should own or rent a dark-sky observing site.	2	4	5	4	4	**61**
6	SMAS should have wide range of varied topics at each meeting.	0	3	12	2	2	**60**
12	I would like to help with Tamke-Allan Observatory's longer-term projects (not just public nights).	3	2	5	7	2	**60**
4	I would be interested in grinding mirrors.	4	1	5	7	2	**59**
13	SMAS should hold more of its Star-parties at TAO (not on public nights).	1	4	8	4	2	**59**
14	I would like to see news-related announcements on the SMAS Yahoo Group.	0	5	8	5	1	**59**
22	I would be interested in hosting a Star-Fest star-party type event.	1	5	9	4	0	**54**
	Key	SMAS Yahoo	SMAS Meetings	Special Events	SAMS Financial	SMAS Observing	TAO Related

The SoSo® Solar Telescope—Lee Erickson

The SoSo® Solar Telescope is operational in Maryville Tennessee and occasionally at other geo-stationary locations throughout out the country.

The SoSo® Solar Telescope represents the massive investment by top scientists from 3433 Ridgeway Trail, Maryville Tennessee. This investment allowed the scientists to confirm the discoveries of solar phenomena such as suns spots! At long last, the seemingly wild claims of Galileo Galilee have been put to the test.

SoSo® Solar Telescope FAQ:

What are the unique features of the SoSo® Solar Telescope?
Well we don'tt like to brag, but we believe that the geo-stationary location of our solar telescope offers several advantages over inconveniently located telescopes such as those on mountain tops or in outer space. Our telescope is not thousands of miles, hundreds of miles, but less than 0.058 miles away from the principal headquarters of the scientists who most frequently use the SoSo® Solar Telescope. The principal headquarters includes amenities such as ice cold lemon aid in the summer observing season and hot apple cider during the winter observing season. We think these amenities alone (and more than anything else) makes observing with the SoSo® Solar Telescope a singularly productive and rewarding scientific endeavor.

What is the most important discovery of the SoSo® Solar Telescope to date?
We at the SoSo® Solar Telescopic Observatory would rather not get into a war of claims, and counter claims, regarding the inferior practitioners of the art of solar observation, those scientists stuck with less capable equipment, or less fortunate to have geo-stationary observing platforms. We, therefore, will not be making any self aggrandizing claims of important discoveries. However, we do want to assure those of you who have contributed financially (or who could be persuaded to contribute financially) to the operation of the SoSo® Solar Telescope, that your moneys have been spent very wisely. Why just last week we received a fresh shipment of sugar free apple cider.

Can we see some images produced by the SoSo® Solar Telescope?
Images? Er.. well yes, we do have some images. Are you sure you really want to see im-

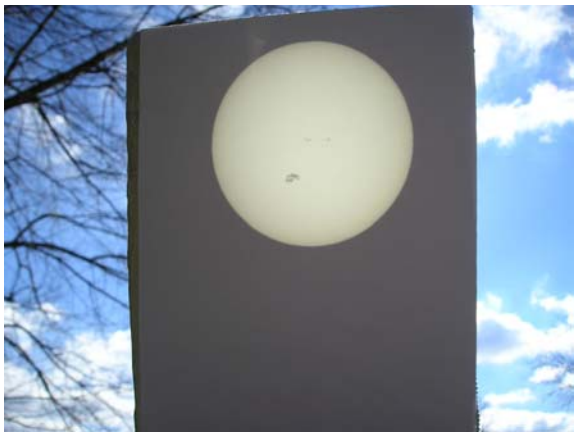
(Continued)

ages? Couldn't we interest you instead in a nice cup of hot apple cider? No eh...? Oh, very well then, here are some images.
How about a picture of the telescope again? Isn't it lovely? (Right) This is a view facing approximately east. It is a fine January afternoon.

Isn't that the same photo as earlier, of the SoSo® Solar Telescope?

I should think not. (Er, or is it????).
Ok how about this? (Left)
Yes very nice, but can't we see some images produced by the SoSo® Solar Telescope?

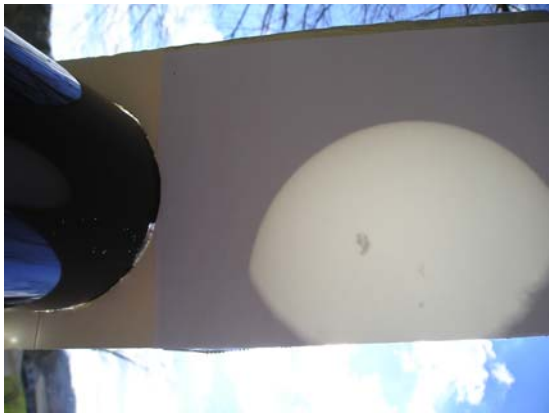
Well yes, but what would you want to see?
How about some pictures of the sun?
Oh, okay we can find some somewhere around here. Are you sure you wouldn't like a cup of hot apple cider? No... you want to see some pictures of the sun!
Oh, all right then, here you go. (Right)
That is not the sun!!!!!! That's a mug of apple cider!



Oops. How about this. (Left)
Now that is more like it. So did you discover the sun spots in the photo above?
Well, what we like to say is that we discovered that the claims made by others were correct. Like I said earlier, we would rather not get into a war of claims and counter claims. This was taken January 14 at about 12:00 EDT with a 90 mm EXT using a 40 mm eye piece, our specially developed sewer optics first surface mirror, and our specially developed double surface aluminized background composite projection screen.

We also have images taken with a 26 mm eyepiece and 17 mm eyepiece.

(Continued)



26mm Eyepiece

17mm Eyepiece

What is this about "sewer optics"?
It's our own development. Here look at this close up of the observatory, (Below-Left)

and even closer here. (Below-Right)

Is that sewer drain pipe to which you have taped a mirror?
Yes, exactly. It's 1-1/2 inch schedule 40 drain pipe (only slightly used). We cleaned it up, mostly, and cut it at a 45 degree angle, and drilled a hole in the side of the pipe for the image to pass.

Thank you for the explanations. Now I understand why it is called the SoSo® Solar Telescope!

Not at all, would you like some apple cider? We made this cup out of left over material when we were making the mirror holder.....

SMAS Members Assist with Science Olympiad—Erik Iverson

On Saturday, February 19th, 2005, SMAS members Angela Quick, Lee Erickson and myself (Erik Iverson) helped with the Science Olympiad competition held at Maryville College. We had a great time! The Science Olympiad is a competition where teams of students from local schools take tests, drop eggs, build toothpick bridges, and more. Angela was asked to coordinate two tests, "Reach for the Stars," a one-hour test for middle school students, and "Astronomy," a one-hour test for high school students, both covering general astronomy. She recruited Lee Erickson and myself to assist.

I don't mind telling you that we were a little anxious about putting together tests that, according to the guideline materials, cover things like Type I and II population stars, the Tully-Fisher relationship, blue stragglers, and stellar evolution! But we had previous years' tests to use as models, and once we got into it we found that we were having a lot of fun.

"Reach for the Stars" ended up having an identification part and a question part. In the identification part, we asked students to identify pictures of astronomical objects and features of those objects. I must confess that we tried to bring a little bit of an observer's perspective to the tasks. About twelve of the images were wide-field, deep-exposure shots of constellations, in which the students were to identify both the constellation and the brightest star or stars (pointed out on the slide). Some of the images were of planets, and instead of using the awe-inspiring shots that have come back from probes like Galileo or Cassini, we used more modest views that could be had with a four-inch telescope. The question part included multiple-choice and short-answer questions ranging from: outlining a model of the solar system, to questions on stellar evolution, to using a planisphere to find stellar coordinates and estimate what times certain objects were visible on certain dates. In "Astronomy," we cranked things up a notch by asking for more interpretation on the identification slides, for example asking which tail was which, and how they were formed, for the picture of a comet. Some tougher story problems, asking for a bit more in-depth explanation, rounded out the high-school test.

We were really impressed with the level of knowledge displayed by these students. When we finished putting together the tests, we were a little concerned that one hour just wasn't enough time, and that we were asking for way too much specialized knowledge. But we were wrong. All of the student teams finished the exams in less than the allotted time, all of them showed good knowledge of the subject, and nearly every question was answered correctly by at least one team. And some of these were tough problems!

We're all looking forward to the next year's competition, and have already offered to help with it. If you have any questions, brainteasers, or challenges you would like to offer, or you think work really well for illustrating a particular concept in astronomy, just let us know!

The Wiz

Dear Wiz,

How do you answer a novice's question, "What kind of telescope should I buy?"

H. Tant

Dear Hezzah,

It's eminently reasonable to say, "The telescope you should get is one that delivers good views of your favorite objects." Except for one small fact: a novice doesn't have favorite objects yet.

And so the problem is: a novice doesn't know what s/he wants to see in the heavens.

Ethereal Rings of Saturn?	Blossoming Supernova remnants?
Beautiful Double stars?	Glittering open clusters?
Elusive Galaxies?	Cathedrals of nebular clouds?
Terrain details on the moon?	Stately globular clusters?

In general, these objects are more pleasing or less pleasing depending on the true field of view of a telescope. And the true field of view depends on f/ratio and eyepiece selection, not the kind of telescope.

So what's a good answer? Well, one answer that ISN'T good, is to try to convince the novice that your own favorite object(s) should become his or hers. For instance, if you love studying the planets, you are effectively suggesting a high f/ratio. But the novice, after some observing experience, may fall in love with clusters – small f/ratios favored. It would really be a shame if s/he had already bought the former because of your preferences.

"Aperture always wins" is a familiar saying, but taken out of context it can be very misleading. Its context is "for the least amount of money, what will permit you to see the dimmest objects?" Maybe the novice's real concern is that s/he has to haul the new telescope up and down three flights of stairs to use it, or transport it in the trunk of a small car. Its size may be far more important than its objective. A telescope doesn't have much value if it doesn't get used.

In a perfect world, we might take the novice to a few star parties where s/he could begin to get a taste of the wonders of the sky. We always have a variety of telescopes at star parties, and it wouldn't take long to show the good and bad points of different telescopes. And they could become familiar with the variety sights in the sky.

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Of course, this may all be wishful thinking. We all know novices who have rushed out and bought the first thing they thought they could afford, despite advice to the contrary. Perhaps we were one, ourselves.

But SMAS owns a 20" dob, a 10" dob, a 6" dob and a 5" refractor, all respectable instruments. They are "loaners" (to members). Plus we have several members who would be willing to familiarize a novice with their SCT's.

That gives us the wherewithal to really help a novice learn enough to make informed choices. So how would *you* answer the novice's question, "What kind of telescope should I buy?"

Da Wiz

Announcement

SMAS's 127mm Burgess refractor is now complete with tripod and mount, and is available to any member to check out. Current custodian is Bob Arr.

This instrument does equatorial tracking, but not GOTO. It comes with three 1.25" eyepieces (10, 20 and 30 mm), and also accepts 2" eyepieces. Its focal length is 1016mm, f/8. Users must supply their own batteries (it uses four D size).

In the photo, the telescope and tripod are kept in the blue fabric carrying case, which is 46" long. The mount and accessories are in the two black Pelican cases. Each case weighs less than 25 lbs.

If you would like to use it, call Bob at 982-3599. The components will easily fit in a small car. There is a 30-minute checkout for familiarization.

Thanks to these members who made this fine asset available:

Bill Burgess	*Telescope (donated)*	Mike Littleton	*Mount and tripod (loaned)*
Ken Ferguson	*Pelican cases (donated)*	Bob Arr	*Eyepieces (donated)*

March 2005

SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3 Moon occults Antares	4	5 TAO Public Star Party
6	7	8	9	10 *New Moon*	11 Tennessee Spring Star Party Fall Creek Falls State Park March 11th—13th Mercury next to the crescent Moon	12 **SMAS Star Party—TBA**
13	14	15	16	17  St. Patrick's Day	18 **SMAS Meeting PSTCC Rm 223 7 pm**	19
20  1st Day of Spring 7:33 am *Vernal Equinox*	21	22	23	24	25 *Full Moon*	26
27  Easter	28	29	30	31		

UTK—roof of Neilson Physics Building
on The Hill at UT
1st & 3rd Fridays
TAO —Tamke-Allan Observatory
Public Stargaze
Watts Bar Lake, Roane County
1st & 3rd Saturdays