

Smoky Mountain Astronomical Society

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

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



Nov. 11th SMAS MEETING

PSTCC, Main Campus,
Hardin Valley Road
7:30 pm, Alexander Bldg, Room 223

Special Issue: Sasquatch - First Light



Amid autumn's splendor, Sasquatch poses for his formal portrait.

From the President - Mike Littleton

First Light for Sasquatch

Bob Arr, Michael McCulloch, Lee Erickson, Bill Dittus, numerous visitors and I were present Saturday 10/29/05 for the first light for the rebuilt 20" SMAS dobsonian, Sasquatch. We changed the location of the star party from Unicoi Crest to Look Rock 4, in hopes for a large turnout. It is a shame that more members could not observe with the telescope. It was a clear, dry October night with Mars prominent in the East. The telescope looks great and assembles easily. Using rubber bands to counterweight the telescope instead of the 100 lbs. of lead, is a great improvement in portability and assembly. SMAS gives many thanks to Bob Arr, Brent Holt, Michael McCulloch and all those others that contributed time and/or money to the upgrade. The telescope performed flawlessly except for a non-working laser finder. This turned out to be a minor wiring problem and has since been fixed. We all decided around midnight that we were not prepared for the cold and called it a night. Just before the telescope disassembly, other astronomers using the Foothills Parkway stopped by. They were familiar with our club from our website and wanted to use Sasquatch. They were treated for some good views of Mars' polar cap and dark features. Pretty good for just a "light bucket"!

As we braved the cold, it occurred to me, "Why do astronomers leave their comfortable homes to attend a star party on a cold October night?" I will let Lee Erickson, our resident electrical engineer and raconteur, tell you his answer. Reporter: "What do you like most about astronomy-is it the freezing temperatures or the dew or what?" Lee: "It's the good food that is sometimes brought. It's an opportunity to see the heavens and fill your stomach with high-caloric things we should not eat in the light of day. Maybe calories consumed at night do not count."

For me, it was the view of the globular cluster, M-15, through my 13.1" dobsonian. It was resolved to its core at 80X. It was a cosmic jewel of a thousand blue and white diamonds! One of the visitors agreed it was the best thing he had seen all night.

Special Acknowledgement of Contributors - Bob Arr

In all, I received \$460 in cash donations from the Treasurer, and spent every cent of it. Maybe even a little more. I do not have a list of the individuals who contributed (the Treasurer does), but I promise, every penny helped.

Many members preferred to donate materials rather than cash (although they certainly paid cash for the materials.) We want to acknowledge them here:

Michael McCulloch – Feathertouch focuser and aluminum poles (for the trusses)
Bob Arr – Baltic birch plywood and green laser pointer
Brent Holt – stainless steel for the mirror cell and aluminum for the spider
Joe Baldwin – Astrosystem secondary anti-dew heater

Sweat equity was also greatly forthcoming. Thanks to fabricators Brent Holt, Michael McCulloch, Tom Rimmell, Bill Dittus, Jean Littleton and Bob Arr. Thanks also to helpers Lee Erickson and Erik Iverson. To be sure, some were able to help more than others, but all work counts and is appreciated.

Final Sasquatch Progress Report – October 31 – Bob Arr

Sasquatch had his official First Light star party on October 29 at Look Rock #4. That date was originally scheduled for Unicoi Crest, but was changed in order to make the trip easier for more members.

As expected, Sas delivered a view of the heavens that was extraordinary. He also demonstrated enormous stability and a wonderfully light touch. Messers Kriege and Berry knew whereof they spoke in their book: *The Dobsonian Telescope*.

Fourteen people attended the unveiling. There were nine guests in addition to members Mike Littleton, Michael McCulloch, Lee Erickson, Bill Dittus and Bob Arr.

Sas has many special features. One is the use of rubber bands in lieu of counterweights. We have gone from 100 pounds of lead counterweights to zero primarily through good balancing, and adding a rubber band or two if a varying load requires it.

His spider is now so strong that collimation should seldom be needed. He has his own built-in green laser pointer for aiming at the heavens. The pointer is collimatible. It can be operated from atop the ladder or standing on the ground, thanks to two remote switches. One doesn't need to handle the laser, just press the nearest button.

Unhappy note: at the unveiling, the laser didn't work.

Happy note: it now works properly. How does that military job spec go, (Never enough time to do it right, but always enough time to do it over...)

Sas also has two permanent 2" filter holders which can be moved into the field of view by flicking a simple lever at the side of the focuser board. The club does not own any filters, but several individual members have them.

The secondary is protected from dew by a brand-new Astrosystem dew heater donated by Joe Baldwin. Connection to the battery located in the mirror box happens simply by installing the trusses, which automatically engage electric contacts when they are set in place.

Sas's new safety cover for the primary contains a built-in exhaust fan for speeding its cool down in the field. It also runs off the battery in the mirror box. Upon arrival at the observation site, Sas should be unloaded and the exhaust fan turned on before the trusses and secondary are assembled. These procedures are "nested" and far from interfering, they complement each other.

Attaching the secondary cage to the trusses was one of Old Sas's great failings. New Sas's trusses and secondary can be assembled easily by one person, and that is not an exaggeration.

(For any of you who witnessed our difficulty at the Friday meeting demonstration, all I will say is that the problem has been fixed. Now forget it.)

The four trusses are sturdy, robust and quite light. Each has a number on it (1 thru 4), corresponding to a number on the mirror box baffle. (Remember, these trusses have electric connections, which means each must go into its own slot.) The base of each truss has two star-shaped hand knobs that screw into the mirror box baffle. The star-shape makes it very easy to manipulate the knobs.

The top of each truss has a single bayonet bolt that pokes through a hole in the secondary ring, and is engaged by a lever latch on the upper side of the ring. To disassemble, just disengage the latches and lift the secondary off the trusses. It couldn't be much easier.

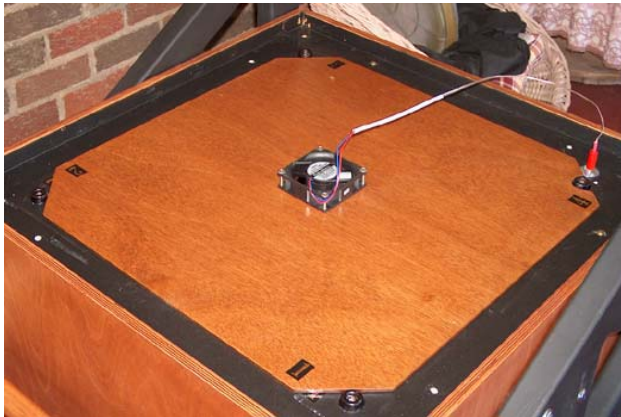
For those of you who will haul Sas in your vehicle, he now has a smooth-bottom slider tray that will allow you to slide him around easily inside your vehicle. Of course you've still got to get him on the deck, but both the mirror box and rocker box have pairs of oversize handles that make it easy for two people to lift and place him.

New Sas wears Old Sas's shroud (after some alteration by Jean Littleton). We couldn't see tossing a workable shroud, so we didn't. When a member hits the Lottery, maybe he or she will be willing to pop for a new coat for Sas. And a couple 2" filters, say a UHC and an OIII.

Bob Arr



Trusstops and Latchlever – the bolts slide through the aluminum centering posts, and both slide through holes in the lower secondary ring. They are pinned there by the latches. Note the electric contacts recessed in the tops of two of the trusses (they connect the secondary heater to the battery).



Safetycover – with built-in cooling fan, 800 cfm. Lead plugs into output jack to connect to battery. Note numbers in corners to assemble trusses.



Trussbases – stacked together for transport, you can see their numbers and the star handles that secure them to the mirror box baffle.



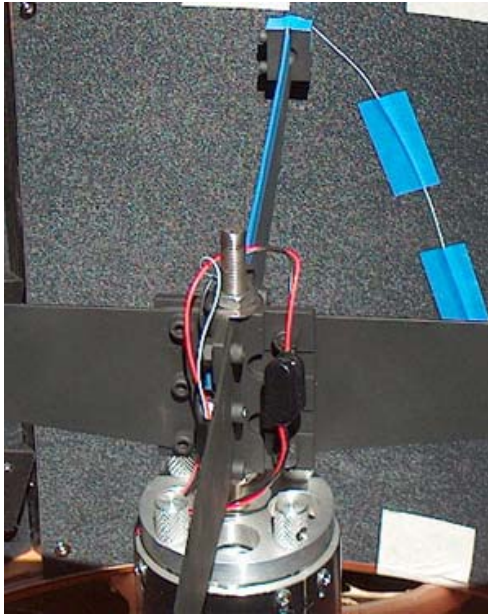
Feathertouch – merely the finest focuser on the market. Note the brass knob on the right: it's for ultrafine focusing, 11:1 reduction gear.



Battery storage box is built into the mirror cell. Instead of dead weight, the battery contributes its weight to the OTA balance.

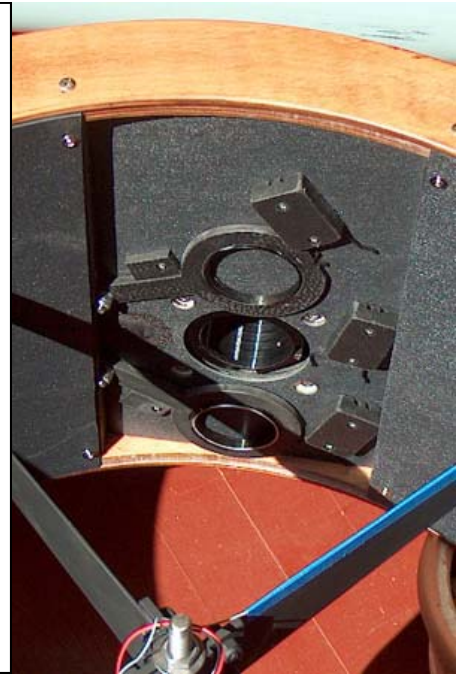
LaserInstalled – that object between the strut and the focuser board is our green laser pointer. Its beam is one mile long and 3 mm in diameter. Slim, eh?





Dewheater – the blue tape traces the path of the hot wire that powers the heater. The heater keeps the secondary mirror two degrees warmer than the surrounding air.

Flippers – secrets revealed. The built-in holders that move their filter into and out of the field of view by sliding levers on the side of the focuser board.



Fully nested, Sas can slide easily inside a van or SUV.

Minutes of the meeting of the SMAS, October 14, 2005 - Lee Erickson

SMAS met in Room 223 of the Alexander building of the Harden Valley campus of Pellissippi State Community College.

Socializing began at about 7:00 and Mike Littleton presided over the meeting which began at 7:30 PM.

10 Members attended and there two guests.

Mike Littleton reported on the Cades Cove public outreach event. Unfortunately the event was the victim of rain and fog. Several members were prepared to go even up to the last minute hoping that there would be an improvement of weather. However by late in the afternoon the weather was not improving and the park ranger reported that fog was moving in to the Cove and so the event was canceled. Mike would like to start planning another Cades Cove public observing event for this spring. Perhaps coinciding with National Astronomy day. This time we want to be assured of access to the amphitheater so that we can have some sort of event rain or shine. We would plan on enough presentation material to show in the amphitheater so that even if were to be rained out the effort would be worth while.

Mike reported on the upcoming Holiday party. It is scheduled to be December 2nd which is a Friday. The location is the Gondolier in Knoxville at 138 West End Avenue.

Angela Quick reported on how she is teaching a class at Maryville College about the Moon. The students are now doing visual observing and sketching. Angela presented some images of the moon with features outlined to demonstrate what different cultures see in the patterns of the craters. Her students also contributed some of their own ideas for patterns on the moon. (I especially liked the PAC-MAN Moon.) The materials for Angela's class are drawn from a number of books and sources. The modern scientific view of the Moon as a place to explore is well represented by Andrew Chaikin's A MAN ON THE MOON. An ancient Greek poem to the goddess Selene represented how humans have been fascinated by the moon and in the absence of a physical understanding of the moon substitute a human like representation.

Bob Arr brought the new and improved 20 inch telescope, Sasquatch, to the meeting. It is close to done. Bob directed our attention to the secondary holder, constructed by Brent Holt, the Starlight focuser donated by Michael McCulloch and the secondary mirror heater purchase by Joe Baldwin. Bob Arr's own investment in wood working to actually construct much of the telescope should also be mentioned. It is looking good!

Erik Iverson then finished off the evening leading a round-robin discussion where members shared how they have prepared for a night's observing.

A good time was had by all.

The Wiz

Hey Wiz,

How come when somebody on our yahoo group asks a question, a lotta people don't answer? That's really impolite!

M. Maners

Dear Mindyer,

Politeness aside, do you really want 41 "Idunnoes" every time you ask "When's The Next Meeting?" Maybe you don't realize it, but when you make a regular reply to any message posted on our yahoo group, your reply goes to all 42 members, not just the originator of the question.

If I post "Hey I'm thinking about going to Look Rock tonight, wanna join me?", I'm hoping for a yes or two. I don't want to wade through 40-odd messages telling me No.

It's rare when someone requests a negative reply. RSVP means exactly that: tell me Yes or No, but definitely tell me either way. There are only a few official times when we request both Yes and No: the picnic (so we can figure food), and the Christmas party (so we can negotiate with the restaurant). Perhaps for a special public event.

So go with the flow, MM. Only positive replies to general questions please, unless stated otherwise.

Da Wiz

To The Moon - Lee Erickson

NASA's "World Wind" computer program was originally designed to deliver satellite images and data of Earth to the Internet. The program recently has been expanded to "transport" Web users to almost anyplace on the Moon when they zoom in from a global view to closer pictures of our natural satellite taken by the Clementine spacecraft in the 1990s. The PC-compatible World Wind program is available free of charge via Internet download. Computer users from more than 100 nations have acquired the free World Wind program.

To download World Wind, visit: <http://link.abpi.net/l.php?20051103A2>

November 2005

SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
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		<i>New Moon</i>			UTK	SMAS Star Party Look Rock #4 TAO
		6	7	8	9	10
	Mars at Opposition					SMAS Meeting PSTCC Rm 223 7:30 pm
13	14	15	16	17	18	19
			<i>Full Moon</i>	Leonid Metemors	UTK	TAO
20	21	22	23	24	25	26
27	28	29	30	1 Dec	2 Dec	3 Dec
					SMAS Xmas Party 7 pm Gondolier Restaurant	