

# Smoky Mountain Astronomical Society

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

Society's ChRonological Astronomical PaperS

From the President - Michael McCulloch

Volume 27, Number 4  
April 2004



## April Meeting

Plan to attend the April 9th SMAS meeting at PSTCC as the topics will include:

- Venus transit presentation by Dr. Kermit Duckett.
- Demonstration, by Angela Quick, of the useful web-only features of the Yahoo group available to all SMAS members.
- Progress report of Astronomy Day/Week activities by Erik Iverson and others principals involved in organizing the event.

We should have time following the meeting for individuals to group together to discuss and plan upcoming activities necessary to make our Astronomy Day events a success.

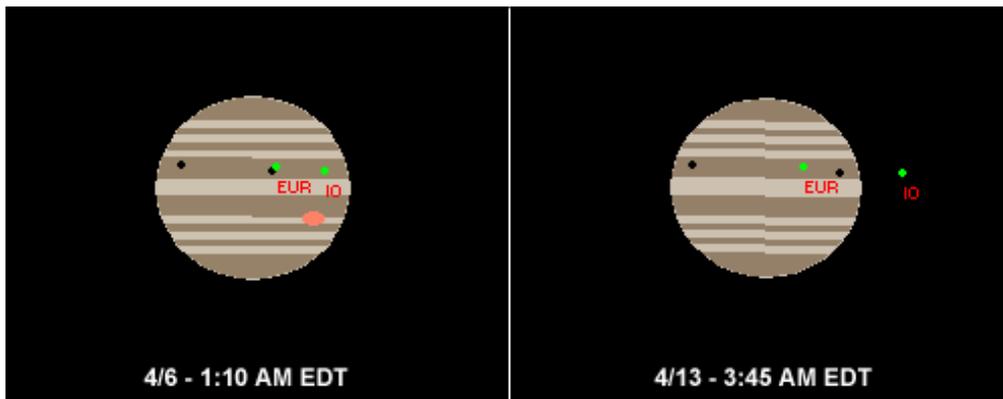
## April Star Party at Unicoi Crest

Weather permitting, SMAS will host a star party at Unicoi Crest on the Cherohala Skyway on the night of April 17th. This may be the first warmer weather star party of the season and the spring galaxies of Leo, Virgo, Coma Berenices, and Ursa Major will be in optimum viewing position. Join us!

*(Please see the maps on the SMAS web site or ask for help in finding Unicoi Crest if needed.)*

## "Jupiter Reloaded" in April

If you missed the multiple shadow transits of March, you still have a couple of good opportunities left in April. The frequency of multiple shadow transit events wanes as Jupiter moves further away from opposition.



## **What You Missed At The Last Meeting—by Angela Quick**

### **Minutes**

SMAS Meeting

Friday, March 12, 2004

Main Campus, Pellissippi State Technical Community College

The meeting began at 7 pm, with 18 members and one guest present.

#### **1. President Michael McCulloch outlined goals for the coming year.**

Key goals for the year include increasing star party attendance, finding ways to get Sasquatch (the club's 18" Dobsonian telescope) out under the stars more often, and scheduling guest speakers on topics of interest to the club. Michael would also like SMAS to host at least two public events this year: an Astronomy Day event at PSTCC April 21 and April 24, and perhaps an October lunar eclipse viewing. We should continue successful programs of the club, such as Telescopes for Kids.

Meetings for the year will continue on the second Friday of the month from 7 to 9 pm in room 223 of the Alexander building at the main campus of PSTCC. There will be meetings on April 9, May 14, June 11, July 9, October 8, and November 12. Our annual picnic will be on Saturday, August 21 at Tamke Allan Observatory. The annual Christmas party will be on Saturday, December 4. There will be no meetings at PSTCC in August or September.

SMAS will continue to hold star parties the Saturday before and after the new moon each month. It might be awhile before Look Rock returns as our public star party site, as repair funds have been delayed. Until repairs are complete, we will use Look Pebble. Public star parties will be the weekend after the new moon at Look Pebble/Look Rock; dates for this year's parties are May 22, June 12, July 10, September 18, October 16, and November 13. Unicoi Crest will continue as our primary dark sky observing site. Dark sky parties will be the weekend before new moon at Unicoi Crest; dates for this year's parties are April 17, May 15, July 17, August 14, and October 9.

Michael suggested some new ideas for star parties as well. He encouraged the club to continue its quest for Dark Sky observing sites. Sites should have skies of NELM 5.5 or better, offer unobstructed views in all directions, and offer reasonable access by vehicle. If you have a site in mind, scout it out and report back to the club! Officers are investigating new observing sites including Buck Bald and Whigg Meadows in the Cherokee national forest near Tellico Plains and Big South Fork Bandy Creek Campground. We plan to try all night

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observing parties at these new locations on the following dates: June 19 at Whigg Meadow or Buck Bald, observation of the Perseid meteor shower from Look Rock on August 11, and a group camping/observing weekend at the Big South Fork Bandy Creek Campground September 10 and 11.

Calendars for meetings and star parties are posted in the files section of the yahoo! group page.

## **2. Erik Iverson presented a proposal for Astronomy Week activities April 21 and 24.**

Astronomy Week is April 18-25<sup>th</sup> this year. Erik thought this sounded like a great opportunity for a public outreach event, so he put together the following ideas. First, he suggested that we hold events at the Pellissippi campus on Wednesday, April 21 and Saturday, April 24. The Wednesday event would be for the PSTCC community only, as a thank you for lending us meeting space; the Saturday event would be open to the public. Each event would have three components: telescopes set up in the parking lot to view the moon, Venus, Mars, Jupiter, and Saturn, video or slide programs playing in the PSTCC auditorium, and information tables in the rotunda and outside to hand out information on the activities and on SMAS. To see a copy of the full proposal, look in the files section of the Yahoo group page.

Response for the proposal was enthusiastic, and the club voted to sponsor the two events. Erik passed around a sign up sheet for telescope volunteers. Erik also volunteered to be event coordinator; he will be assisted by Mike Naney, who will coordinate events with PSTCC, Mike Littleton, who will supervise event safety, and Angela Quick, who will coordinate handouts and displays for the even. We still need a publicity coordinator! Erik suggested that the club approve spending \$25 for copies and advertising; before a vote could be taken, members had tossed over \$25 on the table! (Question answered.)

If you would like to help with the Astronomy Day events, contact Erik Iverson via email at [ebi\\_banana@yahoo.com](mailto:ebi_banana@yahoo.com) or call (413) 812 8787 and leave a message.

## **3. Michael McCulloch highlighted objects in Gemini for the Night Sky presentation.**

The presentation on Gemini highlighted such favorites as M35, the Eskimo nebula, and more! You can view the presentation and accompanying star map at:

<http://www.gamesforone.com/stars/gemini.htm> and

<http://www.gamesforone.com/stars/gemini.pdf>

## **4. Astronomy magazine discount available**

Astronomy magazine offers a club subscription rate of \$29 per year. (A regular sub-

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scription is \$39.95.) We need five subscribers to get the club rate. If you are interested, please let Erik Iverson know now at [ebi\\_banana@yahoo.com](mailto:ebi_banana@yahoo.com) or at (413) 812 8787 (leave a message). The renewals take about four months to process, so it's not too late to indicate interest for next year!

## 5. Open discussion at the end of the meeting

The meeting ended with an open conversation. **A.** On request, Roy Morrow described the mirror grinding exercise supervised by John Dobson at Tamke Allan Observatory. **B.** Bob Arr asked if anyone knew how to identify double stars using the astronomy program Guide, especially in a crowded field. No one present did, but it was suggested that Bob check out the Yahoo! group devoted to the Guide program, and see if someone there knew the answer. **C.** Pete Bush asked if the club was interested in soliciting advertising for the SCRAPS newsletter as a way to raise money for the club. (He has had success with this technique in his homebuilders' association newsletter.) Discussion indicated that our small circulation probably does not make advertising worthwhile at this time. Erik Iverson mentioned that we might also consider "click-through" sponsorship on the SMAS web page. Mike Fleenor responded that traffic sufficient to generate profits would result in bandwidth charges, so this is not a good fund raising option. Erik Iverson said that given the interest in securing additional funds for SMAS, he would present a budget at a future meeting. The club will discuss possible fund raising activities then.

### The Wiz

Monsieur Wizard, la lune, she 'urts my eye when I observe upon her. Tell me, s'il vous plait, ze moon filter, she will 'elp, yes?

#### **Mme S'tunnedorb**

Madame,

Some yes, some no. If you just like to casually scan the moon, the adjustable polarizing filter will let you set the light level where ever it's comfortable. But they aren't good if you're trying to make out tiny features, like rills and crater walls, because two pieces of glass (which they have) make twice as many internal reflections as one. They tend to smear details.

Neutral density filters have only one piece of glass, so that helps. They aren't adjustable, but they are dark enough to keep you from getting after-vision. For what it's worth, ordinary colored filters will have the same effect (reducing the amount of light), and offer a far cheaper alternative.

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One fellow I know never uses a filter and never has a problem. When he wants to work on his AL Lunar Club log, he deliberately observes where there is a lot of stray light (his patio, as a matter of fact) so his pupils never dilate fully. The stray light is just enough to offset the intense moonlight in the eyepiece. You could get the same effect setting up close to any outdoor light (and make it a lot easier to draw sketches!)

**Vive l'astronomie**

### **SMAS Officers for 2004**



Left to right: Lee Erickson, Michael McCulloch, Angela Quick, and Erik Iverson

### **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

## First Star Party of '04

The new year's first star party was scheduled for Saturday, March 20 at South View, and many members were planning to attend. But a sudden cold front developed by mid-week, and by Thursday morning, it was pretty obvious that Saturday would be a washout (it was). But the Clear Sky Clock said that Friday night might be just fine. And it was.

We posted an invitation on the SMAS Yahoo group on Thursday morning for any and all to attend Friday night at South View. Three members did so, Owen Hoffman, Michael McCulloch and Bob Arr. Little did they know how lucky they were going to be.

The sky got darker and darker and darker. The stars got brighter and brighter and brighter. The seeing was rock solid, and Saturn and Jupiter looked like pictures at 600x. (Check the GRS on Michael's photo looking through Emily.)



Winter's masterpieces were fading rapidly in the west, and springtime's blossoming of galaxies were overflowing overhead. Sombrero, Needle, Whirlpool oh Whirlpool! You could see its spirals plainly, and even spirality in NGC 5195, its little companion. The Triple in Leo and the spray of galaxies crowning Cor Caroli all stood out proudly. M3 radiated its dazzling diamonds, and even the Owl planetary (M97) showed us one eye!

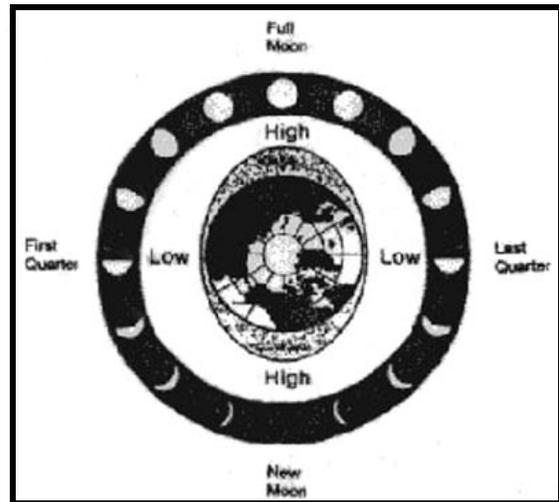
It was at least a mag 6 sky, and the seeing was to die for. About 1 am, Omega Centauri crept up out of the mountains to see what we were doing. By 4, the summer Milky Way bedecked the sky, and we gazed once again on all our old friends from last year, all the way from M4 up the band to the Veil. (Owen said he could see the central star in M57!)



By 5:30, a series of low stratus clouds appeared on the southern horizon, and slowly advanced toward us. But it never was a real threat, because dawn came half an hour later anyway. And breakfast at Hardee's crowned a wonderful first star party of the year.

## Planting by the Cycle of the Moon by Peter Bush

It's often easy to look up at the night sky and think of the things we see "out there" as distant objects with little impact on our daily lives. This couldn't be further from the truth, as displayed by the moon's phases on planting success. Since spring is here, and our thoughts turn to the riot of life that will soon be blossoming forth, I thought it might be appropriate to illustrate this connection between earth and sky.



The Moon's affect on plants and their growth are largely due to two things:

First, light is essential for photosynthesis. The period from First Quarter to Last Quarter supplies roughly three weeks of additional light. This light however, doesn't have the same qualities as sunlight. Moonlight is reflected sunlight, so it's been polarized. In addition, there's some debate about the moon's ability to stimulate photosynthesis. However, it's been said that it may be able to reflect a proportionally higher content of infrared rays than visible spectrum.

Second, are the tidal forces exerted by the Moon. Vector addition of the Moon's gravity relative to our own, results in corresponding bulges on the near and far side of the Earth. (See diagram above).

These bulges are readily apparent in the rise and fall of the levels of the Earth's seas. What few people realize however, is that solid surfaces of the Earth also bend up and down almost a foot, twice a day! It is believed that this tug on the soil and the sub-surface water table and aquifers has a demonstrable effect on plant growth.

While the light and tidal cycles are of the same duration, the tidal cycle has two peaks and the light cycle has only one.

The Moon has two Stages

**Waxing (growing) and Waning (diminishing)**

The Moon has four Quarters

**New Moon, First Quarter, Full Moon, and Last Quarter**

The Moon also has four Intermediate Phases that occur between the Quarters

**Crescent, Gibbous, Disseminating, and Balsamic**

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Thus a synodic cycle of 29.53 days\* would be:

**New Moon > Crescent > First Quarter > Gibbous > Full > Disseminating > Second Quarter > Balsamic >**

(\* This cycle lengthens by about 0.7 seconds per year)

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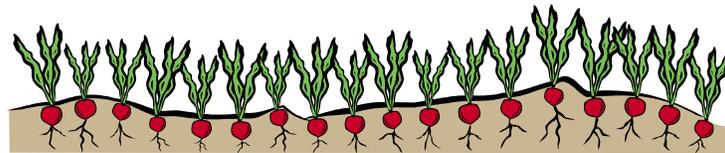
A general rule of thumb is that when the Moon is Waxing, plants develop leaves and 'above ground' systems, and when it's Waning plants develop their root systems. The First Quarter is the best planting time for leafy crops that produce seeds on the 'outside' of the plant such as broccoli, lettuce and corn. The Full Moon is best for crops that produce seeds 'within' their fruit such as tomatoes, peppers, beans, cantaloupes, and watermelons. The Last Quarter is for root crops such as turnips, carrots, onions, potatoes, and radishes. And the New Moon is a dormant period best suited to pruning, weeding and cultivating.

Knowledge of this cycle can also be of value during harvesting. Fruits and leafy vegetables will be loaded with plenty of water and nutrients during a waxing moon and are best harvested then. Root crops requiring storage are best picked during a waning moon.

Thus a synodic planting cycle might be:

**Plant > Germination > Feed > Growth > Harvest > Seed > Prune > Dormancy >**

If you wished, you could plan your gardening years ahead of time because of the astronomical data available regarding the cycle of the Moon. If you decide to try your luck at timing your gardening by the phases of the Moon, I'd be more than happy to judge samples of your efforts!



**Editor—Peter Bush**

Please direct articles and pictures to me at: **865-453-8376** or [pbush1@bellsouth.net](mailto: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 week of the month so members will receive it by the 1st of the following. If you are uncomfortable writing an article, please call me and we can conduct a telephone interview. 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!

# April 2004

SUN	MON	TUE	WED	THU	FRI	SAT
UTK—roof of Neilson Physics Building on The Hill at UT TAO—Tamke-Allan Observatory Public Stargaze Watts Bar Lake, Roane County				1	2 UTK	3 TAO
4 <i>Daylight Savings Time</i>	5	6 Double Shadow on Jupiter	7	8	9 <b>SMAS Meeting PSTCC RM 223 7 PM</b>	10
11 Easter 	12	13 Double Shadow on Jupiter	14	15	16 UTK	17 <b>Star Party Unicoi Crest</b>  TAO
18	19 <i>New Moon</i>	20	21 <b>PSTCC “Private” Star Party</b>  Lyrid Meteor Shower	22	23 <b>SCRAPS Submission Deadline *****</b> Moon near Venus & Mars	24 <b>PSTCC “Public” Star Party Astronomy Day</b>  Moon near Saturn
< ————— <b>Astronomy Week</b> ————— >						
25	26	27	28	29 Moon near Jupiter	30	