



# THE OBSERVER

Newsletter of The Tri-State Astronomers

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## Another Great Outreach Event at Antietam !

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<b>And MORE !!!</b>	

As I have mentioned in previous installments of this newsletter, Maryland's weather is not always cooperative when we are trying to see rare and unusual celestial sights. But no one could have possibly complained about the weather we experienced this past month during the Spring Antietam Public Star Party! There were nearly 200 guests each night, and around 17 telescopes were set up to view the wonders of the dark sky. The time of the event was chosen so as to allow for as dark a sky conditions as possible. In other years, the weekend has been selected so that at least some moonlight was present during the earlier part of the evening. I am sure that TSA members would be curious to know which type of gazin' is preferable during a public gathering such as this? Your comments would be welcome, both at the upcoming May meeting, and in any

comments you would care to submit to me for publishing in **The Observer**. There will be lots of pictures and information about the "Star Party" in this edition.

The club has been outstanding in its participation in outreach activities, and members have gone to schools, campgrounds, and other venues to share their love for the night-time sky. Some of these activities are featured in the following pages, as well.

Steve Berte' has submitted several articles, including a book review for us.

And other features such as Rod Martin's "Our Friendly Skies" will also be found within this issue, so enjoy! Hope to see you at the May meeting!

Jim S. - Editor

## Antietam Battlefield Star Party !

Lots of pictures in this issue.





# Meeting Minutes for April 2009

The April 2009 general membership meeting of the Tristate Astronomers was called to order on April 15 at 7:32 pm with 25 members and guests present. The meeting was very informative and educational. For example there was an excellent puzzler, how-to program on observatory construction, and looks at the night sky.

- Two part puzzler was presented. 1. How do the Mars rovers, Opportunity and Spirit, differ in how they move?  
2. How long have Opportunity and Spirit respectively, been on Mars?

The answers were 1. Spirit drives backwards due to an inoperative right front wheel, and  
2. both have been active five years.

Outreach activities were discussed. Included were:

\*Globe@Night from March 16 to 28 to see how dark the sky appeared. Based on TSA members' observations, 4s and 5s were common.

\*100 Hours of Astronomy was observed with Steve Berte at his Orionis Observatory in Middletown, MD, with about 50 visitors.

## Upcoming activities include:

\*Antietam Public Star Party on April 17 and 18 from dusk until 11:30. Mike's Italian Battlefield Buffet will be open for business for members to celebrate Galileo on April 18 before the star party. 15 people said they planned to attend.

\*Maugansville Girl Scouts will utilize the TSA expertise on May 4 at 6:30 for instruction on telescopes, star charts, and so on. They will then stargaze on May 8 at Cearfoss for completion of their badges.

\*Frederick Cub Scout Pack 371 at Oakdale Elementary School have requested help with stargazing on April 22 from 7 to 10.

\*130 or more fifth graders from Camp Nawakwa in Arendtsville, PA, have requested help on May 13. Programs and stargazing volunteers are needed.

\*A public star party at the Smithsburg Public Library will be held on June 26 around 8:30. Come on out and bring your scope!

\*The Historic Monterey Country Club near Waynesboro, PA, have requested help with a star party on July 18. They will provide volunteers with a free BBQ meal deal!

Following a wonderful rendition of "Thus Spake Zarathustra," the evening's program began.

The program was presented by member Steve Berte and was entitled "The Orionis Observatory A Backyard Observatory Project." Pros, cons, decisions, considerations were discussed. Several important decisions need to be made to accommodate the construction. What kind of dome is desirable, POD or ExploraDome? How will it be constructed, do it yourself or contractor? How should the interior be designed, features, pier, gear? Where is the best, and legal, backyard location? These questions, some of which I hadn't considered, were discussed and the final product was revealed. First light was November 16, 2008. Well done Steve!

Following the break, the educational portion of the meeting began. "Skylights" by Rod highlighted the evening sky. Jack Horkheimer's "Star Gazer" discussed using the Moon to find several planets as well as an upcoming occultation.

The "Constellation of the Month" is Bootes, and the "Object of the Month" is NGC2683. This is the UFO Galaxy in the constellation Lynx. 2683 is an edge-on spiral at magnitude 10.6 about 16 million light years distant. <Ed. Note: see next page>

The TSA has two observing SIGs (Special Interest Groups). Use them to enhance your observing experience. The Messier Club's goal is to find 70+ Messier Objects without use of setting circles and is coordinated by Steve Berte and Jim Stanicek. A Lunar Club is being formed based on Charles Wood's Lunar 100 List or the Astronomical League's list. More information will be coming from Steve.

The Grillin' and Gazin' dates and locations are set! The first is Saturday, June 20 at Gary Seligman's house near Beaver Creek. The July G&G will be hosted by Roger Adlon in Clear Spring on Friday, July 10. The third one will be Saturday, August 22 at Rod Martin's in Chambersburg, PA. Remember, the grillin' is followed by gazin' if it's clear!

Under Officers' Reports:

\*Treasurer Steve Ott reported a balance of \$2122.

\*Newsletter Editor Jim Stanicek returned following an extended illness. It is noted that he was warmly welcomed back by all! Jim asked for articles and observations for the newsletter.

\*The position of Program Director was filled by unanimous vote by Steve Berte. Thanks Steve! Many thanks go to Mike Sager whose term expired, for his many programs. Mike continues with coordinating outreach.

Dues are due at \$15.

It was suggested that the TSA consider joining the Radio Club in Martinsburg, WV, on a day trip to the NRAO at Green Bank then onto Cass Railroad. Costs would be in the \$70-80 range. The trip leaves on July 31 around 5:30 a.m. and return around 10:30-11 p.m. Emails will be sent about the event for interest.

The meeting was adjourned at 10:03.



## THE OBSERVER

is the monthly newsletter of the TriState Astronomers.

TSA is a nonprofit group that was established in 1985 to promote astronomy and encourage related activities to interested persons in the Maryland, Pennsylvania and West Virginia Area. Membership in the TSA costs \$15.00 annually. The group meets on the third Wednesday of the month in the planetarium of the Washington County Board of Education in Hagerstown, Maryland.

Outdoor observing sessions are usually scheduled each month during the weekend of the new moon, weather permitting.

## TSA OFFICERS

Dan Kaminsky . . . . . Chairman  
Rod Martin . . . . . Secretary  
Steve Ott . . . . . Treasurer and  
Membership Chairman  
Andy Smetzer . . . . . Publicity Dir.  
Steve Berte' . . . . . Program Coord.  
Jim Stanicek . . . . . Newsletter Editor  
Andy Smetzer . . . . . Webmaster  
Mike Sager . . . . . Outreach & NSN

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[www.tristateastronomers.org](http://www.tristateastronomers.org)

NEW MEMBERS ARE  
ALWAYS WELCOME!

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### Visible Evening Planets

SATURN is visible all night.  
MERCURY may be visible after sunset early in the month.

### Visible Morning Planets

VENUS is very bright in the east just before sunrise.  
JUPITER is bright in the southeast before sunrise.  
MARS rises before the Sun.

For more information about the visible evening planets and nighttime sky, download the planetarium's podcast "Skylights" from antpod.com.

### SOLAR SYSTEM

Early risers may see an interesting alignment of the planets near the end of the month. Six of the planets will be in line at the end of May. One will be tough to see because of its location and two others will require binoculars or a telescope. The planets will be within 70 degrees.

At the end of the month the Sun rises before 6 a.m. The closest planet to the Sun is Mercury. It is fairly bright at +2 magnitude, but rises about 45 minutes before the Sun. It will be difficult to see in the twilight glare. The rest rise at least an hour and a quarter before the Sun. South of Mercury and the Sun are Mars at +1.2 magnitude, brilliant Venus at -4.3, faint Uranus at +6, Jupiter at -2.5, and dimmest Neptune at +8. You'll use the binoculars for Uranus and Neptune.

You can't miss Jupiter this month. It rises around 3 a.m. early in May and around 1 a.m. late. It is very close to Neptune this month. On May 27 Jupiter will be less than the width of a full moon south of Neptune. Neptune will look like one of Jupiter's moons above the giant.

Venus is the brilliant beacon visible about two hours before sunrise. It is brighter than anything in the sky except the Sun and Moon. Watch it pull away from Mars most of the month.

Mars is brightening in the morning sky in the constellation Pisces. It will improve as the year passes.

Mercury passes inferior conjunction on May 18. On that day it passes between the Earth and Sun, leaving the evening sky and entering the morning. It is not easy to spot since it spends most of its time in the twilight glare.

Saturn rules the evening sky high in the southwest as darkness settles in. The rings are narrow to our field of view, but they will slightly open before closing and becoming edge-on in September. A telescope will show some of its larger moons.

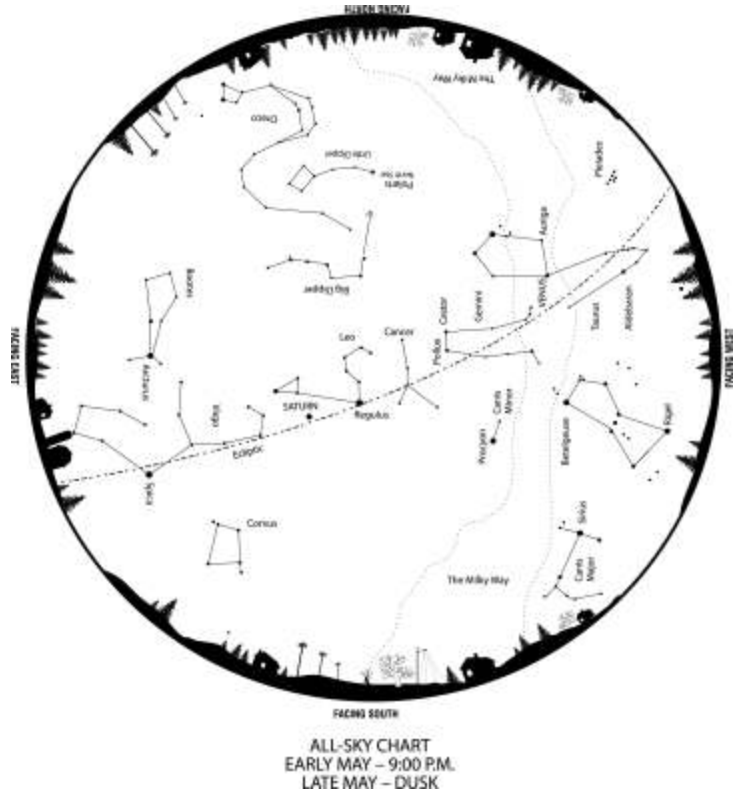
From the beginning of the month through May 28, don't be surprised to see fragments from Comet Halley burning up in our atmosphere. The eta Aquarid meteor shower peaks on May 9. The meteors are debris from the many passages of Comet Halley into the inner solar system. These grains of rock and ice may be best seen just before morning twilight begins. Unfortunately there is a full moon to block some from view.

### SUN AND MOON

On May 1, the Sun rises at 6:11, sets at 8:05 for 13 hours and 54 minutes of daylight. By May 31, the Sun rises at 5:45, sets at 8:32 for 14 hours and 47 minutes of daylight.

The Sun enters the astronomical boundaries of Taurus from Aries on May 13.

The Moon reaches first quarter on May 1, full on May 9 which is called the Planting or Milk Moon, last quarter on May 17, new on May 24, and a second first quarter on May 30.



### BRISH PLANETARIUM AND EVENTS

2009 is the International Year of Astronomy. 400 hundred years ago Galileo first pointed his telescope toward the sky and revolutionized astronomy. His observations helped provide the proofs that the Earth revolved around the Sun instead of the other way. The Tristate Astronomers are very active and hold many events to share our hobby. For more information about schedules and special events, go to

[www.tristateastronomers.org](http://www.tristateastronomers.org)

The planetarium has concluded its public programs for the current school year. Programs will resume in October with "Planets."

The planetarium is located at the Central Offices of the Washington County Public Schools on Commonwealth Avenue off Frederick Street in Hagerstown. The planetarium's website is

[http://www.wcboe.k12.md.us/content/d\\_i\\_planet.cfm](http://www.wcboe.k12.md.us/content/d_i_planet.cfm).



NGC 2683 The Flying Saucer Nebula

Photo: Doug Matthews/Adam Block/NOAO/AURA/NSF

# Outreach Activities - Discovery Station Telescope Workshop



Hand Painted artwork by Diane Moscatelli, who has now become a member of the Tri State Astronomers !

DEAR TRISTATE ASTRONOMERS:

I WANT TO THANK YOU FOR BEING SO GENEROUS WITH YOUR TIME AND EXPERTISE AT THE DISCOVERY STATION, SATURDAY.

I CAME HOME, SET UP MY TELESCOPE AND SAW MY FIRST STAR THAT VERY NIGHT! I HAVE NO IDEA WHICH STAR OR EVEN WHAT CONSTELLATION BUT IT WAS SO EXCITING.

THANKS FOR SHOWING ME HOW TO PUT IT TOGETHER & FOR SPENDING SO MUCH TIME FINDING THE MODEL # AND DIRECTIONS.

I AM LOOKING FORWARD TO MANY WONDERFUL NIGHTS EXPLORING THE UNIVERSE.

SINCERELY,

*(Diane Moscatelli)*



## The Antietam Public Star Party

The crowds begin to assemble around the telescopes and TSA Club members, even before the skies become dark.

Here a group of fellows is examining a truss-frame Newtonian Reflector telescope

More pictures to be found on following pages.

Photo Credits: C. & D. Kaminsky

# TSA Outreach and Activities Page ANTIETAM !

It has always been said, “A picture is worth a thousand words.” So here are several thousand words worth of pictures from this month’s public star party at the Antietam Battlefield. Photo Credits C. and D. Kaminsky



Four veterans of the Battlefield, Andy Smetzer on the left, with his home-built reflector, and Rod Martin on the right, with “Old Bones”, a truss style reflector, that got its name because it “squeaked” every time it was moved from one object to the next. The pads were replaced, and alas, it squeaks, no more. We kind of miss that sound, Rod!

On the left, Steve Berte’, sets up his equipment as the sun sets behind him. Note the portable adjustable height chair that Steve described in fine detail in “The Observer” a few months ago. Steve has only been a member for a short time, but has already taken on the responsibilities of Program Co-ordinator, and coordinator of “The Messier Club” and a newly formed project dedicated to observing many features on the Moon. Great job, Steve!

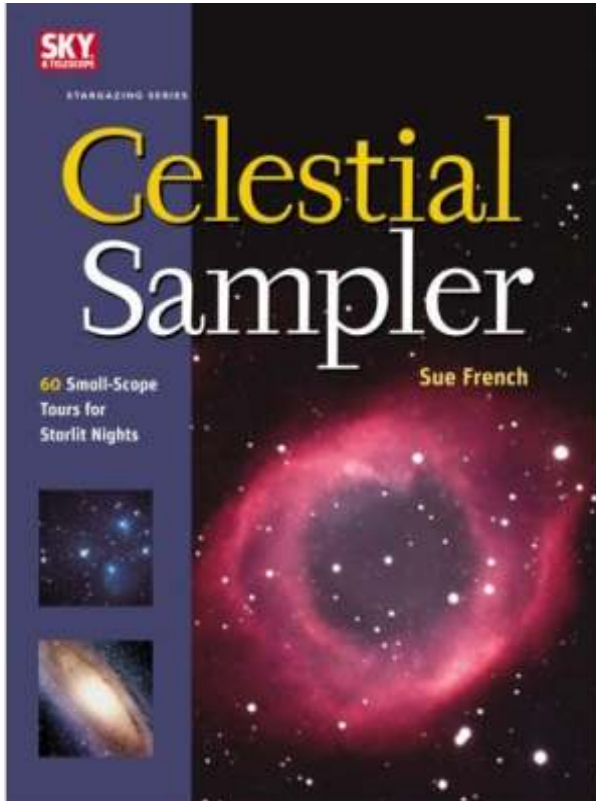


On the right, Bob Kochenaur stands by his excellent reflecting telescope, contemplating what he might be able to see in the night’s clear skies. Bob has been a member for many years, and has always done an outstanding job of showing members of the public astronomical sights they have probably never seen before!



TSA members Andy Stanicek, and Barry Schmidt enjoy a spirited conversation before it gets dark and they settle into their jobs of guiding the public through the night skies.

Later on, Barry manned a telescope, while Andy used a green laser and Rod Martin’s “Our Friendly Skies” podcast to point out to the interested guests, the various naked eye objects and constellations visible in the dark skies over the battlefield.



This is the first in a series of Astro Book Notes that I hope we can make a regular part of The Observer. My aim is that we share the books in our respective astronomy libraries. I'm certainly not qualified to provide a critical review of the books and that is not my intent nor need it be yours. Rather, all we need do is provide a summary of what a book contains and offer any opinions we may have from our own experience on their usefulness so others can decide whether to check them out from the library or purchase them themselves. Hence, the column will contain "Notes" rather than "Reviews".

Although I have a shelf of books I can share, I don't want to be the only person sharing books as I know many of you have much better libraries and have more knowledge and experience than I. I encourage you all to look at your own libraries and do similar Book Notes for The Observer. I'm absolutely sure the editor will appreciate your input! <Editor's note, I will, I WILL!!!!> If we all just do one summary a year, we'd be able to share more than a book a month in The Observer to the benefit of all. If you are interested in contributing, please look at your collection, choose a title and submit it to Jim Stanicek so he can work with us all to get an idea of when to publish our articles.

By providing the name of the book you'd like to discuss rather than just saying you'll do a note, Jim will be able to coordinate our input so we don't have any duplication of effort.

The subject of this month's Astro Book Note is a book by Sue French who writes the monthly Deep Sky Wonders column for Sky & Telescope Magazine. If you are not familiar with the column, it focuses on Deep Sky Objects visible in small to large aperture telescopes. For those looking for monthly ideas on what to view, her column is a wonderful resource.

In 169 pages, the paperbound "Celestial Sampler" compiles 60 tours suitable for small telescopes and organized by month. The book opens with a very brief introduction to observing followed by monthly "All Sky" Maps for the entire year.

By page 33, Ms. French launches into monthly observing plans and goes on to provide five plans for each month of the year. As in her monthly S&T column, she discusses each object, includes some color astrophotographs, a star chart of the area of sky in which the objects are found, and a table that lists the objects along with their type, magnification, distance from earth, and their RA and Dec. These latter data can be used to program GoTo scopes to find the objects, but the author provides clear star hopping instructions in the accompanying text making finding the objects easy irrespective of the type of scope you own.

The book covers a wide variety of types of objects including asterisms, carbon and variable stars, multiple stars, star clusters, galaxies, and nebulae (emission, reflection and dark). Each monthly cluster of five plans cover most of these object types so by the time you are only a few months into the book, you will have been treated to a really nice array of targets to admire. Another nice feature of the observing plans is that they are not drawn solely from the more common Messier and NGC catalogs. Other sources include, but are not limited to, the IC, Markarian, Stock, Struve, Stein, Dolideze-Dzimssejvili (Do-Dz), Collinder, Trumpler, Kemble, SAO, and Barnard catalogs. I think that given the diversity of sources from which the DSOs in "Celestial Sampler" are drawn, observers of all skill levels will find objects to enjoy in this fine book by an outstanding astronomical observer. Enjoy!

TSA Program Coordinator, Steve Berte'

<Ed note: > Steve has uploaded 12 files to the TSA Google Groups page. If you haven't visited it before, here is the link:

<http://groups-beta.google.com/group/tristateastronomers>

Most of these files have been scavenged from the Web as you'll see by noting authorship or embedded URLs. Just thought it would be helpful to have some references relevant to our club activities in one spot.

1-Observing the Moon (PDF): A primer on lunar observing

2-Lunar 100 Map-List (DOC): Overview map of item locations followed by a listing of Lunar 100 with hot links to "the-moon wikispaces" site with details for each item.

3-Lunar 100 Gde, Argenziano-Watson (PDF): One of the documents I mentioned in my initial email. Provides observing sheets and listing by lunar days of Lunar 100 items you can see.

4-Lunar 100+ (XLS): Spreadsheet I put together the provides Lunar 100 with Rukl chart references, best days (waxing and waning) to observe (these are estimates), columns to record date, seeing conditions, observation notes, and whether you have completed your observations to your satisfaction (i.e., do you want to look at it again?). The spreadsheet format is useful because you can easily sort by Lunar 100 number, waxing or waning days, etc. You can print the sheets and use them to write in your observations, or transcribe observations from your field book into the spreadsheet after the fact.

5-At Home in a Dome (PDF)- Great overview of considerations for building an observatory including on the roof of your house.

< cont. on next page >

# TECH NOTES - LUMICON FILTER SELECTOR - STEVE BERTE'

Are you tired of threading and unthreading filters from your eyepieces? Wouldn't it be nice if you could quickly compare the effects of two different colored filters on a planet you are observing? How about quickly switching between different narrow band filters (e.g., an Ultra High Contrast {UHC} and OIII) to see which gives the best effect on a given nebula? This month's note is about a piece of equipment that will allow you to do all these things.

The 1.25" Lumicon Filter Selector is a device that enables you to switch between up to 5 different filters without ever removing your eyepiece. In practice, 4 filters is the maximum number you're likely to use, but I'm getting ahead of myself!



The Filter Selector is an adapter with no internal optics that fits between your telescope and your eyepiece. You install it in lieu of your eyepiece then insert the eyepiece into the Filter Selector. Between the Filter Selector's nose piece and the eyepiece is a sliding horizontal tray that passes through the Filter Selector's body. The tray has 5 threaded holes into which you can install filters. Although it can hold 5 filters, I typically never use more than 4 so I have one slot open for unfiltered views.

Once you've loaded the Selector, all you need do is gently push the selector tray left or right to select the filter you want. No more threading, unthreading, or interrupted observing! There are detents in the selector at each filter position so with just a little pressure it will move left or right and stop at the next filter location. You therefore don't have to remove your eye from the eyepiece while operating the device and can very effectively do comparisons between filter effects.

The Lumicon Filter Selector comes in 1.25" and 2" filter/eyepiece sizes. Whereas the 1.25" device has 5 filter positions, the 2" device has a total of 4. Typical retail price for the 1.25" and 2" models are \$130 and \$170, respectively, but if you keep your eyes on Astromart or online forums, you may be able to pick up a used one for less. From my experience, the price is worth it though as I find the convenience of being able to so rapidly apply and change filters has led to my using them much more often than when I had to play "The Threading Game"!

Have a piece of equipment that you think others might like? Whether it's a delightful device, charming chair, fantastic filter, bodacious binos, terrific telescope, or wonderful widget, we'd love to hear about it! Please write up a Tech Note and share it with other TSA members. I think you can see from this piece that you needn't be any kind of technical whiz. All we'd like to know is what you have, a quick summary of what it does and why you like it. Just pique our interest and we can dig up the technical specs ourselves if we feel the need. So please start rummaging through your equipment boxes and start writing up your own brief Tech Note to share with other readers of The Observer. Jim Stanicek would be happy to have you sign up by telling him the subject of a future Tech Note you'd like to contribute. Contact him soon!

Steve Berte' - Program Director

< Ed. Note: > This is a continuation of the list of uploaded files to the web site as found on the previous page >

6-Orionis Observatory (PDF)- Slides from my presentation on my observatory project (presented at April TSA Mtg)

7-NexStar Serial Adapter (PDF)- Article on how to make bluetooth harness for Celestron NexStar hand control system (referenced in April Observer Tech Notes article).

8-Scope Calculator Template (XLS)- Spreadsheet into which you enter your scope's and eyepieces' specs and it provides magnification and FOV in minutes as well as theoretical maximum usable magnification for your scope.

9-Messier Map Refs (XLS)- Spreadsheet identifying Pocket Sky Atlas and Sky Atlas 2000 pages on which each Messier object can be found.

10-Messier Object List (XLS)- SS with much technical data about each Object pulled together by Dan Kaminsky. It was the source for the Map Refs file above.

11-Messier Objects by Season (PDF)- Just what it says it is.

12-Messier Club Observing form (PDF)- Use for recording your observations.

Enjoy,  
Steve Program Coordinator