

# The Spectrogram

Newsletter for the Society for Telescopy, Astronomy, and Radio

June 2005

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<http://www.starastronomy.org>

## June's Meeting

The next meeting of S\*T\*A\*R will be Thursday, June 2nd.

Rob Siverd, who is graduating in astrophysics from Princeton, will present "Small Telescope Earthshine Observation".

The goal of this project was to evaluate the efficacy of earthshine observation with an 8" Schmidt-Cassegrain telescope and develop tactics and protocols for future small-telescope observers. Pending acquisition of good data, specific features related to Earth topography, specifically so-called "coastline crossing events" were sought within the spectra. These remain undetected to date because of hardware limitations.

The meeting will also be our AGM.

The meeting will begin promptly at 8:00pm at the King of Kings Lutheran Church, 250 Harmony Road, Middletown.

## Thanks to Contributors!

Thanks to all this month's contributors to the *Spectrogram* (Steve Walters, Steve Fedor, Randy Walton, Greg Crinklaw). If you'd like to follow in their footsteps, **the deadline for the next edition of the *Spectrogram* is Friday August 26th**. Please email any contributions to [gwarnes1@comcast.net](mailto:gwarnes1@comcast.net).

**September's Meeting will be held on Thursday September 1<sup>st</sup>. Enjoy the Summer!**

## Calendar

### September 2, 2004

History of the Telescopes  
Ernie Rossi

### October 7, 2004

Constellation Myths  
Dr Hank Bartol, Newark  
Academy

### November 4, 2004

X-Raying the Hearts of  
Supernova Remnants  
Jeremy Carlo, Columbia  
University

### December 2, 2004

Eclipse!  
Ken Legal

### January 6, 2005

Business Meeting on Telescope  
Purchase

### February 3, 2005

Imaging by the S\*T\*A\*Rs

### March 3, 2005

Astronomy & Astrology in  
Mesopotamia  
Dr. Ron Wallenfels

### April 7, 2005

Digital Universe  
Carter Emmart, Rose Center

### May 5, 2005

Cassini Mission to Saturn  
George Lewycky

### June 2, 2005

Small Telescope Earthshine  
Observation  
Rob Siverd, Princeton  
Plus AGM

## President's Corner

By Steve Walters

Sorry but I can't resist seizing the pen and writing a message to all of you S\*T\*A\*R\*s from the President's soapbox. But it's not about the aspirations I have for our club, it's about how I hope you'll spend your summer.

### A Summer of Star Parties!

About 25 years ago, when I first joined S\*T\*A\*R, our club had frequent group activities. We would observe after meetings. We had classes in basic astronomy at Huber Woods. We went as groups to star parties like Jersey Starquest and Stellafane. And we had the annual picnic. There was a lot of mingling among members, both experienced and novices like myself.

I still remember the night that Allen Sheiness, Frank Loso and I hunted down 3C273, a 12.8 magnitude quasar that could only be seen as a tiny stellar point of light in our little 8" telescopes at Huber Woods Park. It was so faint that we had to use averted vision just to see it. We were so excited by finding this object. Why? Because quasar 3C273 is 2 billion light years distant. At the time, that was the most distant object any of us had ever seen and for me, it still is. What a feeling that was, to find this needle-in-the-haystack and to capture 2 billion year old light with our eyes. And it was made all the better by being together, a shared experience.

Recently, I was reminded what a thrill group observing can be. A large group from S\*T\*A\*R was at the Burke Road site and I had the good fortune to be next to Nancy McGuire when she found M-41 for the first time. It was the first Messier object she had found on her own with absolutely no help or coaching. What a treat it was to see her excitement! It turns out that the very first object I found was also M-41. And it reminded me of the night that Frank, Alan and I found 3C273.

I think all of us remember the moment when we finally discovered that it really is possible to navigate the night sky and see the beautiful sights that are hidden there. It's a secret world, you have to work hard to find your way in. But once you're there, so many treasures are revealed to you. From M-41 to 3C273, each has its own challenges and rewards. And being with friends having the same mutual interest when that moment occurs creates an excitement that is a wonderfully infectious part of amateur astronomy.

So here's my message: The summer is upon us. There are star parties every month of summer and on into the fall. I've already signed up for the Greenbank WV Starquest, Rockland Summer Star party, the Black Forest Star party and Stellafane. And I plan to get out to as many S\*T\*A\*R

parties as I can whether they're at Catskill Ernie's, Coyle, BW2, Burke Road, Gavin's house or wherever. Naturally I'll be at Cherry Springs every possible month to do imaging. I really hope I'll see every one of you at one or another of these outings. Get out there and find a new object, learn the constellations, see the Milky Way, explore the secret world of the night sky. Challenge yourself to find something you've never seen before. And find it with someone from S\*T\*A\*R, it'll be all the more rewarding. Get infected by the night sky!

Clear Skies!

Steve...

## May Meeting Minutes

By Steve Fedor

The May 5th, 2005 meeting of S\*T\*A\*R Astronomy was attended by 39 members and non-members. At 8:07 pm president Steve Walters called the meeting to order. Steve began by welcoming a new member and announcing that "Scope and Tell" during coffee break would be Doug Berger's 16 inch Teeter-Waite Dobsonian telescope. Steve also noted that the next meeting in June would be the annual business meeting and we would also have a graduate student from Princeton University speaking on exoplanets.

Georg Lwycky presented a fascinating talk on Saturn's largest moon Titan. George as an amateur obtained time on the Hubble space telescope. George researched Titan's atmosphere using the Hubble's Goddard High Resolution Spectrograph to search for formaldehyde, one of the building blocks of DNA. The research could hold clues to how life emerged on earth. The talk also included detailed information on the Cassini mission. George has a website which explains his research efforts at [www.georgenet.net](http://www.georgenet.net) and can be reached at [grlewycky@yahoo.com](mailto:grlewycky@yahoo.com). The talk ended at 9:11.

During Coffee break Doug Berger displayed his beautiful new Dobsonian telescope. It was manufactured by Teeter Telescopes and uses a 16 inch Waite Research mirror.

At 9:38 the meeting resumed with "Objects of the Month." There were two presenters, Tim Tierney and Jordan Feder. Tim : Meteor shower near Mars at 4:00am that evening, M104, and gave an update on the visible planets. Jordan: Temple 1 comet through Virgo near galaxies 4762 and 4754. Leo Trio, M96 and a sketch he drew of a current sunspot.

Doug Berger also mentioned that Uranus and Mars could be seen close to each other rising 2 hours after moonset on May 15th.

## Announcements:

Gavin Warnes:

-Successful day of solar observing at the Manasquan reservoir event on April 17.

-Outdoor Expo on 5/15 at Turkey Swamp Park for solar observing and membership drive. Directions were handed out.

Dave Britz: Thanked members Charles Kirby, Gavin Warnes, Dennis O'Leary, Ken Legal, Larry Campbell for their help at the Neptune school star party.

Steve Walters: Gave talks on imaging at a school in Long Island and astronomy at a local elementary school.

Dennis O'Leary: Explained the progress on improvements to the club's 25 inch Obsession telescope including the sling replacement, electrical components, collimation bolts and ramps. Dennis stressed the need for volunteers to store and transport the scope. If you can help with this, please contact Dennis.

## SIG Reports:

ATM: Gordon Waite announced Herb Johnson created an 1/8th wave mirror.

Beginners: No report.

Observing: Tim Tierney discussed the recent public and private events at Allaire Park. The public event was attended by 50-100 people. The park naturalist inquired if S\*T\*A\*R would continue these events.

Imaging: Steve Walters announced that Nick Lordi will display his artistic processing of astrophotography at the Hyatt in New Brunswick on June 10, 11.

Outreach: Gavin Warnes reiterated the need for volunteers at the 5/15 Turkey Swamp Outdoor Expo. Gavin also discussed the successful Cheesquake Park star party and mentioned it will be held again in September.

Steve Walters then discussed updating the club's web site. He discussed changing the way the site can be navigated as well as updating the pictures. Daniel Handlin indicated he is familiar with web programming and volunteered to work on this project.

The 50/50 was drawn- winner Doug Berger.

The meeting was then adjourned. Observing took place behind the church through Doug's new telescope.

## Turkey Swamp Expo

Well, our string of luck with solar observing events ran out on Sunday May 15th. We still had a good day though. and the forecast thunderstorms never showed up. Dave Britz brought his Daystar, Daniel his PST, Mike Sullivan his Mak with a white light filter, and Gavin brought an XT6 and a PST. Steve Scaravella's canopy protected the equipment from the odd spot of rain we had. Larry Campbell set up a planet walk along the banks of the lake and took some

unwitting members if the public on a 4,000 feet hike to Pluto! Steve Fedor came by with his daughters, and Ken Legal brought some much needed table and chairs. We also built a scale model of the earth and the moon out of playdoh with kids and their parents. Despite the cloudy weather lots of people stopped by to chat, took handouts and we have a list of names on the sign up sheet. Thanks very much to everybody who participated!

## Almost Heaven Star Party June 2<sup>nd</sup>-5<sup>th</sup>

NOVAC is pleased to announce that it will be holding its first regional Star Party at Spruce Knob, West Virginia on June 2-5, 2005. The event will be held at The Mountain Institute in one of the darkest areas on the east coast and is at an elevation of about 4200 feet. Please check the following web site for more information

<http://www.novac.com/AHSP/index.php>.

Registration is now open and there is an automated process so that it can be done completely on-line. If you have questions please send an email to [AHSP@NOVAC.COM](mailto:AHSP@NOVAC.COM).

All proceeds from this event will go to the Virginia Outdoor Lighting Taskforce - VOLT.ORG to support their efforts to fight light pollution.

## Group Purchase of Coronado H-Alpha Solar Observing Equipment

Randy Walton (732) 458-3465 is collecting the names of ASTRA and STAR astronomy members, and what equipment they may want to buy, at about the end of June. You can see the equipment and list prices at [www.coronadofilters.com](http://www.coronadofilters.com), select in the SITE DIRECTORY: Product Catalog. The discount will depend on how much equipment we can put in the group purchase.

## Seeing in the Dark with Spitzer

*By Patrick Barry & Tony Phillips*

Have you ever gotten up in the middle of the night, walked to the bathroom and, in the darkness, tripped over your dog? A tip from the world of high-tech espionage: next time use night-vision goggles.

Night vision goggles detect heat in the form of infrared radiation—a "color" normally invisible to the human eye.

Wearing a pair you can see sleeping dogs, or anything that's warm, in complete darkness.

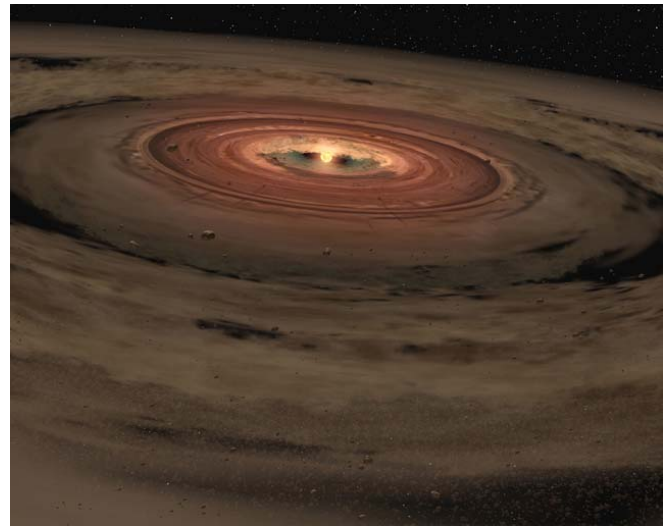
This same trick works in the darkness of space. Much of the exciting action in the cosmos is too dark for ordinary telescopes to see. For example, stars are born in the heart of dark interstellar clouds. While the stars themselves are bright, their birth-clouds are dense, practically impenetrable. The workings of star birth are thus hidden.

That's why NASA launched the Spitzer Space Telescope into orbit in 2003. Like a giant set of infrared goggles, Spitzer allows scientists to peer into the darkness of space and see, for example, stars and planets being born. Dogs or dog stars: infrared radiation reveals both.

There is one problem, though, for astronomers. "Infrared telescopes on the ground can't see very well," explains Michelle Thaller, an astronomer at the California Institute of Technology. "Earth's atmosphere blocks most infrared light from above. It was important to put Spitzer into space where it can get a clear view of the cosmos." The clear view provided by Spitzer recently allowed scientists to make a remarkable discovery: They found planets coalescing out of a disk of gas and dust that was circling—not a star—but a "failed star" not much bigger than a planet! Planets orbiting a giant planet? The celestial body at the center of this planetary system, called OTS 44, is only about 15 times the mass of Jupiter. Technically, it's considered a "brown dwarf," a kind of star that doesn't have enough mass to trigger nuclear fusion and shine. Scientists had seen planetary systems forming around brown dwarfs before, but never around one so small and planet-like. Spitzer promises to continue making extraordinary discoveries like this one. Think of it as being like a Hubble Space Telescope for looking at invisible, infrared light. Like Hubble, Spitzer offers a view of the cosmos that's leaps and bounds beyond anything that came before. Spitzer was designed to operate for at least two and a half years, but probably will last for five years or more.

For more about Spitzer and to see the latest images, go to <http://www.spitzer.caltech.edu/spitzer>. Kids and grown-ups will enjoy browsing common sights in infrared and visible light at the interactive infrared photo album on The Space Place, [http://spaceplace.nasa.gov/en/kids/sirtf1/sirtf\\_action.shtml](http://spaceplace.nasa.gov/en/kids/sirtf1/sirtf_action.shtml).

*This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.*



*Artist's rendering of brown dwarf OTS44 with its rotating planetary disk*

## Are you a S\*T\*A\*R Member?

S\*T\*A\*R is a member of United Astronomy Clubs of New Jersey (UACNJ) and the International Dark Sky Association (IDA). Meetings are the first Thursday of each month, except July and August, at 8:00 PM at the King of Kings Lutheran Church, 250 Harmony Rd. in Middletown. Meeting generally consist of lectures and discussion by members or guest speakers on a variety of interesting astronomical topics.

Memberships: ( ) Individual...\$25  
( ) Family...\$35 ( ) Institutional \$25

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_ Zip \_\_\_\_\_

Phone \_\_\_\_\_

Email \_\_\_\_\_

Make checks payable to: STAR Astronomy Society, Inc. and mail to P.O. Box 863, Red Bank, NJ 07701

## Moon Phases



June 6   June 15   June 22   June 28







# June Celestial Events

By Randy Walton

Day	Date	Time (LMT)	Event
Sun	1	01:17	Saturn Sets
		02:24	Last Quarter Moon
		02:44	Moon Rise
		03:13	Mars Rises
		04:55	Jupiter Sets
		05:06	Mercury Rises
		05:59	Sunrise
		19:55	Sunset
		20:35	Venus Sets
		Wed	4
		19:57	Sunset
Sun	8	04:45	New Moon
		05:47	Moon Rise
Sat	14	12:30	Saturn Sets
		01:18	Moon Sets
		02:45	Mars Rises
		04:05	Jupiter Sets
		05:00	Mercury Rises
		05:46	Sunrise
		20:08	Sunset
		21:05	Venus Sets
Mon	16	02:17	Moon Sets
		04:57	First Quarter
Moon			
Thu	19	19:45	Double shadow transit on Jupiter
		20:12	Sunset
Mon	23	16:18	Full Moon
		20:36	Moon Rise
Thu	26	20:18	Sunset
		21:40	Double shadow transit on Jupiter
Sat	28	00:44	Moon Rise
		02:20	Mars Rises
		03:10	Jupiter Sets
		05:10	Mercury Rises
		05:35	Sunrise
		20:20	Sunset
		21:35	Venus Sets
22:40	Saturn Sets		
Mon	30	01:49	Moon Rise
		07:47	Last Quarter Moon
Tue	31	05:00	Mars 0.5 deg, N of Moon

## In the Eyepiece

If you are not worn out by all of April's Messier objects, here is a list of more objects for this month. This is reproduced from [www.skyhound.com](http://www.skyhound.com) with the kind permission of its creator and author of SkyTools Greg Crinklaw.

Object(s)	Class	Con	RA	Dec	Mag	
<a href="#">Mu Boo</a>		Multiple Star System	Bootes	15h24m30.9s	+37°20'52"	6.9
<a href="#">M5</a>		Globular Cluster	Ser	15h18m15.4s	+02°05'06"	7.0
<a href="#">NGC 5897</a>		Globular Cluster	Libra	15h17m24.0s	-21°00'36"	8.4
<a href="#">NGC 6207</a>		Galaxy	Hercules	16h43m03.9s	+36°49'58"	12.1
<a href="#">NGC 6144</a>		Globular Cluster	Scorpius	16h27m09.6s	-26°02'41"	10.0
<a href="#">NGC 6210</a>		Planetary Nebula	Hercules	16h44m29.5s	+23°47'59"	9.3
<a href="#">A 39</a>		Planetary Nebula	Hercules	16h27m33.9s	+27°54'29"	13.7
<a href="#">The Rumpled Starfish (NGC 6240)</a>		Interacting Galaxy	Ophiuchus	16h52m59.0s	+02°24'02"	13.8
<a href="#">Me 2-1</a>		Planetary Nebula	Libra	15h22m18.6s	-23°37'35"	11.6