

## Smoky Mountain Astronomical Society

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

Society's ChRonological Astronomical PaperS

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## Sept. 8th SMAS MEETING

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

### From the President - Lee Erickson

As this is the start of the seventh month of which I have served as President of SMAS, I would like feedback.

Please take some time to tell me where I can improve? How are the meetings? How are we doing for star party or other activities? Please think about, and let me know, what works - as well as what does not?

September will be our month to start looking forward to the more reliably clear skies of fall.

The autumnal equinox falls this year at 12:03 AM September 23, for us in the Eastern Time Zone. Wow, almost September 22! When I was young, I labored under the mistaken impression that the fall equinox would always be on the 21st. Later I learned that the seasons are not of exactly equal length, and of course the number of days in a month are not all equal either, so there was no reason that the spring and fall equinox had to have the same date within the month. By human definition, now nearly 1700 years old, March 21 is the equinox. But if you look on your calendars, sometimes you see it on the 21<sup>st</sup> or 22<sup>nd</sup>, too. How can that be? It is because the definition of when the equinox occurs is fixed by celestial events. However, the way we count days is influenced by how we mark time and denote the day. Our days are numbered according to a system which arbitrarily sets zero time as coinciding with the daylight time of Greenwich England. This is the legacy of England's preeminence in ocean navigation and therefore by necessity accurate time keeping. The spring equinox always occurs on March 21st standard time if you are at Greenwich England. But if you move one time zone away in either direction then some times the date will move. Indeed, for residence in the Central time zone this fall the autumnal equinox falls on September 22.

I hope to see you at a star party under the clear fall skies soon.

## **The SMAS Meeting of 8/11/06**

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

Socializing began at about 7:00 PM and President Lee Erickson presided over the meeting which began at about 7:36 PM,

Attending the meeting were:

Michael McCulloch, Peter Bush, Mike Littleton, Scott Byers, Gary & Elizabeth Noland, Lee & Janice Erikson, Brent Holt, Ron Dinkins, Mike Fleenor, Charles Ferguson, Lisa Holt, Dennis Hutcheson and Cassie Morgan

No Visitors attended

President Lee Erickson began the meeting per his agenda with a reminder of a few upcoming events in August and September:

Paul Lewis will host his University of Tennessee Public Observing First and Third as usual. Tamke Allen Observatory or TAO on the First and Third Saturday of each month.

SMAS Star Parties are scheduled to be held at:

Unicoi Crest on Saturday August 19th.

Look Rock #4 on Saturday August 26th.

Please Note: ALL scheduled Star Parties are subject to local weather conditions.

Scott Byers presented his biannual treasurers report.

Gary Nolan and Charles Ferguson made a wonderful presentation on: "Amateur Telescope Building"

Gary started out by sharing he began his lifelong hobby at the age of 11 and purchased a book called "Lens Magic" published in 1958, which he brought with him. About this time he bought his first 40 mm telescope which gave amazing views with "Lots of Color". He soon bought a 3 inch telescope and was amazed when he first looked at Jupiter, Ganymede, and Callisto.

Gary went on to explain that to correct for "Chromatic Aberration" two different types of glass are used, usually flint and Crown.

Charles demonstrated the fine art of lens making on a machine that Gary brought with him.

We all thoroughly enjoyed Gary's and Charles' wonderful presentation.

Bill Dittus made a quick presentation on a dew heater project he and Lee had been working on.

The meeting ended approx 9:15 pm and all were invited to partake in our usual "GASTRONOMY" at the local Chili's Restaurant.



**The SMAS meeting of 8/11/06**

Seated at Gary Noland's home-made lens grinding machine are Ron Dinkins (left) and Scott Byers (below).



## The Wiz

Dear Wiz,

Well, we lost another Unicoi Crest Star Party because of weather. By my count, we've only had two successful ones this entire year, and we started in March. Considering how high our hopes were for Sasquatch at Unicoi, the results seem pretty dismal.

Am I wrong?

C. Knight

Dear Cloudy,

You're right, it has been dismal. Whether it's global warming or just plain bad luck, I can't say. Maybe both.

When we set the Star Party schedule for the year, we build it around the new moon. We schedule Unicoi Crest to occur on whichever Saturday night the moon will be the least obtrusive. But by limiting it to Saturdays, we essentially put ourselves at the mercy of the weather. We're betting that that one Saturday a month will be nice.

Pretty poor odds.

Folks who work Monday through Friday are usually locked into Saturday Star Parties. Folks with more flexible schedules may have the option to go on the Friday before or the Sunday after, if the weather cooperates. That's one of the primary purposes of SMAS yahoo, to permit quick coordination of alternatives. You can post, "Hey, I want to go to UC Friday night because the clouds are forecast to move in on Saturday. Anybody want to join me?"

Internet weather radar, visible moisture satellites and Clear Sky Clock let you make 24-48 hour decisions very accurately. It's the best means we have of fighting back.

One other alternative is switching a scheduled UC star party to Look Rock at the last minute, if sky conditions are just too unsettled to risk the long trip to UC. If the weather doesn't cooperate, at least you haven't wasted as much time. But SMAS yahoo is indispensable in that circumstance. We've already done that once this year, and it was highly successful.

Don't be bashful about fishing for a star party buddy on SMAS yahoo. That's what it's for.

Da Wiz



## Deadly Planets

By Patrick L. Barry and Dr. Tony Phillips

About 900 light years from here, there's a rocky planet not much bigger than Earth. It goes around its star once every hundred days, a trifle fast, but not too different from a standard Earth-year. At least two and possibly three other planets circle the same star, forming a complete solar system.

Interested? Don't be. Going there would be the last thing you ever do.

The star is a pulsar, PSR 1257+12, the seething-hot core of a supernova that exploded millions of years ago. Its planets are bathed not in gentle, life-giving sunshine but instead a blistering torrent of X-rays and high-energy particles.

"It would be like trying to live next to Chernobyl," says Charles Beichman, a scientist at JPL and director of the Michelson Science Center at Caltech.

Our own sun emits small amounts of pulsar-like X-rays and high energy particles, but the amount of such radiation coming from a pulsar is "orders of magnitude more," he says. Even for a planet orbiting as far out as the Earth, this radiation could blow away the planet's atmosphere, and even vaporize sand right off the planet's surface.

Astronomer Alex Wolszczan discovered planets around PSR 1257+12 in the 1990s using Puerto Rico's giant Arecibo radio telescope. At first, no one believed worlds could form around pulsars—it was too bizarre. Supernovas were supposed to destroy planets, not create them. Where did these worlds come from?

NASA's Spitzer Space Telescope may have found the solution. Last year, a group of astronomers led by Deepto Chakrabarty of MIT pointed the infrared telescope toward pulsar 4U 0142+61. Data revealed a disk of gas and dust surrounding the central star, probably wreckage from the supernova. It was just the sort of disk that could coalesce to form planets!

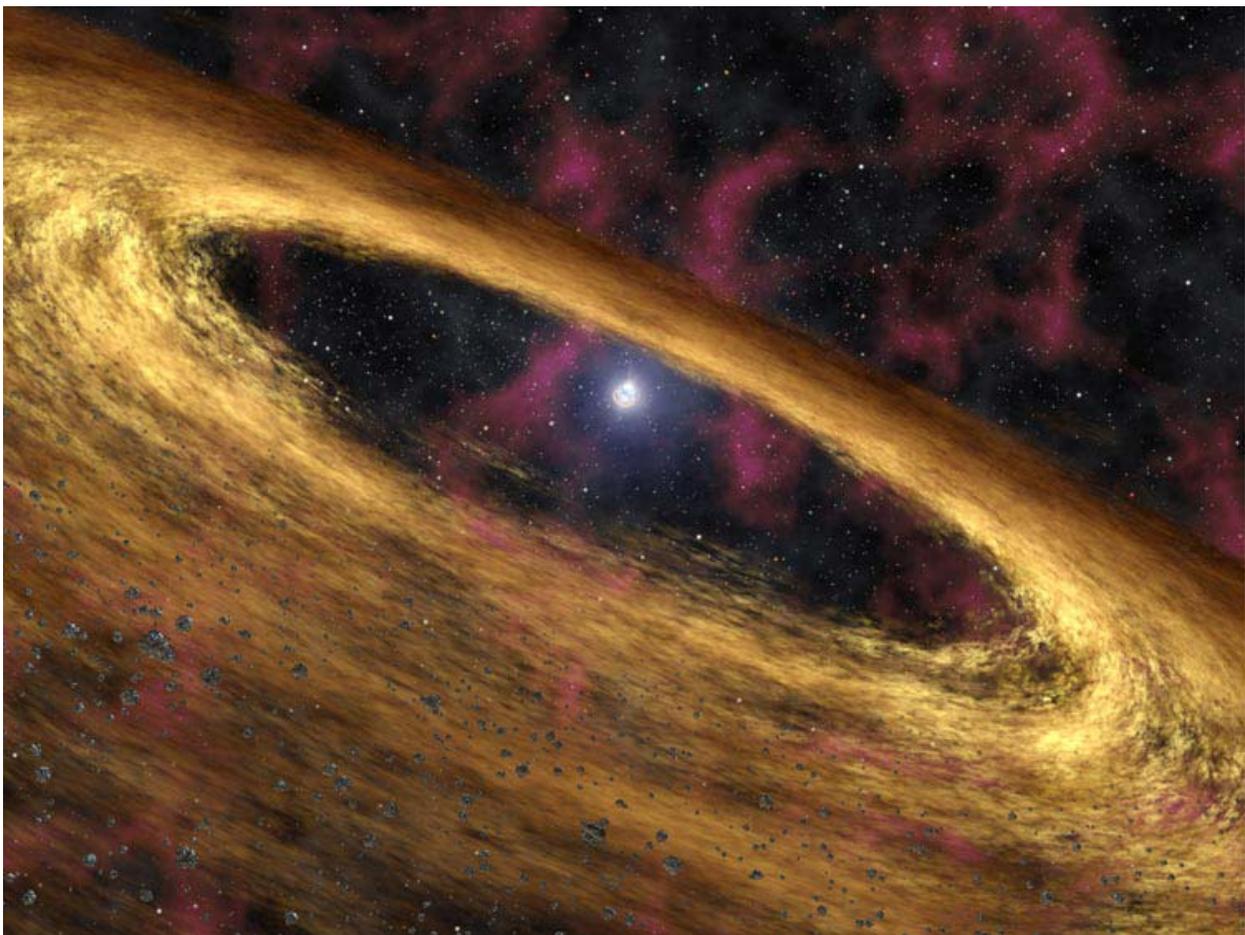
As deadly as pulsar planets are, they might also be hauntingly beautiful. The vaporized matter rising from the planets' surfaces could be ionized by the incoming radiation, creating colorful auroras across the sky. And though the pulsar would only appear as a tiny dot in the sky (the pulsar itself is only 20-40 km across), it would be enshrouded in a hazy glow of light emitted by radiation particles as they curve in the pulsar's strong magnetic field.

Wasted beauty? Maybe. Beichman points out the positive: "It's an awful place to try and form planets, but if you can do it there, you can do it anywhere."

(Continued)

More news and images from Spitzer can be found at <http://www.spitzer.caltech.edu/> . In addition, The Space Place Web site features a cartoon talk show episode starring Michelle Thaller, a scientist on Spitzer. Go to <http://spaceplace.nasa.gov/en/kids/live/> for a great place to introduce kids to infrared and the joys of astronomy.

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 concept of a pulsar and surrounding disk of rubble called a "fallback" disk, out of which new planets could form.*

## **Peach State Star Gaze 2006**

October 16-22, 2006      PSSG 06 (13th Annual Peach State Star Gaze)

Whitewater Express High Adventure Camp, Copperhill, TN near the Georgia State Line

Dark skies and fall mountain views. Keynote speaker, Bob Berman of Astronomy and Discover magazines.

Vendors, workshops and door prizes.

Jon Serrie, back again for the second year, will entertain us Friday night with music from Stargazer's Journey .

Daytime adventures can be booked through the Whitewater Express offices. Plenty of other daytime excursions available in the surrounding mountain communities. Check our website for more information.

Sponsored by the Atlanta Astronomy Club

Website: <http://www.atlantaastronomy.org/PSSG/>

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AAC Website: <http://www.atlantaastronomy.org>

# September 2006

SUN	MON	TUE	WED	THU	FRI	SAT
					1 UTK	2 TAO
3	4 Labor Day	5	6	7 <i>Full Moon</i>	8 SMAS Meeting PSTCC Rm 223 7:30 pm	9
10	11	12	13	14	15 UTK	16 SMAS Star Party Unicoi Crest TAO
17	18	19	20	21	22 <i>New Moon</i>	23 SMAS Star Party Look Rock #4 Autumn Equinox
24	25	26	27	28	29	30