

Smoky Mountain Astronomical Society

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

Society's Chronological Astronomical Papers

I believe a leaf of grass is no less than the journey
work of the stars. Walt Whitman

From the President - Lee Erickson

Happy New Year Everyone.

The change of year reminds us to prepare for changes in SMAS.

We will be electing new officers in February. In preparation, at the January meeting we will begin the election process by having open nominations and the formation of a nomination committee. Our Secretary, Dennis Hutcheson, will chair this committee.

I encourage you all to consider taking your turn in the club leadership. You can find a description of officer duties in our Constitution at:

http://www.smokymtnastro.org/constitution/SMAS_Constitution110802.pdf

Our standard operating procedures can be found (by members) at:

<http://tech.groups.yahoo.com/group/smokymtnastro/files/SMAS/>

Look for the file, Duties of SMAS Officers6.rtf

In the spirit of starting the process, I am announcing I would like to run for Treasurer. I will also consider any other position. (I am not eligible to succeed myself as President, since I already have had two consecutive terms.)

2007 was a nice year for SMAS and I hope 2008 will be even better.

I have been following the retrograde motion of Mars west from Gemini into Taurus with pleasure. I encourage you all to watch the relative position of Mars and the nearby stars. It is still moving quite fast as we only recently passed opposition.

Saturn is climbing higher in the eastern sky in the evening and I have noticed a change in the tilt of the angle of the rings.

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Reprieve

George Hale, assistant professor of Astro-physics of the University of Chicago, teamed up with Chicago businessman Charles Yerkes, to build the Yerkes Observatory, with a 40 inch refractor, the lenses to be ground by Alvan Clark's company. Yerkes was rich, Hale was ambitious. The telescope and observatory come together in 1897 at Williams Bay (Lake Geneva), Wisconsin.

With its apogee as a center of astrophysical discovery now past, the 110 year-old Yerkes Observatory waits to see what's in its stars.

In the dim, first-floor hallway that leads up a steep flight of stairs to the 40-inch refractor – once the largest telescope in the world – there's a sense of suspended animation that mirrors an institution awaiting its next reincarnation. It's long been agreed that Yerkes's day as an observational center is past (light pollution, humidity and low elevation all restrict its optical reach). But when the University of Chicago decided the time had come to redirect its Yerkes resources to support other research – while preserving the observatory – agreement proved elusive. This winter [2006/2007], Williams Bay residents spoke out against the University's proposal, announced last June, to sell 45 acres (including land fronting the lake) to a New York-based developer, and the University's deal was called off.

In February, the astronomy and astrophysics department went back to the drawing board, forming the Yerkes Study Group with representation from the department and outside institutions. Charged with exploring how to transform the observatory into a regional site for science education, the group, chaired by astronomy and astrophysics professor Richard Kron, has been meeting with a range of stakeholders, local residents, environmentalists, educators, historians and astronomers, to name a few. "Finding an acceptable compromise path," Kron has noted, "will be complex and will take time." Yet he sees important common ground. "In the end, we all want to preserve the observatory."

In the meantime, it's summer in Williams Bay, and fireflies dance like stars on the Yerkes lawn.

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Excerpted from an article by Mary Ruth Yoe in the July/August issue of the University of Chicago Magazine.

Agenda for January 11, 2008 Meeting

7:00 Meet and greet

Return checked out library books

7:30 Formal meeting begins.

Dr. Stephan Spanier

**(I have asked him to speak to Amateur Astronomers
on basic particle principles and the New Physics with
the Large Hadron Collider — Lee)**

Gastronomy to follow meeting.



Subject: The Life of Galileo

The Clarence Brown Theatre at the University of Tennessee will perform *The Life of Galileo* on the mainstage from January 31 through February 17. The play is written by Bertolt Brecht with adaptation by David Edgar.

"just because something is so, that does not mean it will remain so forever..." Galileo

Galileo's proof that the earth moves around the sun shatters a belief held sacred for two thousand years. Bertolt Brecht offers a masterpiece about social responsibility and the clash between science and faith. For tickets or more information, please contact Robin Conklin at rconkli1@utk.edu

December Holiday Banquet





Ultraviolet Surprise

by Patrick L. Barry and Tony Phillips

How would you like to visit a universe full of exotic stars and weird galaxies the likes of which astronomers on Earth have never seen before?

Now you can. Just point your web browser to galex.stsci.edu and start exploring.

That's the address of the Galaxy Evolution Explorer image archive, a survey of the whole sky at ultraviolet wavelengths that can't be seen from the ground. Earth's atmosphere blocks far-ultraviolet light, so the only way to see the ultraviolet sky is by using a space telescope such as NASA's Galaxy Evolution Explorer.

About 65% of the images from the all-sky survey haven't been closely examined by astronomers yet, so there are plenty of surprises waiting to be uncovered.

"The Galaxy Evolution Explorer produces so much data that, beyond basic quality control, we just don't have time to look at it all," says Mark Seibert, an astronomy postdoc at the Observatories of the Carnegie Institution of Washington in Pasadena, California.

This fresh view of the sky has already revealed striking and unexpected features of familiar celestial objects. Mira is a good example. Occasionally visible to the naked eye, Mira is a pulsating star monitored carefully by astronomers for more than 400 years. Yet until Galaxy Evolution Explorer recently examined Mira, no one would have guessed its secret: Mira possesses a comet-like tail 13 light-years long.

"Mira shows us that even well-observed stars can surprise us if we look at them in a different way and at different frequencies," Seibert says.

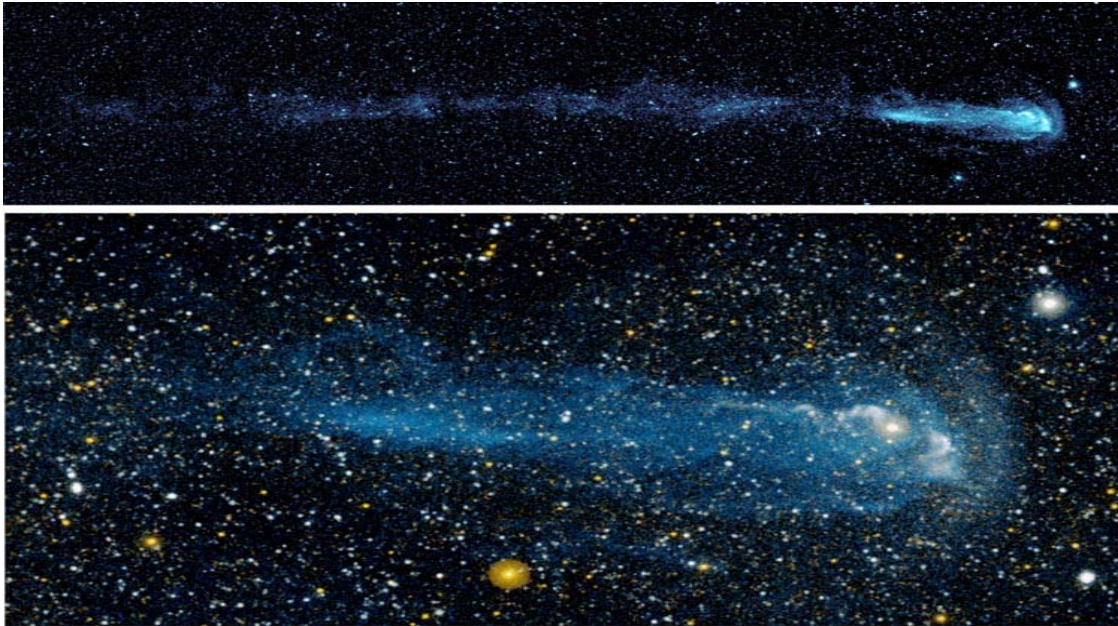
Another example: In April, scientists announced that galaxies such as NGC 1512 have giant ultraviolet spiral arms extending three times farther out into space than the arms that can be seen by visible-light telescopes. It would be like looking at your pet dog through an ultraviolet telescope and discovering his ears are really three times longer than you thought!

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The images from the ultraviolet space telescope are ideal for hunting new phenomena. The telescope's small, 20-inch primary mirror (not much bigger than a typical backyard telescope) offers a wide field of view. Each image covers 1.2 degrees of sky—lots of territory for the unexpected.

If someone combing the archives does find something of interest, Seibert advises that she or he should first search astronomy journals to see whether the phenomenon has been observed before. If it hasn't, email a member of the Galaxy Evolution Explorer science team and let them know, Seibert says.

So what are you waiting for? Fire up your web browser and let the discoveries begin!



Astronomers looking at new ultraviolet images from the Galaxy Evolution Explorer spacecraft were surprised to discover a 13-light-year long tail on Mira, a star that has been extensively studied for 400 years.

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



January 2008



SUN	MON	TUE	WED	THU	FRI	SAT
SCRAPS depends Upon its friends	Help! Help!	1	2	3	4 UTK	5 TAO
6	7	8 New Moon	9	10	11 SMAS Meeting PSTCC 7 pm	12
13	14	15	16	17	18 UTK	19 TAO
20	21	22	23	24	25	26
27	28	29	30	31	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	