



The Warren Astronomical Society Paper

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2007 WAS OFFICERS

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The WASP (Warren Astronomical Society Paper) is the official monthly publication of the Society. Each new issue of the WASP is e-mailed to each member and/or available online www.warrenastronomicalsociety.org. Requests by other Astronomy clubs to receive the WASP, and all other correspondence should be addressed to the editor, Cliff Jones, email: cliffordj@ameritech.net

Articles for inclusion in the WASP are strongly encouraged and should be submitted to the editor on or before the first of each month. Any format of submission is accepted, however the easiest forms for this editor to use are plain text files. Most popular graphics formats are acceptable. Materials can be submitted either in printed form in person or via US Mail, or preferably, electronically via direct modem connection or email to the editor.

Disclaimer: The articles presented herein represent the opinions of the authors and are not necessarily the opinions of the WAS or the editor. The WASP reserves the right to deny publication of any submission.

Astro Chatter

by Larry Kalinowski



If you weren't at the RIDER'S-FAAC FOURTH ANNUAL SWAP SHOP in Livonia on February 3rd, you missed a grand show. There were speakers, telescopes, microscopes, eyepieces, even coffee and donuts for visitors. I

had a table with goodies and so did Bob Watt and Mark Kedzior. It was a great place to meet active observers from all the clubs in the area. Everyone I talked to said they would like to see another show in the Fall.

On Sunday morning, March 11th, daylight will attack us evening observers by turning our clocks ahead one hour, thus increasing the DST battle for us, another eighteen days, earlier in the year. But, if you're a morning observer, like Gary Ross, you'll love the extra observing hour before the beginning of the day.

I had a chance to use Orion's LaserMate Deluxe Laser Collimator on my Newtonian telescope and was amazed at its ease of use. It looks like

a Cheshire collimator because of the hole in the side of the tube but has a built in laser and target at the Cheshire opening. I was able to adjust the secondary and the primary easily without help from anyone else. It's primarily designed for Newtonian collimation, so Schmidt-Cass owners are out of luck. It sells for \$65.00 and is well worth the price. I recommend it highly. It'll make a great birthday gift.

In case you missed the last issue of the WASP and it's not March 3 yet, the Lunar eclipse starts (first contact with the Umbra) at 5:44 PM, Saturday, then ends at 6:58.

February's Discussion group was attended by six members. It lasted until almost 11PM, with discussions on sentence punctuation, Black Holes, Galileo, relativity and quantum physics. Ken Bertin's pizza's rounded out the evening with donuts and beverages.

March's discussion/computer group meeting will be on the fourth Thursday, the 22nd, at Gary Gathen's home in Pleasant Ridge. He lives at 21 Elm Park Blvd., three blocks south of I-696



Even Solar Sails Need a Mast

by Patrick L. Barry

Like the explorers of centuries past who set sail for new lands, humans may someday sail across deep space to visit other stars. Only it won't be wind pushing their sails, but the slight pressure of sunlight.

Solar sails, as they're called, hold great promise for providing propulsion in space without the need for heavy propellant. But building a solar sail will be hard; to make the most of sunlight's tiny push, the sail must be as large as several football fields, yet weigh next to nothing. Creating a super-lightweight material for the sail itself is tricky enough, but how do you build a "mast" for that sail that's equally light and strong?

Enter SAILMAST, a program to build and test-fly a mast light enough for future solar sails. With support from NASA's In-Space Propulsion Program to mature the technology and perform ground demonstrator tests, SAILMAST's engineers were ready to produce a truss suitable for validation in space that's 40 meters (about 130 feet) long, yet weighs only 1.4 kilograms (about 3 pounds)!

In spite of its light weight, this truss is surprisingly rigid. "It's a revelation when people come in and actually play with one of the demo versions—it's like, whoa, this is really strong!" says Michael McEachen, principal investigator for SAILMAST at ATK Space Systems in Goleta, California.

SAILMAST will fly aboard NASA's Space Technology 8 (ST8) mission, scheduled to launch in February 2009. The mission is part of NASA's New Millennium Program, which flight tests cutting-edge technologies so that they can be used reliably for future space exploration. While actually flying to nearby stars is probably decades away, solar sails may come in handy close to home. Engineers are eyeing this technology for "solar sentinels," spacecraft that orbit the Sun to provide early warning of solar flares.

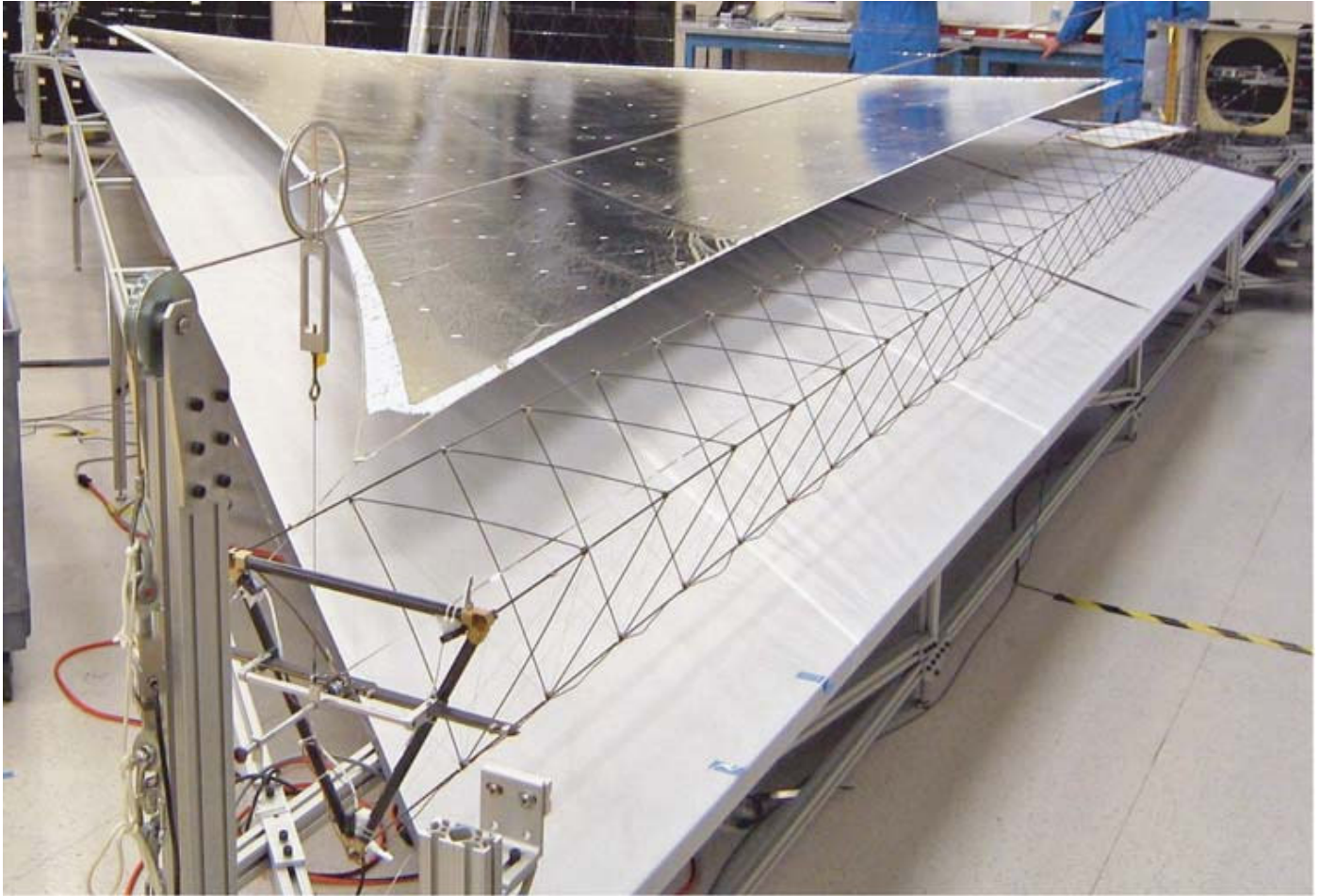
Once in space, ST8 will slowly deploy SAILMAST by uncoiling it. The truss consists of three very thin, 40-meter-long rods connected by short cross-members. The engineers used high-strength graphite for these structural members so that they could make them very thin and light.

The key question is how straight SAILMAST will be after it deploys in space. The smaller the curve of the mast the more load it can support. "That's really why we need to fly it in space, to see how straight it is when it's floating weightlessly," McEachen says.

It's an important step toward building a sail for the space-mariners of the future.

Find out more about SAILMAST at nmp.nasa.gov/st8. Kids can visit spaceplace.nasa.gov/en/kids/st8/sailmast to see how SAILMAST is like a Slinky® toy in space.

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



SAILMAST is the thin triangular truss in front of the picture. It is attached to a section of a silver foil solar sail section shown here in a laboratory test. The mast in the picture is 2m (6 ft) long. The Space Technology 8 mission will test the SAILMAST, which is 20 times longer.



Clarkston Community Band

Vince Chrisman, Music Director & Conductor

STARS OVER CLARKSTON II

A Concert of Space Music and Star Party

With The

WARREN ASTRONOMICAL SOCIETY

Norman Dillard, President

Saturday

May 19, 2007

7:00 PM



FREE ADMISSION

Family & Friends Fun

Bring a picnic, Lawn Chairs, Blankets, and your Telescope

Clintonwood Park

6000 Clarkston Road

Clarkston, MI 48348

*Music of stars & space Multimedia presentations Astronomy talks
Telescope viewing – solar, planetary and deep space
Learn about telescopes or bring your telescope and learn how to use it*

Independence Township Parks and Recreation

Michael Turk, Director

For more information call 248.625.8223 or email clarkstonband@hotmail.com

www.clarkstonband.org

Clarkston Community Band

www.clarkstonband.org

Warren Astronomical Society

www.warrenastronomicalsociety.org

FOR RELEASE

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**STARS AND MUSIC FILLS THE AIR WITH THE CLARKSTON COMMUNITY BAND AND
WARREN ASTRONOMICAL SOCIETY CONCERT AND STAR PARTY**

The **Clarkston Community Band (CCB)** joined by members from the Greater Windsor Concert Band, **Warren Astronomical Society (WAS)**, and **Independence Township Parks and Recreation** present “**Stars Over Clarkston II**”. This **FREE** event will take place on Saturday, **May 19, 2007**, at **7:00 pm** in Clintonwood Park, 6000 Clarkston Road, Clarkston, MI 48348.

The evening starts off with a dazzling musical concert featuring space music from the movies including “Star Wars”, “Lost in Space” and “Star Trek”. Treasures from the band’s extensive music library will bring you the big band sound with “Star Dust” and “Fly Me to the Moon.” Recently the Chandra X-ray Observatory has detected the deepest musical note ever sounded in the universe - B flat, 57 octaves below middle C - emitted by a black hole. Join the CCB tuba and low brass sections as they attempt to repeat this historic event.

After the concert the WAS will have short astronomy presentations with a Q&A period including how to use your telescope! WAS members will bring their telescopes and Southern Michigan’s largest portable 22” Dobsonian telescope for you to view through. So pack up a picnic dinner, blankets/lawn chairs, your telescope (optional) and shoot on over for the greatest musical star party ever!

Now in its 11th season, the Clarkston Community Band is one of the areas fastest growing and most respected wind bands. Its 52 volunteer musicians dedicate their time and talents to performing free concerts for the greater Clarkston area and presenting various educational and family entertaining themed concerts. The band was selected to perform internationally in 2007 for the “Spectacle of Winds” with the Greater Windsor Concert Band. CCB programs are made possible in part by Independence Township Parks and Recreation and the Clarkston Community Schools.

For more information, contact Independence Township Parks and Recreation at 248.625.8223, email clarkstonband@hotmail.com or visit www.clarkstonband.org.