



Minutes of General Meeting, 12 July 2003

President Wayne French the meeting to order at 7:35P.M. in Joppa Hall, Room J70.

Notice: Effective immediately the General Meetings will be held at the observatory. Joppa Hall is no longer available for weekend events.

Treasurer's report: \$2542.28

[Note: Carol was notified the subscription rate for Sky and Telescope has increased to \$32.95]

Old Business:

Observatory: Final alignment and calibration is still on hold pending some GOOD WEATHER.

Public Outreach:

Cable Channel 3 interview and filming: President Wayne was our "voice to the world" during the filming of an interview and feature to be aired on local access Cable Channel 3. With several members in support during the interview, Wayne described the purpose and opportunities of membership in the Harford County Astronomical Society. We all were impressed with the care they used in setting up the shots. Look on the Yahoo Group for the announcement for when you can see the show. It will air several times during August.

Public Star Parties:

We'll contact the tech high school to see if setting up our scopes in the actual parking lot side area will be acceptable. During the first open house held at the new site (in June) this arrangement was found to be most agreeable to participants and public alike. A report from Bill Geersten:

Mark Kregal and I arrived around 8:00 and talked for a while in the school parking lot. When no one else showed up we decided to set up right there by the road on the grass strip.

Grace Wyatt came along later and a third scope appeared mysteriously (Joe Manning) as visitors began to arrive. We were able to show them the Moon before dark and a few objects after dark such as the color difference between Arcturus and Vega and explain why, the Double Double and the Mizar system.

Mark had a laptop running "Starry Nights Backyard" which was a hit during the clouded out moments, especially with the kids.

A few people stayed for the whole time and were interested in the meeting on Saturday.

Weather notwithstanding, it was a good night out and may result in a couple of new members.

MARS WEEK: We are still aiming on holding a week of viewing opportunity from August 23 through August 30 to coincide with the Mars opposition. We'll offer viewing to the public from sunset to 11:00pm each evening with favorable skies that week. We're checking with the tech high school to see if using the parking lots, as we do for our monthly open house events, will be OK. We'll post the announcement on the web as well as send printed announcements to all members.

Warren Hoover Memorial

Anyone that has photos of Warren, especially those showing him doing "astronomy" things, please get the photo or copy thereof to Lucy Alberts. The club will be putting together a shadowbox display for the observatory in his memory and honor.

New Business:

Larry Armstrong has worked a generous donation from Johns Hopkins that includes two newer computers and associated furniture that will serve well to augment our computer-driven mount on the main scope. A firm "WELL DONE" to Larry and our appreciation expressed to Johns Hopkins! We'll craft a letter to the school on behalf of our club.

Grace Wyatt, that persistent force for marketing, has secured our place at the Edgewood Library. We'll have a display case for the month of August within which we can highlight the wonders of astronomy and the club activities. The Case will be set up on August 4, please contact Grace to help. If you have items you'd care to display, you should know that the library is fully insured so we have no worry of irreparable loss of anything we leave there. In January we have the opportunity to do a similar display at the Bel Air Library.

The Swan Fest is scheduled for 12 October. We've had great success at this event with large crowds attending whatever display we set up. Please put it on your calendar and bring a scope, hopefully set up for solar observing!

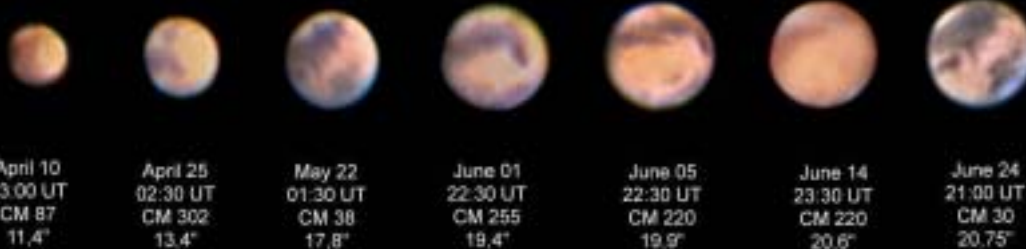
MARS IS HERE!!

Mars is still coming on strong. I've included Bill Geersten's table from last month's newsletter for the remainder of the prime Mars viewing. At the Broad Creek observing session on the 19th we were delighted to have clear skies and excellent conditions to spend several hours watching the red planet move across the sky. Use of filters really enhances

Mars Apparition 2001

imaging by webcam at f/30
stacking by Astrostack
4" ED refractor

schedler@panther-observatory.com



features...you really must take the opportunity to view Mars as it only will get better over the next weeks!

Mars Observing Schedule

Timonium, MD

N 39.43864

Date	Rise	Transit	Set	Altitude (deg)	Size (arcsec)
2-Aug-2003	9:02 PM	2:20 AM	7:38 AM	36.4	22.6
9-Aug-2003	8:34 PM	1:50 AM	7:07 AM	36.4	23.7
16-Aug-2003	8:04 PM	1:18 AM	6:32 AM	35.8	24.6
23-Aug-2003	7:33 PM	12:45 AM	5:56 AM	35.1	25.0
27-Aug-2003	7:15 PM	12:25 AM	5:35 AM	34.8	25.1
30-Aug-2003	7:00 PM	12:10 AM	5:19 AM	34.5	25.1
6-Sep-2003	6:27 PM	11:35 PM	4:43 AM	34.1	24.6
13-Sep-2003	5:49 PM	10:57 PM	4:04 AM	34.1	23.8
20-Sep-2003	5:17 PM	10:25 PM	3:33 AM	34.3	22.7
27-Sep-2003	4:46 PM	9:56 PM	3:06 AM	34.7	21.4
4-Oct-2003	4:17 PM	9:29 PM	2:41 AM	35.4	20.0
11-Oct-2003	3:49 PM	9:05 PM	2:20 AM	36.3	18.6
18-Oct-2003	3:25 PM	8:43 PM	2:02 AM	37.4	17.3
25-Oct-2003	2:59 PM	8:22 PM	1:46 AM	38.6	16.0



From the Belly of an Airplane: Galaxies

By Dr. Tony Phillips

On April 28th a NASA spacecraft named GALEX left Earth. Its mission: to learn how galaxies are born, how they grow, and how they die.

"GALEX-short for Galaxy Evolution Explorer-is like a time machine," says Caltech astronomer Peter Friedman. It can see galaxies as far away as 10 billion light years, which is like looking 10 billion years into the past. The key to the mission is GALEX's ultraviolet (UV) telescope. UV rays are a telltale sign of hot young stars, newly formed, and also of galaxies crashing together. By studying the ultraviolet light emitted by galaxies, Friedman and colleagues hope to trace their evolution spanning billions of years.

This kind of work can't be done from the ground because Earth's atmosphere absorbs the most energetic UV rays. GALEX would have to go to space. To get it there, mission planners turned to Orbital Science Corporation's Pegasus rocket.



L-1011 "Stargazer" takes off to carry Pegasus rocket on the first 39,000 feet of its climb to deliver a spacecraft to orbit.

"Pegasus rockets are unusual because of the way they're launched-from the belly of an airplane," says GALEX Project Engineer Frank Surber of JPL.

It works like this: a modified L-1011 airliner nicknamed *Stargazer* carries the rocket to an altitude of 39,000 feet. The pilot pushes a button and the Pegasus drops free. For 5 seconds it plunges toward Earth, unpowered, which gives the *Stargazer* time to

get away. Then the rocket ignites its engines and surges skyward. The travel time to space: only 11 minutes.

"The aircraft eliminates the need for a large first stage on the rocket," explains Surber. "Because *Stargazer* can be used for many missions, it becomes a re-useable first stage and makes the launch system cheaper in the long run." (To take advantage of this inexpensive launch system, GALEX designers had to make their spacecraft weigh less than 1000 lbs-the most a Pegasus can carry.)

A Pegasus has three stages--not counting the aircraft. "Its three solid rocket engines are similar to the black powder rockets used by amateurs. The main difference is that the fuel is cast into a solid chunk called a 'grain'-about the consistency of tire rubber. Like black powder rockets, once the grain is lit it burns to completion. There's no turning back."

In this case, turning back was not required. The rocket carried GALEX to Earth orbit and deployed the spacecraft flawlessly. On May 22nd, the UV telescope opened its cover and began observing galaxies-"first light" for GALEX and another success story for Pegasus.

For adults, find out more about the GALEX mission at <http://www.galex.caltech.edu/> . Kids can read and see a video about Pegasus at <http://spaceplace.nasa.gov/galex/pegasus.html>.

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

AUGUST EVENTS

- 2nd.** Public Open House. Harford Technical High School Parking lot, adjacent to the Observatory Grounds.
- 9th.** General Meeting at the OBSERVATORY.
- 16th.** Members Only Start Party, Broad Creek.
- 23-30 August.** **MARS WEEK.** Observing for the public each favorable night. Location (TENTATIVE!!) will be same as for the public open houses...the high school parking lot. If this location becomes unavailable, everyone will be personally notified by phone or mail of an alternate location. Please support this opportunity if you can!

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Space Science Institute, Hubble Image

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