



**General Meeting Saturday, June 5, 2004**

President Larry Armstrong opened the meeting at 7:30  
Minutes accepted. Treasurer's report: \$3312.30  
- End of Year Financial Report was  
distributed to the members present.

**Old Business:**

- 1. Public Star Party:** Memorial Day Weekend found a small but very sharp crowd attending the Public Open House. Larry asked that we all save our Orion Telescope Catalogs for distributing to people at the open houses. This is not suggesting that we endorse Orion as a club, but the catalogs do provide lots of basic information on scope types and other items of interest.
- 2. Observatory Operations:** We anticipate holding a class late June to early July. Steve will contact the six people on the list to schedule that class. Steve and George Thomson met with the Harford Community College grounds crew last week for final preparation to trim the trees on the southern exposure. They will start any day and have determined that felling some of the larger trees will be the best option. They will keep the screening cover to exclude the lights from the high school and etc.
- 3. Broad Creek Report:** Phil Schmitz observed on 19 June:  
I was surprised when I arrived at Broad Creek last night to see that only Jeremy was there. It was looking to be an excellent night, very blue skies and low humidity.

Jupiter and the crescent Moon were the early objects. While there was still a little twilight left, I decided to try for M65 & M66 in Leo. After a few minutes of searching, there they were! The companion galaxy NGC3628 was not visible until later in the evening. M97, the Owl nebula (planetary nebula) was obvious, but we weren't sure if we were seeing the eyes. By now the Milky Way was easily visible, through Cygnus, Aquila, Scutum and Sagittarius. The entire constellation of Scorpius was visible. NGC4565 in Coma Berenices, some 16' long was a gem to see. The nebulae of Sagittarius, M17 (Swan), M8 (Lagoon) and M20 (Trifid) didn't disappoint,

especially the Trifid. All three rifts were easily visible. Some of the globulars resolved to the core included M13, M3, M4, M5, M22, M10 & M12 (in the 16").

The spiral structure of M51 was obvious! M57 was bright! Even M101 was easy to see. Saw nine galaxies in the Virgo cluster. M81 and M82 were outstanding. The double cluster in Perseus was blinding.

By midnight Franz showed up and saw M31 in his 10 power binoculars. He also saw M22 in his binos as well as other objects.

Clouds started moving in from the north around 1 AM and the wind was bad. Jeremy and I left a little after 2 AM (Franz had already left).

It was the best night I have had at Broad Creek.

### **Old Business:**

1. June is the month that all dues and fees are paid. Please complete this with Carol immediately. We will send in our Astronomical League fees by the end of the month.

### **New Business:**

1. **Rocks State Park.** Ms. Amanda Coss, Seasonal Naturalist for Rocks State Park, attended our meeting. She is organizing the "Photography under the Moon" event at the park and would like participation from HCAS members willing to demonstrate moon viewing and photography. The Event is scheduled for the 29-31 July time. We told Amanda Friday evening, 30 July, would be best for our purposes, since our General Meeting is scheduled for that Saturday, 31 July and will be a special event (see info to follow). In addition, she mentioned an outing at Susquehanna State Park sometime in August where she would appreciate someone to give a 20-minute "tour of the sky". Members who can support either or both events should contact any of the club officers.

2. **Swan Fest.** On 10 October from 11:00am to 4:00pm, we will support a display at the Swan Fest 10 October. This event is at a beautiful setting at Swan Harbor Farm overlooking the bay. Members are encouraged to come and offer solar observing to the public.

4. **July General Meeting at the Maryland Science Center:** As mentioned above, the July 31 general meeting will be a special event. Phil Schmitz will arrange for our club to have an exclusive tour of the scopes and observing facilities at the Maryland Science Center that evening. Members will meet in the tech high school parking lot, where we hold our public open

house, at 7:30PM. We will caravan from there to the science center.

**5. Warren Hoover estate:** The club will assist Warren's family by establishing fair market values for his equipment. Leo Hepner and Mark Kregal agreed to complete that task. Once they have the values, the club secretary will distribute the listing and procedures for bidding on these items. The membership has agreed to submit sealed bids directly to the family, taking the club out of the accounting loop for money transfers. The items are available for inspection at the observatory store room...contact a club officer if interested. Tom Rusek took photos of Warren's service and sent them to the family. Warren's sister, Irene Diller, sent a thanks you card indicating how much the service and photos meant to the family. Tom will add his photos to our club collection.

**7. Keys to Access Broad Creek:** The key for Broad Creek has been replaced at the same location as before. Steve and Larry confirmed with the folks at the Broad Creek cabin that using the mailbox as the key storage location was not a burden. Remember to replace the key when you are done observing.

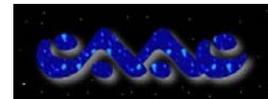
**DOOR PRIZE:** President Larry brought a "door prize"! Leo Hepner was the lucky member and took home a copy of the "Phillips Atlas of the Universe"!! Good deal Leo!

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## It's Star Party Season!!!!

*Green Bank Star Quest*, July 8<sup>th</sup> - 11<sup>th</sup>, 2004 Green Bank National Radio Astronomy Observatory - Green Bank, West Virginia. This is the one you've been waiting for! Combining OPTICAL AND RADIO ASTRONOMY at ONE EVENT! Central Appalachian Astronomy Club <http://www.caacwv.org/gbstarquest.htm>



*Susquehanna Summer Star Spectacular*, July 16, 17, and 18, 2004 Pine Grove Furnace State Park (near Newville, PA - conveniently off of I-81). Astronomical Society of Harrisburg, PA. <http://www.s4starparty.org/>

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## June

5th - General Meeting, 7:30, Observatory.

12th, 19th - Star Party, Broad Creek \*\* Members Only\*\*

26th - Public Open House

## July

3<sup>rd</sup>, 10<sup>th</sup>, 17<sup>th</sup> - Star Party (members only) at Broad Creek

24<sup>th</sup> - Public Open House, tech school Parking Lot

30<sup>th</sup> - Rocks State Park "Photography under the Moon"

31<sup>st</sup> - General Meeting at Maryland Science Center...Meet at tech school parking lot at 7:30PM.

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### For Sale

10" F/5 Dob for sale-homemade-convenient height-portable-fiberglass tube-less finder-\$225.00. Steve Krall

8" reflector telescope.The mirror was professionally polished.The tube for the mirrors is a square wood box. That is what the plans showed. Nothing fancy. I have three new University Optics eyepieces:4 MM,12.5MM,25MM. James Kitzmiller,724 Webb St.Aberdeen Md tel 410-272-3982.



## Space Weather

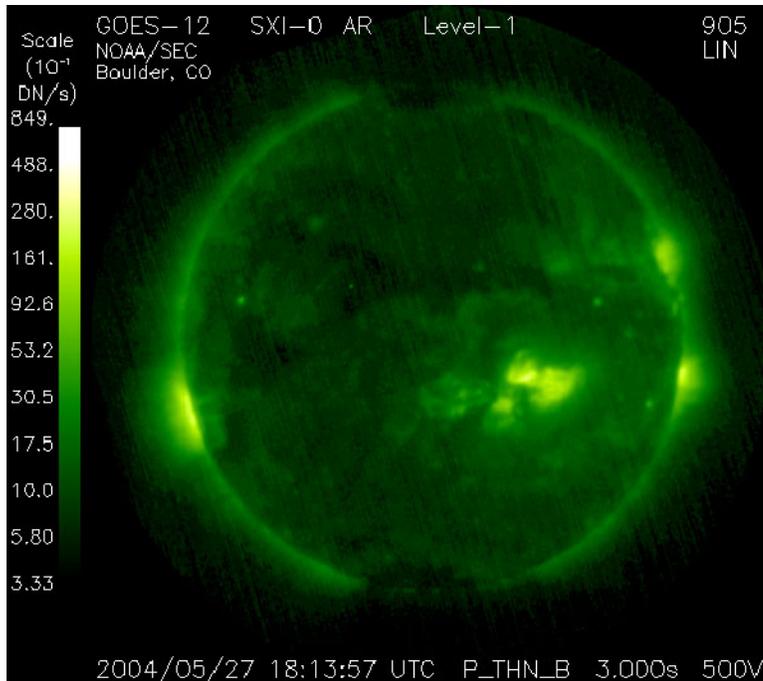
By Patrick Barry and Tony Phillips

Radiation storms, 250 mile-per-second winds, charged particles raining down from magnetic tempests overhead ... it sounds like the extreme weather of some alien world. But this bizarre weather happens right here at Earth.

Scientists call it "space weather." It occurs mostly within the gradual boundary between our atmosphere and interplanetary space, where the blast of particles and radiation streaming from the Sun plows into the protective bubble of Earth's magnetic field. But space weather can also descend to Earth's surface. Because the Earth's magnetic field envelops all of us, vibrations in this springy field caused by space weather reverberate in the room around you and within your body as much as at the edge of space far overhead.

In fact, one way to see these "geomagnetic storms" is to suspend a magnetized needle from a thin thread inside of a bottle. When solar storms

buffet Earth's magnetic field, you'll see the needle move and swing. If you live at higher latitudes, you can see a more spectacular effect: the *aurora borealis* and the *aurora australis*. These colorful light shows happen when charged particles trapped in the outer bands of Earth's magnetic field get "shaken loose" and rain down on Earth's atmosphere.



And because a vibrating magnetic field will induce an electric current in a conductor, geomagnetic storms can have a less enjoyable effect: widespread power blackouts. Such a blackout happened in 1989 in Quebec, Canada, during a particularly strong geomagnetic storm. These storms can also induce currents in the metallic bodies of orbiting satellites, knocking the satellite out temporarily, and sometimes permanently.

*This image shows the outer solar atmosphere, or corona, as viewed by the GOES 12 Solar X-ray Imager (SXI). It shows the plasma at 4.0 MK (million degrees Kelvin). Bright areas are associated with sunspots seen in white light images*

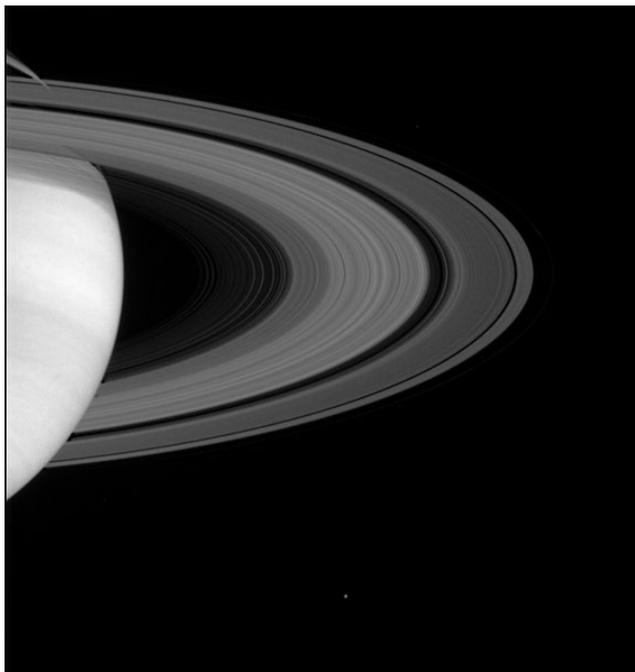
Partly because of these adverse effects, scientists keep close tabs on the space weather forecast. The best way to do this is to watch the Sun. The NASA/ESA SOHO satellite and NOAA's fleet of GOES satellites keep a constant watch on the Sun's activity. If a "coronal hole"--where high-speed solar wind streams out from the Sun's surface--comes into view, it could mean that a strong gust of solar wind is on its way, along with the geomagnetic storms it will trigger. And an explosive ejection of hot plasma toward the Earth--called a "coronal mass ejection"--could mean danger for astronauts in orbit. The advancing front of ejected matter, moving much faster than the solar wind, will accelerate particles in its path to near the speed of light, spawning a radiation storm that can threaten astronauts' health.

Read today's space weather forecast at <http://www.sec.noaa.gov/>. Kids can learn about the geostationary and orbits of the GOES satellites at [http://spaceplace.nasa.gov/en/kids/goes/goes\\_poes\\_orbits.shtml](http://spaceplace.nasa.gov/en/kids/goes/goes_poes_orbits.shtml).

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

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*Saturn's magnificent rings show some of their intricate structure in this image taken on May 11, 2004, by the Cassini spacecraft's narrow angle camera. Although they appear to be solid structures, the rings are composed of billions of individual particles, each one orbiting the planet on its own path. See more about the CassiniHuygens Mission at: <http://saturn.jpl.nasa.gov/index.cfm>*

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**FIRST CLASS**

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