

# Harford County Astronomical Society

Bel Air, Maryland  
[www.harfordastro.org](http://www.harfordastro.org)



*Volume 33 Issue 12*

*December 2007*

**Happy Holidays!**

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**Public Star Party (Open House):**

**Saturday, Dec. 15, 2007**

At the Observatory

**General Meeting:**

**Thursday, Dec. 27, 2007, 7:00pm**

At the Observatory

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## **Club Calendar for 2008:**

### **Open House/Public Star Party**

January 19  
February 16  
March 15  
April 12  
May 17  
June 14  
July 12  
August 9  
September 13  
October 11  
November 18  
December 6

### **Meeting Night**

January 24  
February 21  
March 20  
April 17  
May 22  
June 19  
July 17  
August 14  
September 18  
October 16  
November 13  
December 11

*Please check the website for possible schedule updates and changes:*

<http://www.harfordastro.org>

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## **HCAS Business Meeting**

### **Minutes of November 29th, 2007**

1. President Tom Rusek opened the meeting at 7:06 PM.
2. The minutes of the October meeting were published in the last newsletter. They were approved by a voice vote.
3. Treasurer: Tim Kamel reported that the club has \$5034.42 in the bank. There are currently 43 paid-up members. He still has membership dues from two new members to deposit into the account.
4. Observatory operations:
  - a. Tim Kamel received the new chip for the telescope controller. It came with the manual explaining how to replace it. He will check to see if we have the tools required to perform the replacement. Once he is able to install it, he will prepare a new written start-up procedure for others to use when starting up the telescope. We will also develop a certification program to train members on how to safely and properly use the telescope and associated equipment. Joe Manning will see if he can find a copy of the old start-up procedure sheet as a starting point.
  - b. Tom Rusek sent Sal Rodano an email explaining the problem with the lighting dimmer switches in the upper floor of the observatory. He bought some temporary stick-on lights to use as an interim solution if the permanent lights are not fixed before the next public event.
  - c. Tim Kamel reminded the group that in the event of an injury at the observatory, we should call HCC security. They will be able to contact emergency services if required, and can properly document the event so that any problems can be resolved to prevent further occurrences.
5. Outreach:
  - a. The last open house took place on November 17th. Grace Wyatt said that the night started cloudy, so only a few visitors came. She talked them through some activities using the Night Sky network materials until the clouds parted for a short while. 17 people attended the event overall. She noted that we now have a screen and projector in the classroom to use during cloudy open house nights. The computer does not have a DVD player software program. Sal Rodano said he will have the school load that onto the computer. The next open house will be on 15 December.
  - b. Tom Rusek gave a presentation to a group at the Edgewood senior citizen center on November 20th. 30 people attended.

c. Gunpowder State Park asked us to conduct presentations and observing sessions on February 8th and March 7th from 6:30 PM until 8:30 PM each night.

d. George Thompson's astronomy class has experienced cloudy weather on most of its Monday observing nights. The next scheduled classes are morning sessions on December 8th at 4 AM, or at 4 AM on December 9th as an alternate.

e. The Night Sky Network will host a teleconference on 6 December. Grace passed around a sign up sheet for people interested in obtaining the contact information for this teleconference. It will cover the Phoenix mission to Mars. She also said that NASA used one of her photos from Swanfest on their web site. Finally, she noted that we were mentioned in Astronomy Magazine's web site for participating in their outreach contest earlier in the year.

6. Observing Reports: Roy Troxel noted that he ran into a hunter while observing at Steppingstone. He urged caution to anyone else observing at night during hunting season.

7. Old business:

a. The Open House sign is in the storage room. Mike Talberd will bring a spare tripod from home for use with this sign. He will coordinate the transfer with Tim Kamel.

b. Tim Kamel said that we currently have 4 members without email addresses. He and Mike Talberd printed out hard copies of the newsletter for them. Mike Talberd agreed to print out the future issues since he received permission from his employer to use the work copier for this. Roy Troxel will send Mike the MS Word newsletter files so he can print them out.

c. Tim Kamel emailed the club membership roster to the officers. He also sent a copy to the chief of security for HCC. He did not tell her of the club's 2 person rule. The group agreed that we need to continue the 2 person rule for safety reasons. This includes people using the observatory grounds, not just the observatory itself. If someone is coming in for just a moment to pick up a table or photos for an outreach event, the guard who opens the building is considered the second person.

d. Tim Kamel spoke to a tax professional about doing the paperwork necessary for the club to obtain documentation as a 501c3 organization. The person who does this charges \$1500 for an initial consultation. We will not pursue this path. 501c3 status is important for companies wishing to donate to the club. Joe Manning asked what we planned to do with the money we already have, and whether we need to push for additional donations.

8. New business:

a. The group reviewed the calendar for 2008. Open houses will remain on the Saturday closest to the first quarter moon, and the business meetings will be on the following Thursday evenings. This will be adjusted around major holidays. Roy Troxel recorded the dates for inclusion in the next newsletter.

b. Karen Carey noted that a new email group called the Mid Atlantic Astronomy list has come on line. The group is fairly active, with discussions of astrophotography and current events in the sky.

9. The meeting was adjourned at 8:23 PM. Tom Rusek publicly thanked Sal Rodano for his assistance getting the new computer and projector for the classroom.

- Monroe Harden

## New Members – November 2007

Please welcome a new member this month:

Scott Tinney from Bel Air. Scott is new to astronomy, became interested as a result of his science classes.

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### Outreach Programs

An open house was scheduled for November 17. Even though it was almost completely clouded over, I drove out to wait in the Harford Tech parking lot in case a Girl Scout troop who had been in contact with me showed up. They were planning to come around 6pm so I got to the parking lot of Harford Tech around 5:15. Within minutes three separate vehicles drove into the lot to ask about the open house. I explained that because it was so clouded over, we would not be able to have any outside viewing, however, if the Girl Scouts showed up at 6pm I would have the observatory opened for an indoor program and they were welcome to come back at 6 to see if we had opened the building. Around 5:30 the guard arrived and shortly after Karen Carey also showed up. Karen and I decided to go back to the observatory so Karen could look at the latest Night Sky Network kit we had received. The guard let us in, took the telescope with him to mark the parking lot, and agreed to tell people to just drive back to the observatory if anyone showed up. Even though the guard told people they could drive back, approximately half of those who came had been before and chose to walk back to the observatory. Shortly afterwards a car with a mom and two boys arrived. They were one of the cars that had arrived around 5:15 PM. A new member, Gary George, also came.

All of a sudden over head and to the north and east completely cleared up. Karen set up her 4.5" Meade and Gary set up his 12x75 binoculars. They gave the public nice views of Comet Holmes, the Pleiades, Hercules Cluster, Albireo and the moon. Karen had an excellent view of Montes Apenninus.

We had about 8 people show up before the sky once again clouded over around 8 PM. Karen and Gary put their equipment away and we went inside to look at the kit and some new Hubble prints we had received. We were quite surprised when 9 more people walked in the door. Four of those visitors stayed for almost an hour.

It was close to 9 PM when we finally closed down for the night. We did presentations with the Night Sky Network materials showing distance and size of the solar system as well as phases of the moon. Even though there were only 17 visitors, it was a full night.

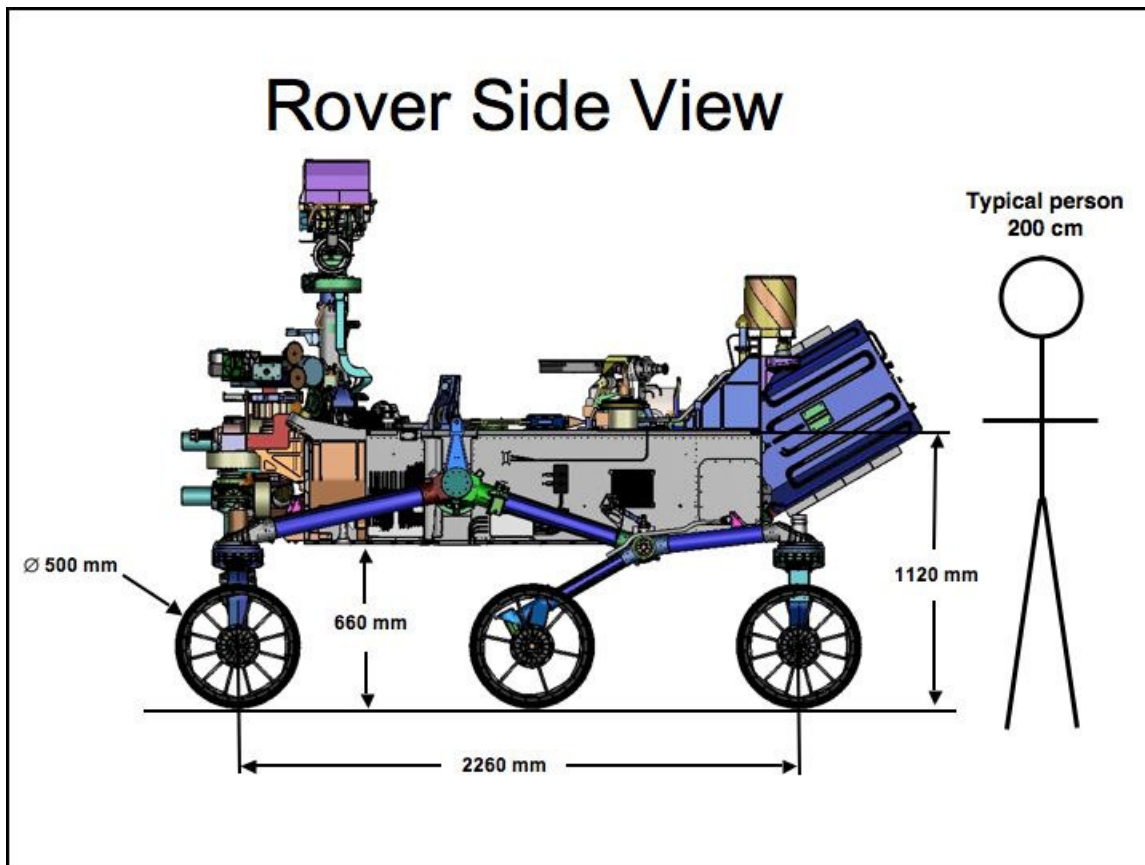
- Grace Wyatt

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<http://nightsky.jpl.nasa.gov/>

The Night Sky Network is sponsored and supported by the NASA Jet Propulsion Lab's PlanetQuest public engagement program.



*Schematic drawing of a Mars Rover. More illustrations are available at:*  
<http://nightsky.jpl.nasa.gov/docs/McKayMars.ppt>

### **Night Sky Network Teleconference: The Phoenix Mission and the Polar Regions of Earth and Mars**

On December 6, 2007, a teleconference from the Night Sky Network was available to club members. Dr. Chris McKay, a research scientist with NASA AMES since 1982 and an expert on planetary atmospheres was the speaker. Dr. McKay's topic of discussion was "The Phoenix Mission and the Polar Regions of Earth and Mars".

The Phoenix Mission to Mars will be the first mission to "touch" and examine water on Mars. Dr. McKay discussed the Phoenix vehicle, the mission and goals of the mission. Explanations of areas chosen for exploration were discussed as well as launch time and functions of the

equipment.

Also presented were explorations of the Antarctic. This is the area on Earth with climate most similar to the climate on Mars.

Information about the next Mars Mission, the MSL (Mars Science Laboratory), scheduled for a fall 2009 launch was discussed.

If you were unable to listen to this fascinating teleconference when it was presented, watch the newsletter for a showing at a future time by the club. You will want to mark your calendar and attend the presentation.

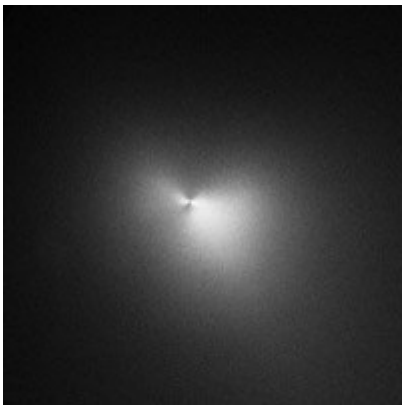
- Grace Wyatt

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### NSN News Links

<http://www.jpl.nasa.gov/news/>

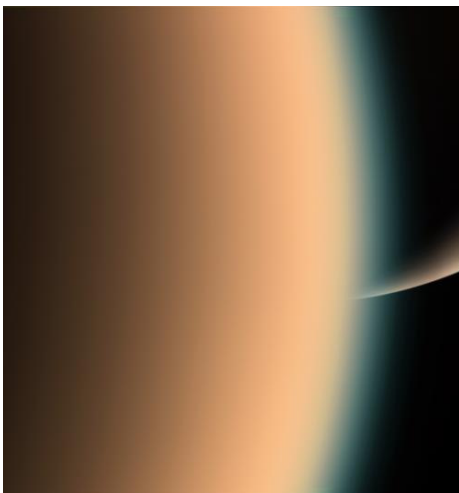
*The Night Sky Network provides links to many NASA and JPL news stories.  
Here are few recent ones:*



**Comet Holmes 17P:** Hubble Space Telescope image of the core of Comet Holmes taken on November 4.

To see other photos, and watch the comet progress in brightness and size, go to:

<http://www.jpl.nasa.gov/news/features.cfm?feature=1514>



### Organic 'Building Blocks' Discovered in Titan's Atmosphere

Scientists analyzing data gathered by the Cassini spacecraft have confirmed the presence of heavy negative ions in the upper regions of Titan's atmosphere. These particles may act as organic building blocks for even more complicated molecules. Their discovery was completely unexpected. The findings are published in the Nov. 28 issue of Geophysical Research Letters.

For more views from the Cassini Mission to Saturn and Titan, see: <http://saturn.jpl.nasa.gov/home/index.cfm>

## NSN News Links

### Over 260 Planets Orbiting Other Stars

November 29, 2007

More than 260 planets have already been discovered orbiting other stars, and new ones are found almost every month. Having trouble keeping track? Help is on the way. NASA's Jet Propulsion Laboratory, Pasadena, Calif., has revamped its award-winning PlanetQuest website with improved tools to help users stay on top of the latest discoveries, at <http://planetquest.jpl.nasa.gov>.

### Planets forming in Pleiades star cluster, astronomers report



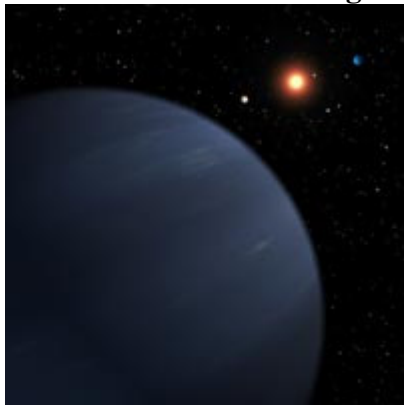
Located about 400 light-years away, the Pleiades is one of the closest star clusters to Earth. One of the cluster's stars, known as HD 23514, which has a mass and luminosity a bit greater than those of the sun, is surrounded by an extraordinary number of hot dust particles — "hundreds of thousands of times as much dust as around our sun," Zuckerman said.

"The dust must be the debris from a monster collision, a cosmic catastrophe."

The astronomers analyzed emissions from countless microscopic dust particles and concluded that the most likely explanation is that the particles are debris from the violent collision of planets or planetary embryos. For more details, see:

<http://newsroom.ucla.edu/portal/ucla/rocky-planets-are-forming-in-the-40289.aspx>

### Five Planets Now Circling 55 Cancri



PASADENA, Calif. - Astronomers have announced the discovery of a fifth planet circling 55 Cancri, a star beyond our solar system. The star now holds the record for number of confirmed extrasolar planets orbiting in a planetary system.

55 Cancri is located 41 light-years away in the constellation Cancer and has nearly the same mass and age as our sun. It is easily visible with binoculars. Researchers discovered the fifth planet using the Doppler technique, in which a planet's gravitational tug is detected by the wobble it produces in the parent star.

<http://www.jpl.nasa.gov/news/news.cfm?release=2007-128>

### Useful Work for Amateur Planet Searchers

<http://www.planetquest.org/>

Amateur astronomers can participate in the search for exoplanets, too. In fact, there is an entire organization, PlanetQuest, that is dedicated to amateurs. If you like to work with computers and have a few extra ones sitting in your basement, here is a project you might really enjoy.

According to PlanetQuest:

Our [Collaboratory software](#) turns your computer into an astronomical observatory and resource library. Our telescopes are focused on extremely dense star regions, such as the center of the galaxy in Sagittarius, and when an observing run ends and thousands of images have been

collected, data will be downloaded to your computer and your Collaboratory software will begin analyzing it.

In using this innovative approach, commonly called *distributed computing*, we rely on a secure, robust series of servers at our central core to handle requests, store data, and track processing results. The actual data processing, however, takes place on participants' computers all over the world.

Literally tens of thousands of stars are observed simultaneously. This is done by imaging densely-crowded star regions, such as those that exist in the direction of the plane of our Milky Way Galaxy. The images are then recorded by a large CCD camera mounted on a wide-angle meter-class telescope.

Here is how your computer is used in this process: You download a small program from the PlanetQuest website that, when installed, runs as a "background" or shadow process on your computer. As a background process, the software's browser lies idle and unobtrusive until it detects that your computer is no longer in use. At that point, the program retrieves a small packet of sequential planetary imaging data from the central PlanetQuest server. Your computer then begins to work on analyzing the data. The software will display the characteristics of the star you're working on, along with an image of the star's region, and can include information on the star, such as its color, size, distance, spectral type, variable type, and so on.

You can read more about this software at: <http://www.planetquest.org/about/background/>

PS: You get to name the planet you discover!

### **Exoplanets.org**

<http://exoplanets.org/>

If computing is not for you, but you're still interested in the discovery of extra-solar planets, then you will be interested to know that there is a fund being raised to build a telescope designed exclusively for the purpose of detecting exoplanets. Construction is currently underway of a robotic telescope designed to discover the first Earth-like planets in our Galactic neighborhood.

Exoplanets.org is seeking donors to help raise funds to construct a new 2.4-meter telescope dedicated to the Doppler detection of extrasolar planets of terrestrial size. The organization will also seek to endow a chair in extrasolar planetary science at the University of California or Carnegie Institution.

### **Interactive 3-D Star Atlas**

[http://planetquest.jpl.nasa.gov/atlas/atlas\\_index.cfm](http://planetquest.jpl.nasa.gov/atlas/atlas_index.cfm)

Last but not least, JPL has provided us all with a 3-Dimensional Star Atlas. It provides a 3-dimensional matrix that you can click and drag with your mouse to locate various celestial objects. This is fun, and you can download the program. (It does require Adobe Shockwave.)

## **Observation Reports**

### **Steppingstone**

Nov. 27, 2007

6:00pm – 7:30pm

Unless you've been out of the area for the last four weeks, you know that the local skies have been almost continuously overcast. However, I did make it to Steppingstone on November 27.

My main purpose for that night was to test my new telescope, a 12.5" Obsession reflector. I had spent the previous week assembling it, including the ArgoNavis push-to controller. I even had an opportunity to talk with Dave Kriege, the builder, about mounting the ArgoNavis.

To my surprise, setting up the scope took less than ten minutes, including the collimation process. Collimating the scope was fun, not a chore, with the "Barlowed" laser that Obsession supplied. The laser projector fits inside a Barlow lens which projects a large red circle onto the mirror, instead of a fine red point. For more details, visit the Obsession site at: [http://www.obsessiontelescopes.com/learning\\_center/index.html](http://www.obsessiontelescopes.com/learning_center/index.html)

The mount's two moving axes (altitude and azimuth) moved very smoothly, even with the scope aimed near the zenith. As per the instruction manual, I had wiped them down with Armorall (from Home Depot).

Finally, I inserted the 13mm Nagler Type 6 eyepiece that I had purchased with the scope. This gave me a magnification of about 120x with an FOV of about .6 degrees.

But what did things look like? I decided to look at only the objects I was familiar with, to have some clear points of reference. Compared to my 120mm refractor, everything appeared a lot brighter – as I had expected. On the other hand, the stars were not the minute points of light that I had been accustomed to with the refractor, but the fact that I was able to see more and it was all brighter more than made up for that.

I spent the next hour or so moving through these objects:

M31 and M33  
Double Cluster  
Pleiades  
Albireo  
Various clusters in Cassiopeia and Perseus

The Holmes Comet almost covered the entire field of the 17mm eyepiece. It had lost the bright, star-like center it originally had, and had become very translucent, so you could see the stars behind it. By this time it had grown to several times the size of Jupiter. When I used a lower-power eyepiece (the club's 22mm Lanthanium), it appeared brighter against a wider field of stars.

I finally reached the Ring Nebula and I've never had a better view of it: A bright, clearly-defined celestial donut, with hints of green and orange color, as you see in the photographs. I wasn't altogether sure about the color, so the next day I consulted some Web forums, and sure enough, some other observers had seen those colors that same night.

As for the ArgoNavis push-to DSC controller, it works nicely with the alt-azimuth Dobson mount, although it's going to take some practice to learn. (I still need to consult the manual as I guide it.) However, the two optical encoders (altitude and azimuth) are so accurate, that they placed the object in the center of the eyepiece's field of view on several occasions. After aligning the computer on two or three stars, it is also able to make differential changes based on any variances it detects on your mount.

- Roy Troxel

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