

Rappahannock Astronomy Club

Minutes, June 9, 2010, Meeting

In attendance:

- Barton Billard
- Brenda Conway
- Don Clark
- Joe and Sherry Francis
- Leigh Gettier
- Ranny Heflin
- Mike Masters
- Tim Plunkett
- Javier and Ruby Valverde

President Mike Masters opened the meeting at 7:00 p.m. Ten members and 1 visitor attended. Mike introduced Brenda Conway for the evening's program

Program

Brenda Conway is a volunteer in the NASA Education and Outreach program for the MESSENGER mission. The acronym stands for Mercury, Surface, Space Environment, Geochemistry, and Ranging. Her participation has allowed her to be on hand for some of the data downloads and share the excitement of the scientists and engineers getting the first look at new images of Mercury. The probe, which was launched in 2004, is currently making passes of Venus and Mercury to use their gravity to achieve a trajectory that will allow insertion into orbit around Mercury next March. Brenda told us a successful experiment added to the mission used the flat solar panels that power the spacecraft as solar wind sails. The purpose was to conserve propellant in the deep-space maneuvers between gravity assists. The solar wind propulsion conserved enough fuel to allow a possible 1-year extension of the Mercury orbital phase of the mission, if the funding is available.

Brenda told us about some of the interesting characteristics of Mercury. It has a global magnetic field as opposed to local fields, suggesting a liquid core. If the core is liquid, we can ask whether it has never frozen or whether it remelted. The mission goals include addressing these questions:

- Why is Mercury so dense?
- What is its geologic history?
- What is the nature of Mercury's magnetic fields?
- What is the structure of Mercury's core?
- What are the unusual materials near its poles? Is any ice there?
- What volatiles are important in Mercury?

We saw a number of images already obtained from the Mercury flybys made so far. Much remains to be interpreted. Are the lighter colors indicative of newer material? The probe is also capable of making multiple exposures that combine to produce false-color images. These reveal variations in the surface, although the meaning of the colors is still to be determined.

Mercury has a sodium-ion tail. Images Brenda showed us from the first and second flybys reveal changes in the distribution of the tail.

The talk was well received and led to a number of audience questions. No doubt another good program will come from the orbital phase starting in 2011.

Treasurer's Report

Tim Plunkett gave the report for May 31, 2010. He did not receive any dues payments in May, leaving paid membership at 22 as of the end of the month.

Old Business

- Club assets—Bart read last month's minutes on the Club assets. The disposition is the same except as noted:
 - Rachel and Brad Herzog still have the Club Dob.
 - Mike still has the Personal Solar Telescope as custodian.
 - Brenda has the equatorial scope and received the counterweights from Tim at this meeting.
 - Don Clark has the Celestron as custodian.
 - Mike brought the CCD camera and Brenda signed it out.
 - Bart has the NexStar 5 along with the new tripod as custodian.
 - Also noted at this meeting, Leigh Gettier and Chris Reed have DvDs.

We decided to develop signout sheets to use for equipment, recording date checked out, by whom, with phone number and e-mail. Mike explained the duties of custodians. They are asked to provide storage and to bring the equipment to the next meeting when someone asks to sign it out. The custodians are also asked to make an inventory of the items included, noting any suggestions for supplementary accessories that would make the equipment more usable, and provide it to Joe, the equipment coordinator. There was discussion of steps the Club might take when someone is delinquent in returning signed-out equipment. There was also discussion of ways to mark or stamp items as Club assets. There were no objections to having Joe and Mike discuss the possibilities further offline and report their recommendations at a later meeting. Joe and Mike went to the recent sale at Borders and bought six copies of the *Backyard Astronomer's Guide* for the Club library. The price was favorable because a new edition is out, but the sale edition is still useful and represents a more up-to-date addition to the library. Joe also bought two copies of the *Illustrated Atlas of the Universe* by Tirion and Garlick.
- Star party and event reports—The Curtis Park outreach event was rained out, and the June 5 Caledon star party was cancelled because of clouds. We had to decline a Cub Scout request for support that same night because of lack of an alternate for Glenn. Leigh volunteered to be an alternate for weekend nights. The basic need is an introductory talk about astronomy for children. Mike showed us where to find an introductory talk outline on the Club website Documents page. Brenda can help with determining what fits with what grade level.
- Next star party and other events—The Skyline event is June 12 at Milam Gap. Leigh encouraged people who have not been to Skyline to consider going even if the best conditions are not promised in forecasts. With the dark skies and altitude, there can be some periods of good conditions that make the trip worthwhile. An outreach event at Conway Elementary School in Stafford is scheduled for June 14. Mike planned to start at 7:30 with Personal Solar Telescope viewing. David Abbou planned a talk at 8:30. Westmoreland outreach dates are June 19 and July 17. The next Caledon star party is July 10. Three Scout groups have asked to visit on that date. Glenn hopes to be there.
- July 14 Club meeting—Mike moved up his "Measuring the Universe" program to replace one of Joe's programs scheduled this year. The date with no program will be November, which is the meeting for election of Club officers for next year. Mike asked everyone to start thinking of topics to volunteer for next year's program schedule.
- Survey on magazine subscriptions—When the survey was first completed, not enough interest in either *Sky and Telescope* or *Astronomy* was generated to qualify for the Astronomical League discount. Since then, more interest in *Sky and Telescope* has made that a possibility. A *Sky and Telescope* discount is available with renewals as well as new subscriptions qualifying, and Astronomical League membership is not a requirement. Ranny Heflin said he would subscribe to bring the number up to the required five members. Mike asked the interested members to provide Tim with the necessary subscriber information for him to sign them up with *Sky and Telescope*.
- Loaner equipment upgrades—Mike asked Don to look for tripods suitable for the 6-inch Celestron reflector. The same tripod would also be suitable for the PST. We discussed possibilities for a packet of information to go with loaner telescopes. Mike has purchased planispheres, Moon maps, red flashlights, and folders. He suggests we also need a set of star charts, possibly *Bright Star Atlas*, the *Sky and Telescope Pocket Sky Atlas*, or *Discover the Stars*. The consensus was in favor of *Discover the Stars*, and Leigh moved, with several seconds, for Mike to purchase a set with Club funds up to \$60. The motion passed on a voice vote with none opposed.

- Astronomical League membership—Mike summarized the costs and benefits of continued membership. Club membership is \$10, and Club members can be individual Astronomical League members for \$7.50 or \$5.00 each depending on the percentage of the Club participating. Membership benefits for individuals are the subscription to *Reflector*, a 10-percent discount for purchases from Astronomical League, and the observing programs. The benefit for Club membership is a Club discount on umbrella liability insurance through the League. Mike proposed we continue with the current status and plan a vote on making it optional for next year.

New Business

- Mike noted the power of Internet search engines and asked members to consider whether we need to make any adjustments in what information we place online, for example in the Club minutes.

Next Meeting

The next meeting is July 14, 2010, 7:00 p.m., at the Central Rappahannock Regional Library Headquarters, 1201 Caroline St., in Fredericksburg. Introductions will begin at 6:45 p.m.

Submitted by Bart Billard, Secretary