

Rappahannock Astronomy Club

Minutes, March 20, 2013, Meeting

In attendance:

- Benjamin Ashley
- Terry Barker*
- Bart & Linda Billard
- Don Clark
- George Clarke
- Joe Fordham
- John Gray
- Scott Lansdale
- Jerry Hubbell
- Melvin McDaniel*
- Tim Plunkett

President Jerry Hubbell began the meeting shortly after 7:00 p.m. Eleven members and a visitor were present.

Program

Scott Lansdale presented a program on his amateur radio astronomy very low frequency (VLF) project: "From Start to SID." SID stands for sudden ionospheric disturbance caused by the Sun. The Earth's ionosphere refracts radio waves generated by terrestrial sources, and the disturbances can affect transmissions by changing the height of layers in the ionosphere. These changes can result when magnetic fields in active regions of the Sun reconnect.

Stanford University created the Super SID detector design and partnered with the Society of Amateur Radio Astronomers (SARA) to distribute kits. The kits use a loop antenna, a preamplifier, and a high-definition sound card to detect and convert VLF signals to digital data. The antenna is built from scratch because the design is dependent on where and how the user wants to mount it (indoors or outdoors). The kit has the rest of the components, including software that knows about the VLF stations. It can make a file showing the time dependence of the signal from each station. Although the kit price is \$60, it is also available at no cost to educators or for other educational purposes (the club might qualify).

It is also possible to monitor solar activity with magnetometers. SIDs are caused by x-ray emissions, while magnetic effects are caused by coronal mass ejections. Scott showed examples of signals he monitored and how they correlated with data from solar observatories. One of his signals appears to be from a neighbor's invisible dog fence. Some events Scott showed that correlated with the Mineral earthquake generated a lot of interest.

Old Business

- Treasurer's Report—Tim Plunkett reported three dues payments for this year along with a donation. Twenty members have paid dues for this year, (One has also paid dues for next year.) Tim said that typically the majority of members pay their dues in the early part of the year and then additional dues payments trickle in. He thought the coming comet might spark new interest this year.
- Star Parties, Events, and Meetings—Ben Ashley reported that both the March 15 date and the March 16 backup date for the rescheduled Post Oak Middle School outreach were canceled because of weather. The Messier Marathon star party at Caledon was a success. Ben said he stayed until 3 a.m. to see something in Hydra. He said Messier object hunters missed the first few, and he thought Linda Billard found the most. Linda said she saw 26, a successful first try. But her feet got too cold to stay late.
- Status of Club Loaner Equipment—Ben had no changes to report for the status of loaner equipment.
- Scheduled Star Parties and Outreach Events—The Club received a late request for support of an event at Kate Waller Barrett Elementary in Stafford. Terry Barker said he had binoculars and a tripod

he could take. Ben said that he would forward Terry the email with details. Two outreach events were scheduled for Saturday, March 23. David Abbou was leading one at North Stafford Elementary, and Ben, Jerry, Linda, and Bart were supporting one to go with the Discover Earth exhibit at the England Run Library. The library is 1 of 10 nationwide selected to host the museum-quality exhibit, which is sponsored by a number of earth science organizations. Jerry said the next outreach date was April 12 and 13 for the Boy Scouts of Aquia (it is planned for 8 p.m. to 2 a.m. Friday, with Saturday as backup). They are hoping to have several “areas” with different activities and will accept as many volunteers as they can get. Glenn Holliday is the contact from our club, and the Richmond Astronomical Society is also involved. An area could cover an astronomy topic or have telescopes to view some selected objects. Ben said there were no specific requests beyond these until the fall, when we have a tentative plan for returning to Northumberland. Don Clark said his Celebrate Virginia over-55 community is asking him to do some sort of event in relation to the comet.

- Communications Committee and Website Maintenance—Linda and Don were the only committee members present. There was a good deal of discussion about approaches much of which went over the heads of many members present, as George Clarke commented. A static website could be maintained on the Library server and allow time to plan for a move to a more flexible server later on. Don was dubious that a static site would be supported well enough by more advanced website development tools like WordPress to make that an effective approach to incrementally build a site. Terry felt that he had a prototype that would illustrate the possibilities the full capabilities of WordPress can support on a dynamic site, and wanted members to have an opportunity to see a presentation on the possibilities. Jerry said he wanted to see the committee start by deciding on a plan for layout and links and choose a design for the look, so that these could be used as a basis for deciding whether to start with static or move on. Someone made a motion to delay discussion until Glenn could be present. It was seconded by Joe and passed with no objections.
- RACLUB *StarGazer* Newsletter—Linda said that material for the April quarterly issue was coming together. She was mainly waiting on the outreach events coming up that weekend and Jerry’s talk at the Northeast Astro-Imaging Conference. He is also giving a version April 9 at the Richmond Astronomical Society meeting.

News/New Business/Announcements

- The impression of the new meeting location was favorable among the members present, and Linda moved with Joe Fordham seconding to return for the April meeting and beyond. All were in favor, and the motion passed. In a general discussion that followed, it was noted that because members will be able to stay after 9 p.m., people could bring telescopes or other things they want to show or talk about after the formal meeting.
- Jerry reported Astronomy Days this year are April 20 and October 13. The fall date might be opportune for viewing Comet ISON.
- Linda suggested the Club should consider purchasing a projector for use at meetings. Jerry was using a projector owned by the Defense Force pilot’s group he belongs to. The cost was under \$400, and Linda showed an ACER X1161P 3D model available on Overstock.com for \$299. Terry moved to purchase it. Linda seconded. The motion passed on a voice vote with no objections. Linda sent Tim the link by email. Ben and Jerry discussed arrangements for the April meeting in case the new projector is not available in time. They concluded they could arrange to exchange the Defense Force projector if necessary. Tim said he would email the Club officers when the projector is delivered.
- Tim moved to adjourn and was seconded by Linda. There were no objections.

Next Meeting

The next meeting is on Wednesday, April 17, 2013, at the Heritage Center in Fredericksburg.