

First Light Lite

January 1st, 2017

Jim Lynch, Mike Hunter, Gus Romano - Interim Editors

Web Page and Newsletter Transition

As most of you know by now, Peter Kurtz has stepped down from doing the First Light newsletter and maintaining the website. Peter took on these duties for many years, did an excellent job with them, and deserves a hearty "Thank You" from every member of the Society.

Given that Peter has stepped down from these duties, it is a good time to look at updating both the format and content of the newsletter and website for the Society, and indeed two of the Ad Hoc committees that will start operating in the New Year will be addressing these issues. 2016-2017 CCAS President Jim Lynch is currently contacting committee chairs and potential members to get these committees operational quickly.

In the interim, the First Light Lite email newsletter will be the prime source of updated information about Society events and affairs. The content of the newsletter will be restricted to essential Society news and announcements, with "feature articles" and other optional content omitted for now.

The web site will be static as per January 1st, 2017, until both updated format, content and operating personnel are identified for it. This may be a matter of a few months, and we hope the membership will pardon the inconvenience.

Website

Even though it is temporarily frozen, there is much useful information on the CCAS website! In your browser, bring up www.ccas.ws

December 5th Meeting

We'd like to thank Bernie Young, Research Director of our observatory, for his presentation on "Retrograde Motion of Asteroids and Superior Planets".

Bernie also discussed some key aspects of astrophotography, including the use of focal reducers, camera settings, dark frames, exposure times, and use of Registraw and Nebulosity software.

Upcoming Speakers and Topics

Our January 5th speaker is Tansu Daylan, a graduate student with the Harvard Smithsonian Center for Astrophysics. His talk is on "The Inner Milky Way Gamma Ray Excess". His brief bio-sketch and talk abstract are found below.

BIOGRAPHY - Tansu Daylan is a PhD student at the Harvard University Department of Physics. He spends most of his time working on the problem of dark matter in the Universe. Before his graduate studies in Boston, he did his undergrad at METU in Ankara, Turkey, graduating in 2013 with a double major in electronics engineering and physics. As an undergrad, he worked at CERN on the AMS-02 experiment, which is a particle detector on the International Space Station. Yet before that he graduated from the Robert College of Istanbul, Turkey, in 2008. While not thinking about cosmic affairs, he likes to play soccer, enjoy Latin dances and fly airplanes. He loves Nature, and communicating the scientific method.

ABSTRACT - Analysis of the Fermi-LAT gamma-ray data in the inner Milky Way reveals an extended gamma-ray excess. The anomalous emission falls steeply away from the galactic center and has an energy spectrum that peaks at 1-2 GeV. An important question is whether the signal is coming from a collection of unresolved point sources, possibly recycled pulsars, or constitutes a truly diffuse emission component. Previous analyses have found evidence for a population of dim point sources just below the detection threshold of the instrument. In order to be able to make conclusions about such a dim population we propose to sample a set of catalogs consistent with the observed data, treating the number of sources as an unknown. Although being a computationally expensive sampling problem, this approach allows us to infer the number, luminosity and radial distribution of the point source population that is consistent with the data, while fully taking into account uncertainties in the problem.

February Speaker - Jim Lynch of CCAS will be the Guest Speaker. His topic will be: "Is the Universe Stringy, Loopy, Neither or Both?"

Star Parties

Winter season once per month "QUARTER MOON SATURDAY STAR PARTIES", **all open to the public**, began September 10th, 7:30-9:30PM.

From September thru June, we will have one regularly scheduled Star Party each month taking place usually ** at 7:30-9:30pm on the Saturday closest to the date of First Quarter Moon (about 7 days old).

(** In May and June, these events start at 8:30 because of later sunset times.)

When the moon is near its First Quarter, the terminator (the line dividing light from dark) is favorable for viewing sunlight or shadow on the sides of craters. This time is also favorable for observing the dark side of the moon occult (visually cover) stars in the sky as the moon moves in its orbit. Depending upon the calendar, we may also be able to observe planets and other celestial objects.

Here is the remaining schedule for "Quarter-Moon Saturday Star Parties" thru June, 2017; **the public is invited:**

Saturday December 10th

Saturday January 7th

Saturday February 4th

Saturday March 4th

Saturday April 1st

Saturday May 6th

Saturday June 3rd

POSSIBLE CANCELLATIONS for Star Parties: Cancellations will be very rare since we have lots to do "inside" as well as outside. Even if the forecast is "iffy"; the Staff Leader for the night may elect not to cancel in spite of possible clouds. If clouds arrive after staff and guests have convened, a virtual Star Party will usually take place indoors to include overviews of the sky for that night using computer simulations with our big screen TV, videos of interesting sky events recorded

previously, demonstrations and/or training on the use of scopes and other equipment, and consultation/discussions on things astronomical, etc.

However, sometimes a solid forecast for overcast or rain or a storm will result in cancellation of a given Star Party. **IF IN DOUBT ABOUT THE WEATHER AND THE STATUS OF A STAR PARTY, CALL THE OBSERVATORY AT 508-398-4765 AFTER 7:45 pm.** No answer means the event has been cancelled.

Observatory and Education News

The 12 honors student projects are almost completed. Remarkable this year was the number of different projects and the number of students involved. On one relatively clear afternoon we observed four bodies including Venus (magnitude - 4.2), Arcturus (0.0), Deneb (1.25) and Polaris (1.97) but couldn't bring home Alberio (3.0). Short period eclipsing binary U CEP was seen increasing in brightness by about a magnitude in 1/2 hour. With a complete light curve range from magnitude 6.7 to 9.8, a declination of 82N (circumpolar), and a period of 2.49 days, U CEP is convenient and easy once you get in phase with it. Celestial navigation mixes mathematics and astronomy, and we have projects for determining our latitude and longitude by observing the sun near solar noon or any other celestial body at any time.

In preparation for the 2017 round of projects we need to collect a data set for each project in case visual observation is not possible. We will also be preloading a computer with all the information and software needed for each project for use by the students in their classroom.

These projects could not have been completed without the help of the WSO staff: Bernie Young, Hank Ricci, Joel Burnett, Jim Carlson, George Silvis and those who volunteered to be on-call if we needed more help.

Directions to Dennis Yarmouth HS and Schmidt Observatory

For information on the location of our Dome behind Dennis-Yarmouth High School, click on the purple button "Old Website" and once there, click on "Meeting Location" viewing the two maps that are there: external for the Dome, and internal to locate the high school library where meetings are held.

For meetings, drive in the south entrance road and go around behind the main building. Park in the lot about half way down the building and go in the back door and turn down the hall to your left to find the library.

For Star Parties at the Dome, drive in the north entrance road all the way past the north side of the main high school building, through a gate, and on to park near our Dome.

H&K directions

Please be reminded that Gus Romano or his delegate “host” a dutch-treat dinner gathering for members and friends each CCAS meeting night (before the meeting) at the South Yarmouth Hearth & Kettle restaurant at 5:45pm; (the meetings begin at 7:30 at D-Y.) The speaker for each meeting is always invited. Please join the group to dine and talk about all things interesting, including astronomy, each month before our meeting. The H&K is at 1196 Rt 28, South Yarmouth, about a half mile west of the Station Avenue/Main Street intersection with Rt 28 (stop light).