

SPECTRUM

Northern Cross Science Foundation Newsletter

November 2012

LOOKING UP

November 1, Thursday

General Meeting

7:00 p.m. - Astronomy 101
(Extended Program)
Discussion Imaging Initiative
Business Meeting to follow

November 15, Thursday

Board Meeting

7:30 p.m.
Home of Jeff Setzer

December 6, Thursday

General Meeting

7:30 Business Meeting
Board Elections
Holiday Party to follow
"Elephant Gift Exchange"

January 5, Saturday

Candlelight Ski & Hike

6:00 p.m. to 9:00 p.m.
Harrington Beach

January 19, Saturday

Horicon Marsh

6:00 p.m. to 9:00 p.m.

February 7, Thursday

Annual Banquet

Fox and Hounds Restaurant
Hubertus, WI

IMAGING EQUIPMENT INITIATIVE

During the October monthly meeting of the Northern Cross Science Foundation, there was extensive discussions about a proposal to provide expanded opportunities to NCSF members for astrophotography. The proposal is to erect a telescope and mount that would be permanently erected and aligned so that members would have in place equipment capable to be used for imaging without need of setup or alignment with each use.

For those who have not attempted any astrophotography, you should know that it is a relatively complex aspect of the hobby that also involves some monetary investment but one that is becoming more simple as technology changes, and very rewarding when an image is obtained.

Unlike daytime photography, astro imaging requires long exposures with appropriate guiding on the source subject. Fortunately, with new technology, astro imaging cameras have become less expensive; guiding has become much more automated; and digital photography has dramatically shortened the length of exposure from those days when only print film was available. Although images are obtained in a shorter period of time, the best images are usually a result of stacking multiple images of the source object by using a software program. Then, depending on the photographer's interest in enhancing the clarity and appearance of the image, processing software may be used to provide a better final image. So astrophotography requires a lot of patience and a fairly steep learning curve in working with different software applications. Also, it often requires a laptop to aid in guiding, focusing, length of exposure, storing the data from images and processing the data. Alternatively, a digital SLR might be used to acquire some of the images that can later be processed on a desktop or laptop. Either way, there is some cost to each user. But the end result can produce a great thrill when those first images are obtained as well as the reward when the images are made better with more practice. And there's always that sense of satisfaction of knowing "I took that picture."

As to the proposal, there were 3 suggestions. The club would: (1) build a permanent small

dome near our current roll-off roof observatory at Harrington Beach with a permanent mount and telescope within; (2) install a permanent mount and telescope at the south end within our current observatory; or (3) install a permanent mount and telescope in a small enclosure to be built as an addition to the outside of the south side of our current observatory between the two doors.

There was general discussion about the pros and cons of the different alternatives, but the general sentiment seemed to be in favor exploring the concept of developing an astroimaging site for the club. Such a project would advance opportunities for club members to further their experience in this aspect of astronomy. These experiences would be shared with other club members through presentations to membership and through other discussions. There was also discussion that such a technological enhancement could likely attract new and younger members to our club. Lastly, it was also mentioned that this equipment could lead to enhanced outreach applications.

It is expected that the Harrington Beach officials would look favorably toward such an enhancement to our current grounds but of course, any concrete proposal would require their final consent. Also, with respect to fund raising, the chair of the fundraising campaign for the observatory construction several years ago indicated that concerns about fundraising should not be seen as an impediment to the club choosing what it deems to be the best concept to meet the desires of NCSF membership.

Members generally were in agreement to put this matter to a vote of the general membership in attendance during our December meeting in order to determine if the club wanted to further explore such a project. If that vote was affirmative, a committee would be set up of any interested members to consider all alternatives, the pluses and minuses of various proposals, the costs of the alternatives and fund raising that would be necessary to build and maintain such an addition to our club. Final approval of any plans will be made by the NCSF Board of Directors.

October Meeting Minutes

By Kevin Bert

The October Business meeting of the Northern Cross Science Foundation was held at Unitarian Church North. President Jeff Setzer opened the meeting at 7:50 pm and welcomed 21 members and guests. He noted that this is the last month of public events for the year. Jeff then asked for standard reports.

Treasurer Gene DuPree was absent and there was no report.

Secretary Kevin Bert had no revisions to the membership roster to report. He asked those members that are not receiving the Astronomical League quarterly publication of the Reflector to get back to him.

With no old business, Jeff asked for any new business. Nolan Zadra started with some background information on his experience with astrophotography to set up a proposal he would later present. Nothing takes the place of visual observations of an astronomical event but a photo can capture the event and tell a story that will not fade as a memory can. Photography is not for everyone but some members have a real passion for imaging and would support a club effort to promote this complementary aspect of the hobby. With out-

reach playing a large part of the NCSF effort, imaging has the potential to play a different role in outreach, appealing to the younger technology savvy generation. Just look at the number of people that visually witnessed great, once in a lifetime views of the Venus transit and felt the need to capture it with cell phones. One of the biggest struggles to imaging is the time it takes to setup and align equipment. A permanent setup that is ready to go is very attractive.

This leads to the question Nolan is asking. Is there enough club interest in a project of this magnitude to make it a reality? The next meeting will discuss the pros and cons of the project with the goal of voting at the December meeting. Should the club take the next step, that is to form an exploratory committee of interested members, and members that have expertise in this area to give guidance and give options for a serious proposal. A stable platform or mount that can locate and guide accurately is one key element. To have it housed in our existing observatory or in a separate dome? What primary telescope and imaging camera are all questions that need to be answered. A number of other concerns were addressed by members at the October meeting.

Rob Powell liked what he had been hearing about the benefit of the addition and offered to do a funding feasibility study when appropriate. The cost of a project like this has the potential to run into thousands of dollars and he recommended a few proposals that cover from the bare bones minimally acceptable to the ultimate system with all the bells and whistles. Some money has been pledged to the project if it goes forward.

Jeff continued with a list of upcoming NCSF events. October 4, 5 & 13 at Lac Lawrann Conservancy, October 6th at Pike Lake State Park, October 12th at the Cedarburg Bog, October 19 & 20 are Public viewing nights at Harrington Beach State Park. October 26 the final event of the year at Bayshore.

With no further business Jeff closed the meeting at 9:00 pm.



Things to See In the November 2012 Night Sky By Don Miles

Mercury, Mars, & Pluto: Mercury & Mars are very close to the Sun, and Pluto is also very low in the southwestern sky. Mercury (mag 0.0) will be right behind the Sun at sunset early in the month, then passes between us and the Sun for most of the mid-month. It ends the month barely leading the Sun, and so will be a morning object. Mars (mag 1.2) is also trailing the Sun, and will be highest in the southern sky at sunset. It is tiny and shows no detail, and sets about (7pm early in the month / 6:30 pm late in the month). Pluto (mag 14.1) is also highest the southern sky at sunset and also sets about (7:30 / 6:15pm).

Neptune & Uranus: Neptune (mag 7.9) is highest in the southern sky about (8/6pm), and sets around (1am / 11:30pm) in the constellation Aquarius. Uranus is at (mag. 5.7) in the constellation Pisces, and already up as the Sun goes down. It will transit (be highest in the sky) at about (9:30 / 8pm), and sets about (3:30 / 2am). Both are small in regular scopes so show no detail, but are fun to find.

Jupiter: Rises about (7:15 / 5pm), and is highest in the sky around (2:30 / 12:30am), and is located in the constellation Taurus. Jupiter (mag -2.8) works its way down the right horn towards the top

of the bulls head (above the Hyades). It'll be the brilliant "star" that moves westward compared to the other stars this month. Take a look when you can before the weather makes it uncomfortable, and you'll be treated to a beautiful sight. It's close to "opposition" (Dec. 3rd), so will be visible all night.

Venus & Saturn: Venus rises about (3:30 / 4:30am) throughout the month, and is at (mag -4.0). This month, it starts in Virgo, and works its way eastward to end up in Libra. It slips a little closer to the sun as the month progresses, but remains a morning object. Saturn (mag 0.6) is too close to the Sun until about mid month, when it rises about (5:30 / 4:45 am). On the morning of the 27th, Saturn will pass above brilliant Venus within $\frac{1}{2}$ of a degree, so should be an interesting pairing.

Moon:

November 6th: Last Quarter
November 13th: New Moon
November 20th: First Quarter
November 28th: Full Moon

Special Events:

There are a couple of meteor showers worth looking for this month. The first are the Taurids which peak the night of the 5th with rates about 5-10/hr. The low numbers don't sound spectacular, but these are slow (17 miles / second), and are known to fragment and produce bright yellow fireballs. The last quarter moon will rise about 10:15pm, so will wash out the more faint meteors, but any fireballs will be evident. The next are the Andromedids, and they are strung out from as early as September and can last thru December, but peak the night of the 14th. Peak may be a stretch of a description, as the numbers per hour may be even lower than the Taurids. What makes this worth watching, is these are also not only known for their bright fireballs, but they leave reddish smoke trails behind. The just past new moon will set at 5:16pm, so won't be an issue here. Next are the Leonids, and they peak the night of the 17th and may be as high as 100/hr. These are fairly fast (44 m/s), and are sometimes seen as bluish or greenish, and leave smoke trails behind. The moon will set about 8:30pm, so won't be an issue here either.

November General Meeting

101 Class... presented by Kevin Bert

The Astronomy 101 class for October is taken from The Universe Sampler manual and entitled "The Moon,". Lets look at some of the basics of our nearest neighbor in space. A manual of the Universe Sampler is available for \$10.00.



Constellation of the month:

Cassiopeia

Business Meeting

There will not be a Main Program this month to allow for continued discussion regarding the Imaging Initiative proposed at the October meeting. (See main article, Page 1)



Jim & Gwen Plunkett Observatory
(Fall Photo 2012)

RELATED INFO

Leaders for Public Viewing

January 5

Candlelight Ski & Hike

Harrington Beach

Gene and Charlotte DuPree

January 19

Candlelight Ski & Hike

Horicon Marsh

Gene and Charlotte DuPree

October Events

LacLawrann Conservancy Oct. 4 & 5

Reported by Mickey Kazmierski

LLC Family Fun Nights, Thursday evening was cloudy, but as usual our volunteers were creative to find far away objects for the kids and parents. Friday did actually manage to clear enough so families were able to do some real viewing. Many thanks to Gene and Charlotte DuPree, Don Miles, Rick Dusenbery., Rick & Mickey for sharing their time and knowledge with everyone, approximately 300 total for both nights.



LacLawrann Conservancy Oct 13

Event was cancelled due to rain

Harrington Beach Oct 20

Reported by Charlotte DuPree

The October 20 Haunted Hike started out cloudy and eventually the clouds broke up. Between 7:30 and 9:30 we had 200+ visitors. Big thanks to Rick Dusenbery, who brought his telescope, Gene and Charlotte DuPree and visitor Ilya Potebrya who put scopes out back. Objects looked at were the usual; Moon, M13, and M57.

Bayshore Towne Center Oct 26

The Great Pumpkin event brought out a large crowd. Although mostly cloudy, the moon was visible for viewing.

Thanks to all members who contributed time and energy at Public Events during the 2012 public viewing season.

Supporting Members

Although it is not often said, the Northern Cross does appreciate the group of supporting members that voluntarily pay higher membership dues to support the club's activities. The Board of Directors gave the go ahead to have a plaque displayed at the Jim & Gwen Plunkett Observatory to recognize their generosity. It will be updated annually to show the years active supporting members along with being recognized in the spectrum. The Plaque will be presented to the club at the November meeting. The following is a list of those 2012 members. Thank you again for your contribution!

- Mark Hirschmann**
- Jerry Kohlmann Jr.**
- Deborah Kern**
- William Large**
- Richard Kessler**
- Bernice Maertz**
- Pat Marek**
- Scott Nehring**
- Alan Steinberg**

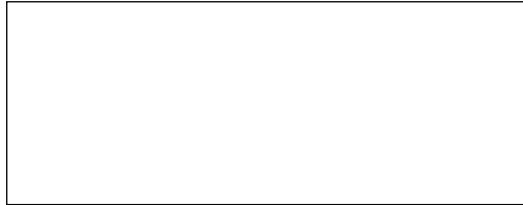
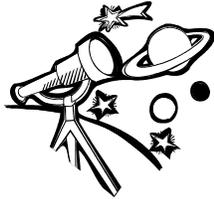
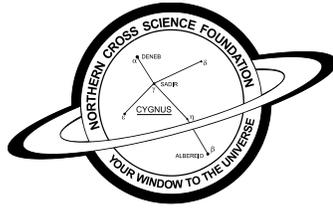


Jim and Gwen Plunkett



Observatory Director:
Dan Bert: 262-375-2239

SPECTRUM
5327 Cascade Drive
West Bend, WI 53095



2012 BOARD OF DIRECTORS

President - Jeff Setzer
1418 Trillium CT
West Bend, WI 53095
262-338-8614
astrosetz@hotmail.com

Vice-President—Joyce Jentges
102 N. Montgomery St. Apt #1
Port Washington, WI 53074
262-483-4270
joycejentges@hotmail.com

Secretary - Kevin Bert
2292 Ridgewood Road
Grafton, WI 53024
262-375-2239
kevin.bert@hotmail.com

Treasurer - Gene DuPree
6219 Jay St.
Myra, WI 53095
262-675-0941
grDuPree@charter.net

Rick Kazmierski
262-305-1895

Don Miles
262-675-2796

Jennifer Ryan
414-232-4338

Newsletter Editor & Publisher

Rick & Mickey Kazmierski
262-305-1895/ rickkaz@charter.net

Sungrazer Comet c/2012 S1 (ISON) Coming Late Next Year NASA

Astronomers, both amateur and professional, are buzzing with speculation about newly-discovered Comet C/2012 S1 (ISON). Currently located beyond the orbit of Jupiter, Comet ISON is heading for a very close encounter with the sun next year. In November 2013, it will pass less than 0.012 AU (1.8 million km) from the solar surface. The fierce heating it experiences at that point could turn the comet into a bright naked-eye object.

Much about this comet - and its ultimate fate - remains unknown. "At this stage we're just throwing darts at the board," says Karl Battams of the NASA-supported Sungrazer Comet Project, who lays out two possibilities:

"In the best case, the comet is big, bright, and skirts the sun next November. It would be extremely bright -- negative magnitudes maybe -- and naked-eye visible for observers in the Northern Hemisphere for at least a couple of months."

"Alternatively, comets can and often do fizzle out. Comet Elenin springs to mind as a recent example, but there are more famous examples of comets that got the astronomy community seriously worked up, only to fizzle. This is quite possibly a 'new' comet. If so, with all those icy volatiles intact and never having been truly stressed (thermally and gravitationally), the comet could well disrupt and dissipate weeks or months before reaching the sun."

"Either of the above scenarios is possible, as is anything in between. There's no doubt that Comet ISON will be closely watched. Because the comet is so far away, however, our knowledge probably won't develop much for at least a few more months."

Meanwhile, noted comet researcher John Bortle has pointed out a curious similarity between the orbit of Comet ISON and that of the Great Comet of 1680. "Purely as speculation," he says, "perhaps the two bodies could have been one a few revolutions ago."

SPECTRUM

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The NCSF supports the International Dark sky association.



Send inquiries to:
SPECTRUM
5327 Cascade Drive
West Bend, WI 53095

This Issue, along with back Issues of SPECTRUM, can be found on the NCSF Web Site.
<http://www.ncsf.info>

Monthly Meeting Information

7:00 p.m. Astronomy 101
7:30 Main Program
Unitarian Church North
13800 N. Port Wash. Rd.
Mequon, WI 53097