

SPECTRUM

Northern Cross Science Foundation Newsletter

December 2015

Looking Up



December 3, Thursday

General Meeting

7:30 p.m.

Holiday Potluck Party

(Bring a Dish to Pass!!!)

White Elephant Exchange

(*See Pg 4 for Details)

(Also at the December Meeting, a vote will be taken to fill three open Board of Director positions.)

December 17, Thursday

Board Meeting

7:30 p.m.

Home of Jeff Setzer

January 16, Saturday

Candlelight Ski & Hike

6:00 p.m. - 9:00 p.m.

Horicon Marsh

February 6, Saturday

Candlelight Ski & Hike

6:00 p.m. - 9:00 p.m.

Harrington Beach

February 13 Saturday

Candlelight Ski & Hike

6:00 p.m. - 9:00 p.m.

Pike Lake State Forest

Catalina - This Year's Holiday Comet...By Rick Dusenbery

Remember Comet Lovejoy from last winter that graced our sky for several months? Well this year, we have another very similar comet. This is Comet Catalina or formally noted as C/2013 US10. It was discovered on October 31, 2013, by the Catalina Sky Survey. At first, it was thought to be an asteroid, so it received the "US10" designation, but further study showed it to be a new comet inbound from the Oort Cloud for a one-time visit to the inner solar system. It had reached perihelion on November 15 and is presently in Virgo heading northward and has been at about 7th magnitude. Some estimates claim it may reach 4th magnitude or so.

Remember that comets are like cats: they both have tails, and they both do what they want to do! Recall how Comet Ison was consumed as it rounded the sun two years ago after being proclaimed "The Great Comet of 2013".

But let's get back to Comet Catalina. It is, of course, an early morning object and should be seen easily with standard binoculars low in the southeast. Several recent observations and photographs show two tails and a present magnitude of around 6. Each night it rises a bit higher in the sky as it heads toward Arcturus in Bootes. Right now the nearly full moon is interfering, but viewing should be improved by December 3rd with the moon at last quarter. In fact, on December 7th,

Catalina will be joined by a crescent moon and several planets. Then on New Years Day, Comet Catalina will pass within about a half degree of Arcturus, putting both in the same field of a low-power telescope eyepiece.

Its closest approach to earth occurs on January 12th at 66.9 million miles. Around the middle of January, it starts to pass close to the handle stars of the Big Dipper and hence become visible in the evening, albeit very low on the northern horizon. By this time, however, Catalina will likely be dimming, but who knows! We are long overdue for a good naked-eye comet. Perhaps Comet Catalina will be the one to break the present comet drought.

Keep tuned to the internet for latest predictions of its path and brightness level. We should know more by our December meeting. Happy comet hunting everyone. No hunting license is required and you don't have to wear blaze-orange!



Photo taken by Ian Sharp/NASA Image of the Day

Where to View the August 21, 2017 Solar Eclipse...By Charlotte DuPree

I have found a hassle free way to view the 2017 eclipse. Cedar Lake Campground! This campground is just north of the centerline. They are very willing to take reservations now, and they have a large open area that he is setting aside for our group. There are 150 sites with full hook-up, water, electric and sewer for \$25 a day. Two tents and four adults, or one family group are allowed on each site. We will be down there starting on Aug. 17 to Aug. 24, to beat the rush of traffic and any travel problems. You can come and go anytime you want. So far, we have around a dozen people that plan on camping.

Latitude N37,5006°, Longitude W88,7968. Totality is 2M 39.4 Sec. When making a reservation tell them, you are with the Wisconsin Astronomy group. This is a newer campground, and they hope to have six person bunkhouse cabins available by 2017. Please let me know if you plan to make reservations so we know how big of a

group to plan for. Also, if you have any additional questions, Gene DuPree can be contacted at 262-675-0941 or e-mailed at grdupree@charter.net.

P.S., The next total solar eclipse in the US is April 2024.

Reservations can be made at:

Cedar Lake Campground

2090 Gillead Church Rd

Vienna, Illinois 63995

Phone 618-695-2600

Let them know you are with the Wisconsin Astronomy Group!

November Meeting Minutes

By Secretary Kevin Bert

The November Business meeting of the Northern Cross Science Foundation was held at Unitarian Church North. Vice President Joyce Jentges opened the meeting at 8:05pm and welcomed 18 members and guests. She then asked for standard reports.

Treasurer Gene DuPree tells the membership that the regular accounts balance is \$9085.61 and the observatory account balance remains at \$1,042.01. He says that 2016 calendars are still available for \$8.00.

Secretary Kevin Bert reports that there were no changes in the club roster. The Astronomical League initiated Library telescope was officially presented to the Grafton Library on October 28th after modifications to the scope were completed. There are now four people on a waiting list to check out the scope for a two week period. It is a small start but if the demand is high, more telescopes may be wanted. The

Northern Cross will receive ongoing publicity as people continue to check out the scope and discover that they can find more information to questions at the NCSF.

Kevin Bert reports that all is well out at the Observatory as the public viewing evenings are finished for the year. Observatory director Dan Bert will be preparing a final report for the 2015 year on the Observatories activities for the Park. Imaging members planned to meet afterward to talk about the next steps in improving the imaging equipment and at the Observatory.

Joyce opened nominations for the board of directors. Outgoing board members are Joyce Jentges, Dan Bert and Kevin Bert who have finished their 3 year term. Rob Powell nominated Joyce Jentges and it was seconded. Joyce accepted to run if elected. Nolan Zadra nominated Kevin Bert and it was seconded. Kevin accepted to run if elected. Jaime Hanson was nominated by Chris Grenda and seconded. Jaime needed time to consider accepting

and would give an answer next month. Dan Bert was nominated and seconded but was not there to respond. With no other nominations Joyce closed nominations. She reminded members that nominations would again be open prior to next month's election.

Joyce encouraged all members to attend the December Meeting. Being the only required meeting for election of board members. It is also the meeting we have our holiday party. Members should bring a snack, dessert or dish to pass and the club will provide soft drinks and party ware. We will continue with the successful White Elephant gifts with those members that would like to participate. No formal program is scheduled to allow plenty of time for socializing.

Joyce covered upcoming 2016. January 16th is a Candlelight Ski & Hike at Horicon Marsh, February 6th is a Candlelight Ski & Hike at Harrington Beach State Park with the following week another Candlelight Ski & Hike at Pike Lake State Park. All events are well attended if the weather is good and having some members telescope available would be appreciated. With no further business Joyce closed the meeting at 8:30 pm.

Things to See in the December 2015 Night Sky...By Don Miles

Mercury, Neptune, & Uranus: Mercury is too close to the setting Sun to be viewed early in the month, but by mid-month will have distanced itself from the Sun enough to be seen. It's at (-0.8 mag) which would be pretty brilliant, but it will be in the glare of the Sun. By mid-month, it will set about 5:30pm, and by the end of the month, will set about 6:15pm. Neptune is the next object to view, and is already high in the sky at sunset. It transits at sunset at mid-month, and sets about (11:30/9:30pm). It's at (7.9 mag), has a grayish color to it, and is in the constellation Aquarius. Uranus is the next to view, and trails Neptune by about 3 hours the whole month. It transits mid-month at sunset, and sets about (2:45/12:45am). It's in the constellation Pisces at (5.7 mag), and the blue-green color helps betray its location.

Jupiter, Mars, Venus, & Saturn: Jupiter is the first to rise, and does so by about (12:45am/10:45pm). It starts the month in the constellation Leo, and ends the month just inside the border of Virgo. It's now at (-2.0 mag), so will be hard to miss. Even a quick look with binoculars will show it's not just a bright star. It transits about (sunrise/5am), so you'll have a beautiful target without the Sun interfering. Mars is the next to rise, and will be by about (2:15/1:45am), and transits late in the month at sunrise. It's at (1.5 mag), and in the constellation Virgo. It will continue to get closer/brighter thru this winter & spring on its way to next summers close pass to us. Venus is the next to rise, and will be impossible to miss as it's at a brilliant (-4.2

mag). It rises about (3:15/4:30am) and starts out in the constellation Virgo, but ends the month in Libra. Saturn is the last of the group to rise, and starts the month rising at sunrise. It will continue to rise earlier, and by late in the month, it will rise about 5:15am. It will continue to separate itself from the trailing Sun throughout the winter, so the views will only get better. It starts out at (0.4 mag), so isn't a show stopper as far as brightness is concerned, but if you haven't seen it in real time with your own eyes (no internet involvement), you owe it to yourself to take a look. Even if you've seen it in the past, but not recently, take a look...it's hard not to be impressed.

Moon:

December 3rd: Last Quarter

December 11th: New Moon

December 18th: First Quarter

December 25th: Full Moon

Special Events:

There is one meteor shower worth looking for this month that won't be affected by the Moon. They're the Geminids which peak the night of the 13th, and into the morning of the 14th. The debris trail is pretty wide, as the showers start around the 6th and last thru the 19th. The just past new moon will set around 8pm, so won't be an issue here. They are predicted to peak at 60-120/hr., and are moderately slow (21.75 miles /

second) and are known to produce bright fireballs.

As my lovely bride is waiting to say..."Thanks, I'm out"

Things to See in the Night Sky

Ends December 2015

on it's 101 Article!



This December 2015 Issue of "Things to see in the Night Sky" is Don's final article. Don started this article in August of 2007 and this issue comes to 101 articles for his news column.

Don decided to defer his monthly article to the many astronomy-based online websites and downloadable software that he said is so readily available. Don has been thinking about this for some time, saying "people can view current astronomy information at the touch of their smart phones."

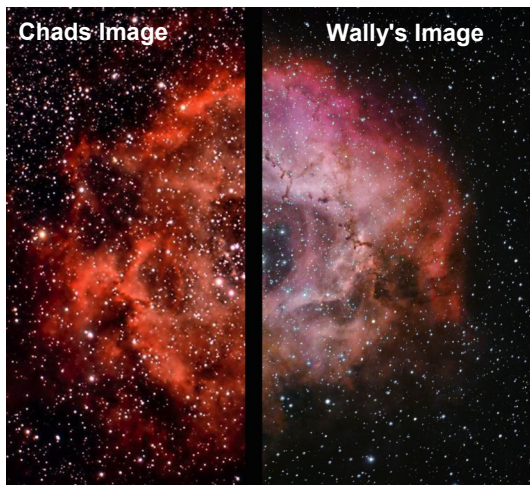
NCSF extends our gratitude to Don for his dedication and the time-consuming research to give us such excellent information over the years. The next time you see Don; thank him for his long-time commitment for a job well-done!

Imaging Report...By Ernie Mastroianni

Long nights, long exposures

The Rosette Nebula spans about 1.3 degrees of arc, nearly the width of three full moons, but glows at only 9th magnitude. That feeble glow, spread out over such a wide area, is not easily seen in even the largest telescopes. But it's a wonderful deep sky target, glowing a vivid red in hydrogen alpha wavelengths in the constellation Monoceros, east of Orion.

Northern Cross Science Foundation imagers Wally Gersmehl and Chad Andrist both aimed their imaging systems at this target this past November, when clear skies and mild temperatures made for unusually favorable conditions for month better known for overcast skies. Chad and Wally used different telescopes, but both captured stunning detail and intense color during imaging sessions at Harrington Beach State Park. In this split photo below, Chad's version



is on the left, taken with an 80mm refractor. It features data from two and four-minute sub frames for a total of one hour's worth of exposure. Wally's photo is on the right, taken with a 127mm refractor and 10 minute sub frames, using a SBIG 8300 monochromatic camera and color filters for luminance, red, green, blue and hydrogen alpha.

Spectrum editor Rick Kazmierski also spent two November nights and more than 4 hours of imaging time to capture the 11th magnitude galaxy NGC 891, image below, with his Astro Tech 8 inch Ritchey Chretien and a Canon 500D camera. He made 54 images at five minutes each



from his backyard observatory to capture the galaxy, less than a sixth as wide as the Rosette. Dark dust lanes are clearly resolved in the edge-on galaxy, located near the tail end of Andromeda. Rick also recorded two background galaxies whose light registered below 16th magnitude.

And I aimed the club's 127mm refractor at the Crab Nebula last month, using the club's SBIG



8300 color camera and my own guiding camera. All equipment ran smoothly on a Mac laptop. I made eight exposures of 5 minutes each of the glowing remnants of a supernova, noted by Chinese observers in 1054. It was said to outshine Venus six fold and was visible in broad daylight for 23 days. It was called a "guest star" by Japanese observers. Today, it glows at magnitude 8.4 and spans about 7 arc minutes in the constellation Taurus. I was happy to see structural details in the final image.

I also gave a short talk at the November meeting on what we've done with the five inch refractor in the last year. Many amazing images have been made, but the scope has also been used at public observing nights to supplement the Panarusky telescope. The telescope gives remarkable wide field views, especially with high end eyepieces. I handed out instruction sheets, but anyone who wants hands-on instruction for visual use should feel free to contact me at:

emastroianni@wi.rr.com.

2016 Dues

Your 2016 Dues invoice is included with this Newsletter. New members having joined the Club this past year will find their dues have been pro-rated, making them payable on the same schedule as the rest of our general membership (at the beginning of each calendar year). Members receiving electronic mailing can download the Dues Invoice from the Club website or print the attached pdf file. Additional copies of the Invoice will be available at the December Membership Meeting.

Instructions for submitting Dues are indicated on the Invoice.

RELATED INFO

Leaders for Public Viewing

January 16

Horicon Marsh

Gene and Charlotte DuPree

February 6

Harrington Beach

Gene and Charlotte DuPree

February 13

Pike Lake

Gene and Charlotte DuPree



2016 Star Parties!

WOW

June 2nd through 5th

Hartman Creek State Park

www.newstar.org

Registration later February

NORTHWOODS STARFEST 2016

Hobbs Observatory
Beaver Creek Reserve
Fall Creek, Wisconsin
August 5-7, 2016

www.cvastro.org

Registration forms will be available late
May 2016

NCRAL 2016

Bloomington-Normal

April 29 - 30th

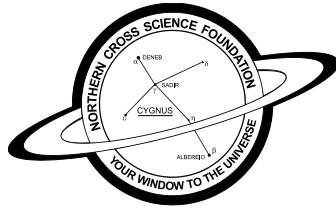
Details to come

New This Year

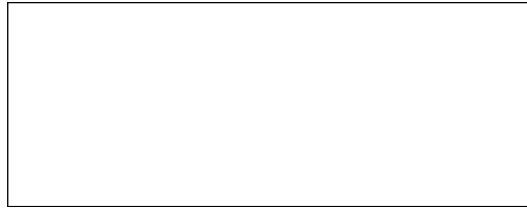
Beginning this year, Astronomy Magazine can be renewed online when you receive your notice from Kalmbach. Go to www.asrtomony.com/promo and type into **Promotion Code** "RCLUB099". Address questions to Customer Service 800 533;6644.

See Dues invoice for additional information.

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White Elephant Exchange *Cont. from Pg 1*

Entertainment at it's very best! Will this be your year to join in?
The more the merrier!

*A White Elephant gift is something lurking around in your astronomy closet gathering dust or the book shelves loaded with books. Do you have drawers loaded with charts and maps?

Or... perhaps, in your travels, you see something funny or yummy, the imagination soars! This is for entertainment and not gain, so we all have a great time

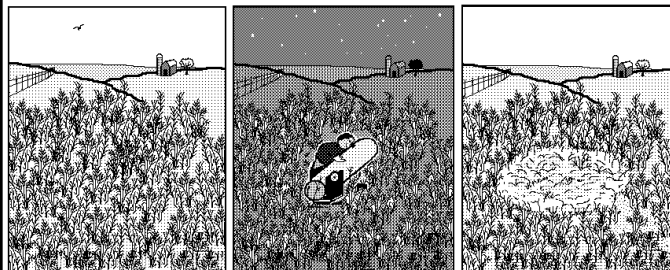
1. Bring an *astronomy-themed, wrapped gift!
2. When the gifts arrive we will have numbers attached to them with matching numbers in a hat.
3. One by one, each participant will draw their prize number and open it to the oohs and ahhs of all present.

Hidden Camera Reveals True Nature of Crop Circles.

Before

During the Night

After



(Suggested by Rich Burns and Greg Lates while observing at Groezinger's farm)

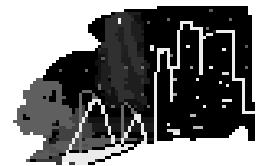
J.P. Kramer

SPECTRUM

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The NCSF supports the International Dark sky association.



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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