

SPECTRUM

Northern Cross Science Foundation Newsletter

January 2010

LOOKING UP

January 7, Thursday

General Meeting

7:00 p.m. - Astronomy 101

7:30 p.m. - Main Program

Business Meeting to follow

January 21, Thursday

Board Meeting

7:30 p.m.

Home of Joyce Jentges

February 4, Thursday

Annual Banquet

Fox & Hounds Restaurant

Hubertus, WI

(See Insert)

February 6, Saturday

Candlelight Ski & Hike

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

Harrington Beach

February 10, Wednesday

Horicon Marsh

7:00 p.m.

Mayville, WI

February 13, Saturday

Candlelight Ski & Hike

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

Pike Lake

Getting Started in Variable Star Observing

A Review of the Citizen Sky Project 10 Star Training Tutorial

by Justin Modra

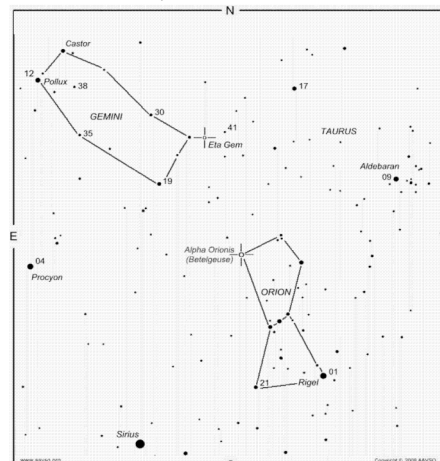
Did you ever think that variable star observing is just for “serious” amateur astronomers? Or maybe you thought that years of observing experience is needed before “graduating” to variable star observing? Well, those assumptions are not correct! If you are interested in learning more about variable stars, there is an excellent opportunity to get started through the Citizen Sky 10 Star Training Tutorial. No equipment is needed, other than access to the World Wide Web and a printer. No special photoelectric devices, no memberships to any organizations, no special star charts – not even a telescope is needed! Also, the 10 Star Training Tutorial is FREE!

The method by which the uninitiated can get started in variable star observing can be found at the website of the Citizen Sky Project, <http://www.citizensky.org>. The website has a lot of information on the home page. To get to the 10 Star Training Tutorial, click on “Getting Started With...” and then “Observing” and then the “10 Star Training.” Print out the 10 Star Tutorial, review it and then you are ready to go outside and make some naked eye observations.

The 10 Star Training Tutorial is written in non-technical language and provides all the information needed to learn how to make an estimate of a star’s magnitude and then submit the data to the American Association of Variable Star Observers (AAVSO). The star charts are very easy to use and have hints and tips that are useful when trying to estimate the brightness of one of the ten variable stars. The tutorial also includes sufficient definitions and examples for the beginner. Figure -1 shows an example star chart from the tutorial.

The typical AAVSO star charts can be a daunting proposition for a beginner to use. The tutorial solves this problem by starting a novice observer on naked eye variable star- and providing simplified star charts. It also does a good job of providing the reasons why

Star Chart for alpha Orionis and eta Geminorum



Notes: Alpha Orionis (Betelgeuse) is very easy to find. Orion’s belt consists of three very bright stars that can be seen from almost any city. Once you find the belt, the rest of the constellation is easy to recognize. Alpha Orionis is a very red star, but sometimes it is hard to see the color from city locations. It is also a very large star. If it was placed in the center of our solar system, it would engulf all planets out to Jupiter – including Earth! Alpha Orionis varies in brightness from 05 to 15 on our brightness scale over a course of a few weeks. At first it can be hard to notice the change, be patient and you’ll see it.

Figure 1 – Example Star Chart

how to read the summaries of collected data (light curves).

The “star” of the Citizen Sky Program is the variable star epsilon Aurigae. This is an eclipsing variable star which has already decreased in magnitude approximately 1.5 times beginning in August of 2009. Every 27 years this star goes through a usual dimming from an apparent magnitude of 3.0 to 3.8. The background and theory portion of the training program is dedicated to this eclipsing variable star.

Don’t be disappointed if you missed the beginning of the epsilon Aurigae eclipse, the star will continue to put on a show until late 2011, when it is expected to return to normal brightness. If your skies are too light polluted to see epsilon Aurigae, there are nine more stars in the training program and some of them are bright enough to be seen from any city location. All the stars in the tutorial are shown in the following table:

(cont’d on pg 4)

December Meeting Minutes

By Kevin Bert

The December business meeting of the Northern Cross Science Foundation was held at the Unitarian Church North in Mequon. President Joyce Jentges opened the meeting at 7:30 pm and welcomed over 28 members and guests. She stated that we meet regularly throughout the year, but that this meeting was the only required meeting as is stated in the by-laws. It is needed to hold elections for board member positions. She then asked for standard reports.

Treasurer Gene Dupree reported a balance of \$300.44 in the general fund and \$678.14 in the Observatory account. As of the meeting date no Bayshore check was received.

Secretary Kevin Bert encouraged members to get their membership dues in to Gene. He noted that the amount of money generated by the membership in the Pick & Save program was to the point where it almost made the \$50.00 per quarter payout. It will be rolled over into the next quarter. He thanked all those that participate.

There was no new Astronomical League information.

Under old business, Jeff Setzer recapped

the Holiday Folk Fair in November at State Fair Park. It was very successful with a huge amount of traffic in our area over the entire event. Hundreds of NCSF business cards were given out to interested attendees. For many they had their first look through a telescope and to some it was a profound experience. Jeff thanked all those that were able to attend and help out and in particular Gene and Charlotte Dupree for all their hard work in setting up the displays. Kevin acknowledged Rick Kazmierski for his wonderful astrophoto display. Joyce said that it was well worth our time to attend and she would like to see it happen again.

Tom Schmidtkunz and Paul Gruener gave their last reminder for members to attend the trip to the Adler Planetarium on December 5th. Interested members should be at the train station for the 7:30 am. departure.

Joyce confirmed that the NCSF Dinner is set for February 4th at the Fox & Hounds restaurant. This will take the place of the monthly meeting at UCN. Dinner preferences and details will be included in the January newsletter. All members are encouraged to attend.

Under new business, Joyce said that the membership should check out a new web site called AstronomyFM. It is a new site

that promotes astronomy. Jeff and Becca will be featured on a new radio show called "Astronomy Out and About" all about astronomy outreach on the site. You can tune in and chat live at www.astronomy.fm and there is a link on the clubs web site.

Dan Yanko offered the use of an observing site near Rib Lake Wisconsin. It is a farm that has a number of buildings and access to power and could be rented over a weekend to club members to observe and take astrophotos. He stated that it was a great dark site for viewing and noted that the Milwaukee Astronomical Society has been taking advantage of it since 2002. A few weekends have already been taken and any other dates would need to fit into a schedule for 2010. The membership would check its schedule of events and consider the offer.

Joyce then opened up the floor for additional nominations for elections. Don Miles nominated Paul Gruener. Ernie Mastroianni seconded the motion and Paul accepted to run if elected. With no other names brought forward, the nominations were closed and Paul joined Don Miles and Kevin Bert as the final candidates. Ballots were distributed to all members for them to vote for two. **(cont'd on pg 3)**

Things to See In the January Night Sky By Don Miles

Mercury: Mercury (mag -0.2) will be rising in the SE sky just before the sun (~6am) by mid month, and will have distanced itself farthest from the sun (about 25 degrees as far as the view from Earth) by the 26th. Mercury will remain at that separation thru the early part of February, and then start to slide closer to the Sun again on its way "behind" the Sun.

Jupiter, Neptune, & Venus: Both Jupiter and Neptune are trailing right behind the sun, and are best seen low in the western sky right at sunset early in the month. By months end, they will both be too close to the sun to be seen. Venus has been on the opposite side of the sun from us, and will continue to hide for the month of January.

Pluto: Is also behind the sun until next summer.

Uranus: Will also be already be high in the southwestern sky as the sun sets through-

out the month, and will set by about 10:30pm and by about 9pm as the month progresses. Uranus (mag 5.9) is still in the constellation Pisces (below the right "fish"), and will stay there for the month. Look for a blue-green "fuzzy star".

Mars: Rises in the eastern sky about 7:30pm early in the month and by about 5pm later in the month, and is the highest in the sky about 2:30am. Look for Mars (mag. -1.1) this month halfway between the Beehive cluster in Cancer and the backwards question mark that forms the head/chest of Leo. Mars will move towards the west as the month progresses to again pass just above the Beehive Cluster. If there is a break in the deep-freeze this month with clear skies (which never seem to happen in Wisconsin), bundle up and take a look...as late in the month will be the best time to see it this year. You'll have to wait another 26 months for the next close meeting.

Saturn: Early in the month Saturn (~mag 0.8) rises about 11:30pm, and 9:30pm by months end. Saturn continues to move eastward, but remains in the constellation Virgo.

Moon:

January 7th: Last Quarter

January 15th: New Moon

January 23rd: First Quarter

January 30th: Full Moon

Special Events:

Meteor Showers: The first showers of the year will be the Quadrantids, and the best time to watch for them will be the early morning hours of Sunday the 3rd. The peak rates may reach 120/hr, but a recent full moon (Dec 31) will still be bright enough to obscure many of the more faint meteors. Look for them in the eastern sky.



January General Meeting

101 Class

For January, the class will be given by Becca Setzer and is entitled:

"Make You Own Star Wheel"

Becca will explain the use "planispheres" to find your way around the sky, and she'll make one out of old CDs. Bring your crafty side to this instructor-led workshop; all materials will be provided.

Main Program

The main program will be presented by Jeff Setzer and is entitled:

"Using Your New Telescope"

Did you get a new telescope over the holidays? Learn how to set up and operate your new telescope at this interactive session. We'll discuss tips and tricks, and field specific questions from the audience about their own telescopes. People are encouraged to bring their telescopes to the meeting for hands-on help and instruction.

December Events

Adler Planetarium by Tom Schmidtkunz

An adventurous group of NCSF'ers were rewarded with a very fine December day for our trip on Amtrak to the Adler planetarium. I was joined by Paul, Becca and Jeff, Justin and Christina. A few others had to scratch at the last minute. Clouds gave way to sun on the way down, and it was sunny and cloudless in the Windy City.

We left Milwaukee at 8:00 and there was the a big line of shoppers anxious to travel as well, but we all got on board ok. We got to the planetarium just before it opened, to take a few pictures and admire the skyline. I would describe the planetarium as a 1930's Art Deco building with a modern shell around it.

The were many highlights to see at the museum. An original, open, Gemini 12 capsule was amazing. You have to see it to believe how cramped the quarters were; I can only image how tight Mercury was. A lot of interesting artifacts were present too. Gear used by Jim Lovell and Buzz Aldrin, and letters of acceptance into the astronaut training program were displayed.

The central dome houses the Sky Theater, where we saw a show of the current night sky.

The detail and accuracy of the portrayal was impressive. We were told that all the current gear will be replaced after next summer. This is on the ground floor which also houses the café, and a display of the solar system.

The 'Through the Looking Glass' was most impressive. They had actual telescopes from the 1630's. There were also astro-labes from the 1300's and on, made with incredible care and precision; remarkable

for the times in which they were made. Some of these were from Persia and the Far East. The 18" Dearborn refractor, minus lens, is here also. Built in 1864, it was destined for Mississippi, but never made it there, due to the Civil War. The tube is covered in walnut. There are all sorts in interactive displays which help explain astronomical concepts. They had a neat display of the Sloan Sky survey. I was happy to visit the facility where these images were made near Cloudcroft, New Mexico a few years ago. We were there 4 or 5 hours, but did not see everything.

Some of us went home on the 3:00 train, and some on the 5:15 train. Those who stayed were treated to an outdoor German Christmas village display near the Daily Center.

That was great fun too. The Taxi rides in Chicago were interesting. Paul objected to one cab driver trying to take us a short distance via Iowa.

On the way home, we all agreed we had a fabulous time, and that we should do more things like this in the future. From my standpoint, confirmed by my friends, it was a total and complete success, and we had a great time.

(December Mtg. Min. cont'd from pg 2)

The results were tallied by Vice President Jeff Setzer. Kevin and Don came out on top and will continue on the board for another term of 3 years. The officer positions will be decided at their next board meeting.

With no further new business, Joyce closed the business meeting at 8:20 p.m.

CURRENT CLACK

Leaders for Public Viewing

February 6

Candlelight Ski & Hike
Gene & Charlotte DuPree

February 10

Horicon Marsh
Gene & Charlotte DuPree

February 13

Candlelight Ski & Hike
Gene & Charlotte DuPree

Jim and Gwen Plunkett Observatory



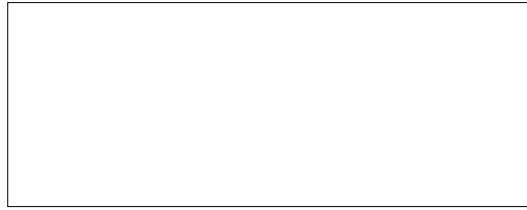
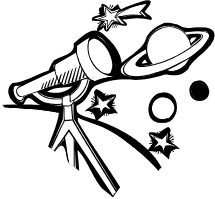
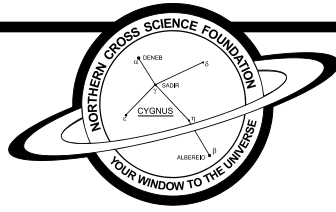
Observatory Director:
Dan Bert: 262-375-2239

Observing Summary - 2009

The volunteer participation forms completed at each public viewing event have now been totaled and will soon be submitted to Harrington Beach state park. Looking back at this past year, a total of 17 public viewing events were held at the Jim & Gwen Plunkett Observatory. All together 34 different members gave a combined total of 654 volunteer hours to public outreach at the park.

Monthly Meeting Location
Unitarian Church North
13800 N. Port Wash. Rd.
Mequon, WI 53097

SPECTRUM
5327 Cascade Drive
West Bend, WI 53095



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(Cont'd from pg 1)

	Star Name	Season	Notes
1	alpha Orionis	Fall, Winter	a.k.a. Betelgeuse, a red star in the "arm pit" of Orion
2	eta Geminorum	Fall, Winter	
3	gamma Cassiopeia	All Year	Cassiopeia is an easy constellation to find - it looks like a giant "W" written on the sky
4	beta Persei	Winter	This star has an entire eclipse in one night! See chart in the PDF file for more info.
5	beta Lyrae	Summer	Very easy to find in the summer - it's next to the bright star straight overhead!
6	R Lyrae	Summer	
7	miu Cephei	All Year	Note the spelling of "miu". This is intentional, to replace the greek character "mu".
8	delta Cephei	All Year	
9	eta Aquilae	Summer	
10	epsilon Aurigae	Winter, Spring	

Table 1 – 10 Stars of the Citizen Sky Training Program

I have always been interested in making variable star observations, but found the literature on the subject to be targeted toward the intermediate to advanced amateur astronomer. But after reading the 10-star training program, I felt like I finally started to understand what the heck observing these variable stars were all about. I made an observation and recorded it in my observing notebook, with the date, local time and observing conditions such as the phase of the moon, cloud cover, etc.

Later, I made a profile on the Citizen Sky Project website and was assigned AAVSO observing initials. Then, I submitted my epsilon Aurigae observation through the Citizen Sky website. I was relieved that I didn't have to report the time and date in Julian Days, which is standard for submitting data to the AAVSO. Local time and date is all that's required. Finally, the website showed how my observation compared to other observations made at the same time on a graph of magnitude versus time/date. OK, now I'm hooked!

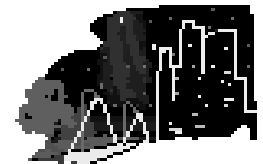
Observing variable stars is a great way to learn about apparent magnitude, which is an important concept to further an understanding the fundamentals of astronomy. This concept of apparent magnitude also nicely compliments other areas of amateur astronomy, such as observing double stars, making limiting magnitude estimates for your observing location and understanding the impact of light pollution on dark sky sites. The Citizen Sky Project offers a way to get started in this exciting endeavor – without having to be "serious" amateur astronomer.

SPECTRUM

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The NCSF supports the International Dark sky association.



Send inquiries to:
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This Issue, along with back Issues of SPECTRUM, can be found on the NCSF Web Site.

<http://www.ncsf.info>

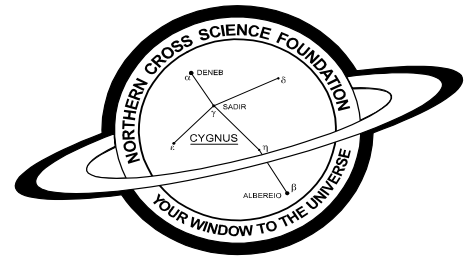


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Annual NCSF Banquet

2010



Keep as your reminder

Please join us on **Thursday, February 4** for an evening of fun and fellowship at our Annual NCSF Banquet. We will be holding this social event at **The New Fox & Hounds Restaurant in Hubertus, located at 1298 Friess Lake Rd.** Social hour will begin at 6 p.m. with dinner to follow at 7:00 p.m. **(Map on back)**

Family members and guests are most welcome! We have four menu choices this year, all at the same price with tax and gratuity already included. It will be a wonderful evening and we look forward to seeing you there!

Use the form below and cut at the dotted line. Send the bottom portion along with your payment, and keep the top portion for your reminder.

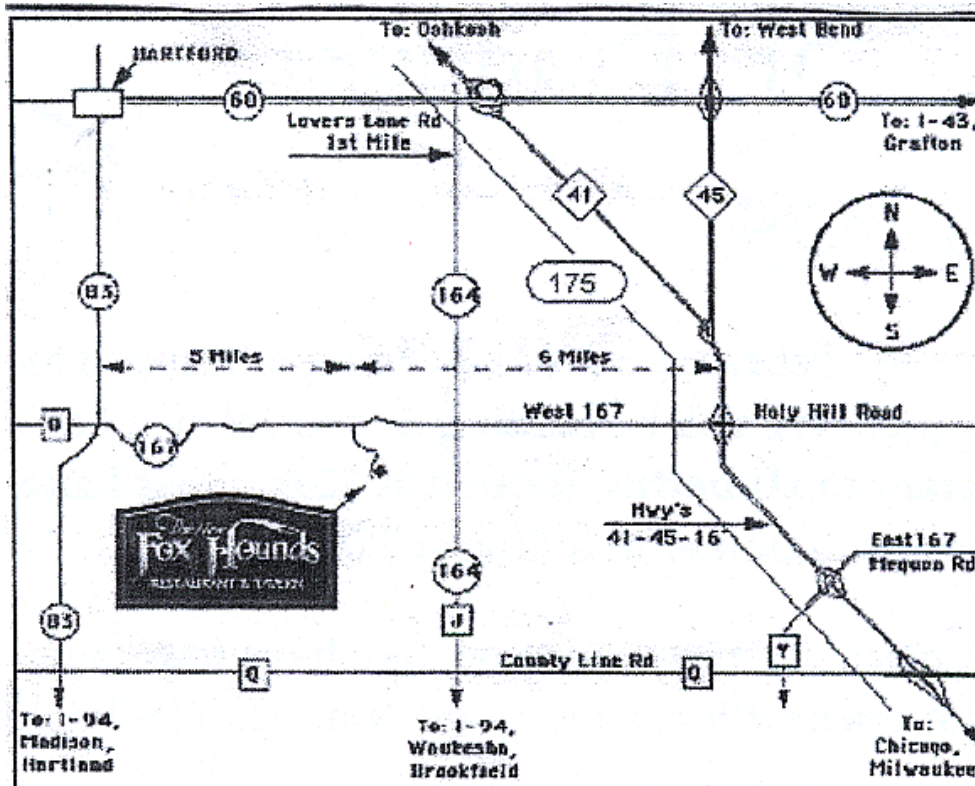
All dinners are \$16.00 per person, which includes tax and gratuity!
(beverages are not included)

Return with payment

Dinner Item	QTY
Top Sirloin Steak—10oz Hand-cut choice sirloin, topped with haystack onion rings	<input type="checkbox"/>
Smothered Chicken Breast Filet Char-broiled filet topped with a sauté of fresh mushrooms and a tarragon infused Hollandaise sauce and broiled white cheeses	<input type="checkbox"/>
Pan Fried Northwood Walleye with Almonds Canadian walleye dusted in our seasoned flour, and then pan fried in butter	<input type="checkbox"/>
Settlers Stew Strips of tenderloin, sausage and garden fresh vegetables in a rich traditional brown gravy. Surrounded with fresh, red skinned garlic mashed potatoes.	<input type="checkbox"/>
Total number of dinners ordered : <input type="checkbox"/>	X \$16.00 = <input type="checkbox"/>

Entrees include a serving of homemade soup or fresh house salad, steamed fresh vegetables and choice of garlic mashed potatoes, baked potato or savory fries

Please return this portion of the form by January 21, along with payment to:
Gene DuPree 6219 Jay Street Myra, WI 53095
Please make checks out to the Northern Cross Science Foundation



The New Fox and Hounds Restaurant
 1298 Friess Lake Road Hubertus, Wisconsin 53033
 262/620-1111