

SPECTRUM

Northern Cross Science Foundation Newsletter

March 1999

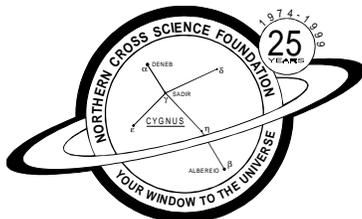
LOOKING UP

Mar. 4 Thursday
Astronomy 101
7:00 PM
General Meeting
8:00 PM
Carlson Tool & Mfg.

Mar. 19 Friday
Public Viewing
6:00 PM
Pike Lake State Park

Mar. 20 Saturday
Messier Marathon
6:00 PM
Neshota Park near
Green Bay

Mar. 24 Wednesday
Board Of Directors
7:30 PM
Jeff Setzer's House



A Publication Of
The Northern Cross
Science Foundation

Iridium Satellites Part 2

By Kevin Bert and help from the Internet http://www.chapman.edu/oca/fa_iridium.html

Iridium was originally planned to have 77 active satellites, and named after the element with 77 electrons (count the electron shells to get 77 when the atom is not bonded. Iridium also has an atomic number of 77 resulting from its 77 protons; the idea of electrons orbiting the nucleus being analogous to satellites orbiting the earth. Iridium was later redesigned to need fewer satellites - the 66 active satellites of today. (We're not counting in-orbit or ground spares.) But its name hasn't been changed to Dysprosium, the element with 66 protons and often 66 surrounding electrons whose Latin root means "bad approach!"

On any given night an observer could see a half dozen or more of these flares. Most will be dimmer than the 8 monsters. You can expect to see a 6 magnitude or greater flare once or twice a week if you know where to look.

The flares can be a disruptive element to amateur astronomers conducting wide field astrophotography. The most dedicated

photographers will run programs that predict the passage of these objects so as to avoid them. Obviously, most amateur astronomers look upon these satellites as just one more step along the slippery road of increased light pollution.

On the other hand, we have an opportunity here to make lemonade out of lemons. The Star Wars generation has been hard to impress with telescopic views of deep sky objects, and our explanations of the vastness of the universe. They are attune to exploding death stars and celestial dogfights. Their WOW factor is set very high. Getting them to come to a dark sky site to get wowed at the eyepiece is very difficult.

Fortunately astronomers have had a couple big wowsers in the last few years that have attracted the interest of the public. First it was Shoemaker-Levy-9's title bout with Jupiter. Then it was the Comet Hale-Bopp media tour. And the Hubble Space Telescope chimes in every six months or

(See *IRIDIUM* on page 3)

Public Viewing Nights 99

Here is the Public Viewing night schedule for 1999 so far. Watch for changes in the LOOKING UP section.

Mar. 19: Pike Lake State Park.

Apr. 23: ABC Kids Care Cedarburg

May 22: National Astronomy Day! Jansen Family Park West Bend

May 29 & 30: Pike Lake State Park.

Jul. 3: Pike Lake State Park.

Jul. 16: Riverside Park in Saukville
July 17 Rain Date

Jul. 28- 31: Ozaukee County Fair.

Aug. 20: Schlitz Audubon

Sep. 4 & 5: Pike Lake State Park.

Oct. 15: Riveredge Nature Center in Saukville. Oct. 16 Rain Date

Oct. 30: Harrington Beach State Park
Haunted Hike

February Minutes

By Kevin Bert

The February meeting of the Northern Cross Science Foundation was held in the conference room of Carlson Tool & Mfg. in Cedarburg. The Astronomy 101 class preceded the business meeting.

Vice President Dan Prosser opened the meeting at 7:40 p.m. to over 34 people.

Dan welcomed all members to the meeting and called for the standard reports.

Brad Plaumann covered the latest financial transactions. \$4,100 were moved to the passbook account to earn a little interest. That left about



\$1,000 in the checking account. Brad said he would handle any membership dues or other money owed after the business meeting.

Kevin Bert asked for member input on upcoming programs. It was hoped that speakers would be lined up for upcoming meetings for the rest of the year. Tim Burrus presented Kevin with a list of potential speakers.

Kevin then mentioned that he had just received information about a telescope mount that was for sale. He said that it would be included in the next Spectrum.

Kevin then gave a lengthy report on

the progress of the Panarusky 20-inch Telescope. He said that the primary mirror would be part of the March meetings program.

Dan Prosser reminded members that the first public activity would be the Pike Lake Ski and Stars on February 13th.

The business meeting was closed by Dan Prosser at 8:05 p.m.

Respectfully submitted,
Kevin Bert, secretary

Members Events 99

By Kevin Bert

Here are the Members Nights schedule for 1999 so far. We would like to see a few other volunteers to host a night. Contact Kevin Bert if a night would work for you. Watch for changes in the LOOKING UP section.

Apr. 30: NCRAL Convention in Cedar Rapids, Iowa

Jun. 11 & 12: W.O.W. Hartman Creek State Park, Waupaca, WI

Aug. 13-15: Northwoods Starfest in Beaver Creek Reserve Eau Claire, WI

Sep. 10: Members Night at Kevin Bert's Home, Grafton. The 11th is a rain date.

Sep. 17-19: Astrofest Camp Shaw-wa-nas-see Kankakee, Illinois.



Membership Dues

By Brad Plaumann



Time Is Running Out!

There are a lot of worth while and exciting activities planned this year and we hope that you will be a part of the fun. Please continue to support the NCSF with your membership. If you have not paid please see Brad Plaumann at the March meeting or mail him your dues at the address on the back of the Spectrum. This will be your LAST newsletter unless you renew within the next two weeks!

The three categories of membership remain at :
\$12.00 for students membership.
\$24.00 for an Adult membership (\$4.00 for additional Family members)
\$48.00 for a Supporting membership

(Iridium from page 1)

so with some incredible photo that makes the network rounds. So the one time big events have been there.

Now, with Iridium flashes, there is an ongoing predictable wowser than can serve as a trojan horse to lure unsuspecting light pollution dwellers into the dark and majestic world of astronomy. The Iridium satellites could become astronomers unwitting partners in building an interest in the night sky if they will seize the day, or should I say seize the night.

Become an expert in these objects.

Learn how to predict their passage. Wow your friends. And tickle the interest of a potential new amateur astronomer. Or, depending on your personality, you could also predict the next UFO/government iridium flash over your boss's house.

<http://www.satellite.eu.org/sat/vsohp/iridium.html#programs> contains locations of programs to compute flares that you can set-up on your own computer.

German Space Operations Center's is located at <http://www.gsoc.dlr.de/satvis/> It calculates flares for your local area. An example from that site

of a 7 day forecast is in the chart below. The location is calculated for Cedarburg. You will note at 6:14:43 p.m. on our meeting night, Iridium 50 will appear over the southern horizon just over half way to the zenith with a -7 magnitude burst. These same events should be seen in locations within a few miles. The farther you are away, the more times, locations and brightness will start to change. It is best to input a location as close to your observing area as possible for the best results.

Iridium Flares

Clicking on the time of the flare will load another page with more details, including a map showing the track of the flare along the ground, and the location of the nearest point of maximum intensity.

Search Period Start: 16:38, Saturday, 27 February, 1999

Search Period End: 16:38, Saturday, 06 March, 1999

Observer's Location: Cedarburg (43.2970°N, 87.9880°W)

Local Time: Central Standard Time (GMT - 6:00)

Date	Local Time	Intensity (Mag.)	Elev.	Azimuth	Distance to flare centre	Intensity at flare centre (Mag.)	Satellite
27 Feb	18:35:47	-2	50°	161° (S)	18.3 km (E)	-8	Iridium 13
04 Mar	04:37:52	-1	24°	5° (N)	34.7 km (W)	-7	Iridium 51
04 Mar	18:14:37	-7	52°	177° (S)	3.9 km (W)	-8	Iridium 50
05 Mar	18:08:30	-0	53°	175° (S)	30.7 km (E)	-8	Iridium 9
06 Mar	04:19:47	-0	16°	8° (N)	51.9 km (E)	-6	Iridium 4

Messier Marathon Set For March 20

By Jeff Setzer

The Neville Public Museum Astronomical Society from Green Bay is organizing a Messier Marathon. The particulars on the Marathon are pretty basic: View as many Messier objects

in a dusk-to-dawn observing. The NPMAS will provide record sheets. People are *not* required to stay all night if they don't want to, however. They ask that attendees bring a dish

to share with the rest of the group. Beverages will be the responsibility of the individual attendees (in other words, BYOB). Directions to Neshota Park are on page 4.

NCSF 25th Anniversary

By Jeff Setzer

Welcome to the 25th year of the Northern Cross Science Foundation! I am very excited about the Foundation and the direction in which we are heading as the new millennium approaches. I suppose I should be astronomically correct and clarify that we actually have two years to go until the 21st century, which begins in 2001. We can accomplish a lot in that time frame.

The Panarusky Telescope looks like it will be completed by the end of this year. Our primary and Newtonian secondary mirrors are finished and in hand, while the mounting is all but complete. We must concentrate our efforts now, more than ever, on finding a home for this magnificent instrument. Our discussions with Pike Lake State Park have been very encouraging.

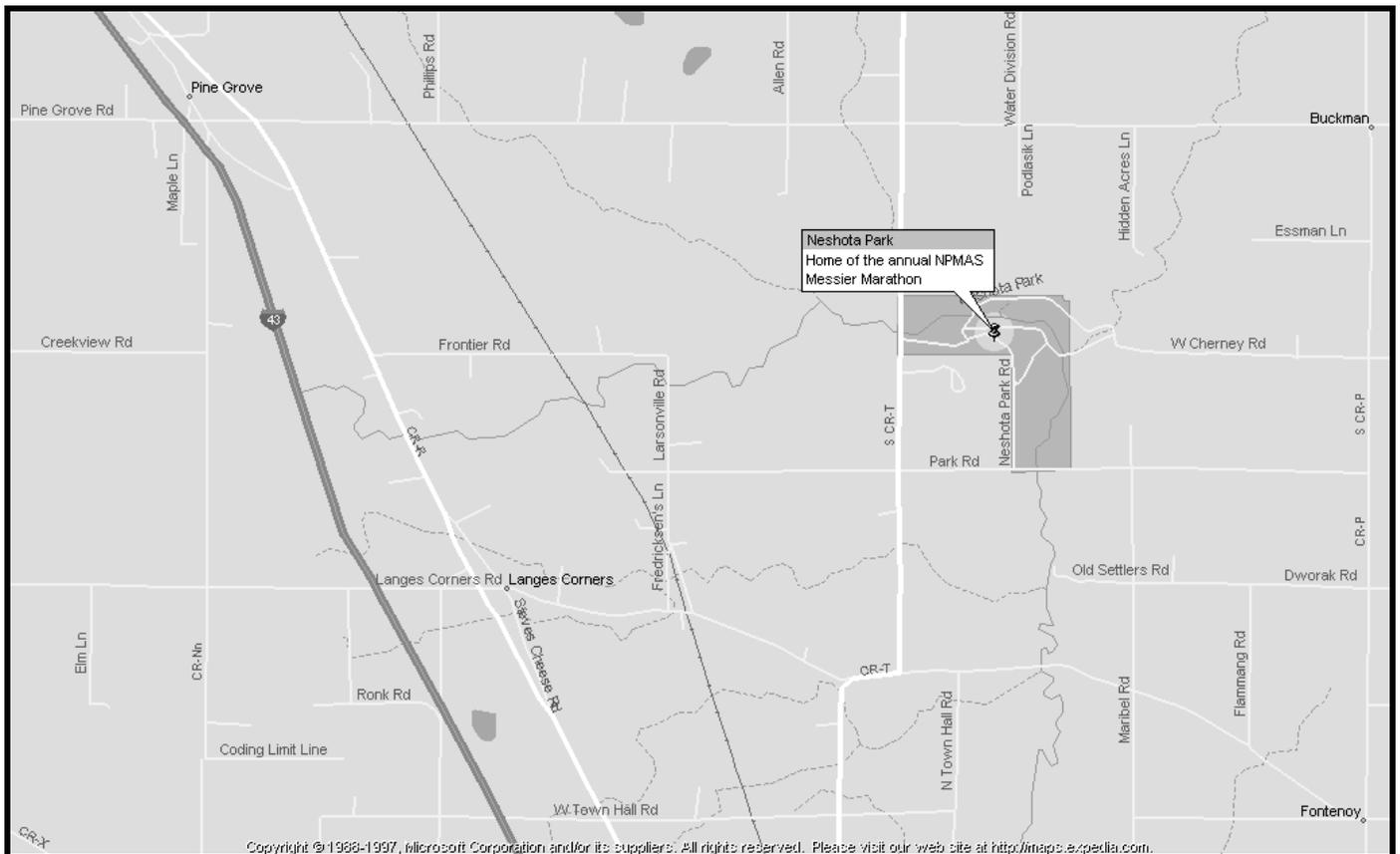
What this means is that it may soon be time to mobilize and get a building built; we could conceivably be swinging hammers next summer.

Spring is in the air, and with it comes the promise of a new observing season. Elsewhere in this issue of SPECTRUM, we have listed a plethora of planned events. Take a look and I think you'll agree that there is a little something for everyone. And keep in mind that we most certainly will add another half-dozen activities during the course of the season. Is anybody working on an Astronomical League certificate? There are many to choose from, including naked-eye and urban astronomy programs. So whether it's armchair astronomy at a hotel-style convention, hard-core

deep sky observing, or anything in between, opportunities abound to do astronomy with the Foundation.

When I took office several years ago, my primary goal was to bolster our membership, which stood at 35. Today, after a lot of work and a pair of spectacular comets, we have 78 members and routinely have 35 people attend our monthly meetings. Over the past few years, we have seen many new faces in our meetings, and I think it would be wonderful to see them out under the stars as well. Don't be shy! The best way to learn about astronomy is to get out there and observe. If you don't have an instrument, or don't know where to look, then take advantage of the experience and generosity other Foundation

(See 25 on page 6)



Detailed map of Neshota Park vicinity. Exit I 43 East on Langes Corners Road (exit 171). Go North on CR-T. Park is on the East side of the road past Park road. Jeff Setzer will have more specifics to share with you at the March meeting. If this map does not reproduce well a full page map will be available at the March meeting.

Rare Conjunction

By Kevin Bert

For anyone fortunate enough to have witnessed the sight, it will long be remembered. Separation was a slim 1/4 degree. Luckily the clouds broke long enough to see the event. As close as they appeared, The two planets were over 400 million miles apart in their distance from the Earth. I looked around 6:30 p.m. I wish I could have had a clear sky to include other stars and show just how bright Venus and Jupiter really were.

Around the March meeting time Mercury will make a close pass to Jupiter low in the western sky. Mark down the 19th of March. This is when Venus will move up close to Saturn with a crescent Moon nearby.



Venus and Jupiter conjunction caught between the clouds. Photo By Kevin Bert

CURRENT CLACK

Panarusky 20-Inch Telescope

The primary mirror for the Panarusky 20-Inch Telescope is coated and will be at Carlson Tool for the March meeting.

For Sale

Super Polaris German Equatorial Mount. It includes the following.

- 1) Polar axis finder and illuminator, tools and instructions.
- 2) Dual axis drive corrector with controller. Runs on 7.5 to 12 volts DC Includes 6 C cell battery case and 12 volt car battery cord.
- 3) Dovetail mounting with sliding bracket for a Celestron C-8. Televue adapter plate to hold a Pronto, Ranger, TV 85 and TV 101 telescopes.
- 4) Extra counter weights.
- 5) Mounting kit hardware tools and instructions for 2160 step encoders, gears, connecting cables. Advanced Astro Master is NOT included.

Mounting kit for the Advanced Astro Master digital setting circles will be included at no extra charge for NCSF members.

Non members will have to pay an additional \$125.00 for the kit.

Contact Tim Burrus at 414-783-6572 for more information.

Thank You

Terry Jensen from Pike Lake State Park extends a "thank you" to all the members of the NCSF that helped with the candlelight hike. In his letter he estimates that there was a total attendance of about 550 people. He goes on to say that "all who attended your program were very impressed with the level of knowledge that the members possessed." "Many said that they learned more about the sky in 30 minutes than they did in all 12 years of school!"

who took photos will bring them to the meeting. I especially would like to see photos through a telescope.

If you get a chance, check out the NCSF web-site. Jeff has made a few additions.

Astronomy 101

By Kevin Bert



The March 101 topic will be "Observing The Moon" by Al Steinberg. Sometimes you love it, other times you hate it. A tremendous amount of detail can be found on that desolate and alien landscape if you wait for the proper phase to enhance the view of a particular area. The highlighted constellation will be Cepheus.

From The

Hello everyone. Our lead article is the second part of Iridium Flares. If it is clear, try to look for the one scheduled before the meeting. I would like to know how many members can see it.

The public viewing nights and members nights are posted in this issue. Start to jot some down on your calendar. I will keep you updated in the Looking Up section for changes.

At the march meeting the main

program will be on testing telescope mirrors. The focus will be on the Panarusky 20-Inch primary mirror. Other optics will be there to test too. Even information to test any kind of

telescope will be provided. All this will follow the Astronomy 101 class.

I managed to take a few simple photos of the Jupiter / Venus conjunction. I hope that some members



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members have to offer. We're all here to learn about astronomy from one another, and nobody knows it all. Don't forget our Telescope Loan Program, either...we have a few telescopes still available as of this writing. I would be thrilled to meet each and every one of you out in the field this year.

What else is in store for the NCSF? Well, it sounds hokey, but this is your Foundation. You can take the ball and run with it. And you can always contact me for questions, comments and suggestions. I really do like to talk to people! You can use my home phone by dialing (414) 355-3698, or e-mail me at jeffrey.setzer@gxsc.com.

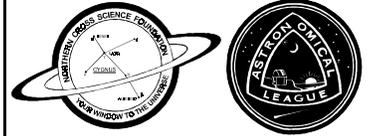
Clear skies to you!



**Check out our great site
On the World Wide Web
<http://www.gxsc.com/ncsf>**

SPECTRUM

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