

# SPECTRUM

Northern Cross Science Foundation Newsletter

April 2011

## LOOKING UP

### April 7, Thursday

#### General Meeting

7:00 p.m. - Astronomy 101

7:30 p.m. - Main Program

Business Meeting to follow

### April 21, Thursday

#### Board Meeting

7:30 p.m.

Home of Joyce Jentges

### May 5, Thursday

#### General Meeting

7:00 p.m. - To Be Announced

7:30 p.m. - To Be Announced

Business Meeting to follow

### May 6, Friday

#### Public Viewing

7:00 p.m.

Harrington Beach

### May 7, Saturday

#### National Astronomy Day

2:00 p.m.

Harrington Beach

### May 11, Wednesday

#### Sidewalk Astronomy

7:00 p.m.

Bayshore Town Center

## Remote Imaging Part 2 of 2: *How it works ...By Tom Schmidtkuntz*

In the previous article, I covered the background on remote imaging. Here, I'd like to talk more about the specifics. Say, you want to image M81, and this is a suitable night for this object, in terms of local weather, and height of object above horizon. You can verify the weather by checking the clear sky clock for that site, plus checking out the constantly updated weather webcam.

GRS (Global Rental Scopes) has set up and intuitive and easy to use interface for allowing you to control the telescopes, and monitor what is going on at all times. When you start your run, you enter your target object, and the number of exposures with or without filters, and select binning options, then click on the start imaging box.



*M101 Photo taken by Tom Schmidtkuntz*

Once you start your image, you go click on the monitor system box. This will show you exactly what is happening: the scope slews to object, optimizes focus, selects guide star, tracks, and begins imaging. As each image is completed, a partially processed image goes to the system monitor screen, so you can immediately see what your results are. It is very cool to see your first images appear, having been obtained from perhaps thousands of miles away. This is, after all, what professional astronomers do.

If the weather suddenly gets bad, or it gets very windy, the session would be terminated and the roof would close. The system/equipment would reopen later when weather improved. This only happened to me once.

Also, if you get your first image back, and for some reason you don't want to continue, you can terminate this session and start another session later.

After you have completed your session, you will get an email detailing the charges to your account for the rental, and your images will be available via an FTP application. You will be provided with unaltered and fully reduced (bias, dark frame, flat field subtracted) FIT files. You can then copy these to your own computer for further processing. When your session is complete, the telescopes "parks", and is available to the next person.

I generally plan for multiple imaging possibilities, so that if a scope I planned on using is in use, I am ready to go ahead with plan 'B'. Generally there are always some wide angle, and some smaller field objects on my 'to do' list for a given time. My general experience, plus what I have learned for others, is that taking longer exposure sequences is better. That is, you will generally get much higher quality images with six 10 minute shots than with thirty 2 minute shots. You have to balance your desire for better images and longer exposures, of course, against cost of equipment rental. Generally, I will have about 2 hours of exposures per object. With star only objects, such as globulars, a much shorter exposure is fine. Galaxies and nebula require the longer exposures for the faint outer reaches.

The mechanics of getting the data, I think, are not that difficult. The real skill is in processing these images. There is a lot of data that is hidden in the images that quality processing can reveal. Many times the detail you want in a galaxy, for example, is hidden in a relatively small range of the data you get back. The skill is being able to pull this out of the raw data. I have friends that can help with issues regarding processing, if I get stuck.

I have started a log for my experiences, going back a few years now, for what works and what doesn't, both with imaging and image

(Continued on Pg 4)

## March Meeting Minutes

By Kevin Bert

The March business meeting of the Northern Cross Science Foundation was held at the Unitarian Church North in Mequon. President Joyce Jentges opened the meeting at 8:45 pm. and welcomed over 25 members and guests. She was encouraged and pleased at the turnout for the February Banquet. Twenty-nine were in attendance at Fox & Hounds. She then asked for standard reports.

Treasurer Gene Dupree reported \$894.13 in the Observatory account and \$7857.19 in the regular account. He said that he would be available to take in any remaining dues.

Secretary Kevin Bert reported that the board would be finalizing the membership roster by next month and members could expect a copy in the April Spectrum. He gave the dates of the Astronomical League Regional convention in Green Bay on April 29 and 30. Joyce elaborated on the topic and told the membership that there were two tours that could be taken on Friday. The Kocken Workshop with 10 inch Clark refractor and the Parmentier Observatory with 30-inch telescope. A workshop of astrosketching rounds out the

evening. A number of interesting paper sessions and a business meeting are on Saturday with door prizes throughout the day. Registration is \$65.00 and includes the tours, talks, dinner and keynote speaker on Saturday. She urged members to attend this important annual event.

Joyce briefly talked about the proposed observing mound at Harrington Beach. It was first seen at a convention at Door Peninsula a few years ago and it was included in the language of construction of the Jim & Gwen Plunkett Observatory. It consists of a bench that surrounds a mound of dirt that is covered with grass that an observer can recline back on. The thought is that it might be time to take a look at doing the project in 2011.

Joyce continued on with a list of upcoming NCSF events. March 9<sup>th</sup> presents the annual Swap-N-Sell in Sheboygan. April 2<sup>nd</sup> is an observatory training class for those that would like to be able to operate the Panarusk telescope or need a refresher course. The start of the public viewing season happens on National Astronomy Day on May 7<sup>th</sup>. More details to come next month. She noted that Wisconsin Observers Weekend, (WOW), is open for registration for a \$15.00 camping fee and a state park pass. It runs from June 30<sup>th</sup> – July 3<sup>rd</sup>.

With no further business Joyce closed the meeting at 9:20 pm.

### Astro Humor

An astronomer is on an expedition in Africa to observe a total eclipse of the sun, when he's captured by cannibals. The eclipse is due the next day around noon. To gain his freedom he plans to pose as a god and threaten to extinguish the sun if he's not released, but the timing has to be just right. So, in the few words of the cannibals' tongue that he knows, he asks his guard what time they plan to kill him.

The guard answers, "Tradition has it that captives are to be killed when the sun reaches the highest point in the sky on the day after their capture so that they may be cooked and ready to be served for the evening meal". "Great", the astronomer replies. The guard continues, "But because everyone's so excited about it, in your case we're going to wait until after the eclipse."

## Things to See In the April 2011 Night Sky By Don Miles

*Jupiter, Uranus, Neptune, and Mars:* They are all too near the sun this month to be observed with any decent views. If you're looking for a challenge, Neptune (mag 8.0) will be visible later in the month as it rises the soonest of the group before the sun. It should rise about 3:30 in the constellation Aquarius. Jupiter should be viewable again by early June as an evening object, Uranus by mid-May as an evening object, and Mars by late June also as an evening object.

*Mercury:* Look for Mercury (mag 2.4) behind the sun as it is setting. Early in the month, Mercury will set about 8:30, but will slip towards the sun as the month progresses. By mid-month, Mercury will have caught up, passed in front of, then pulled ahead of the sun. By month's end, Mercury will be a morning object, rising right before the sun.

*Saturn:* Look for spectacular Saturn (mag. 0.4) rising in the East in the constellation Virgo as the sun is setting. You'll get the best views when it's highest in the sky, (which this month is around midnight).

Saturn will be up all night, but will set about the time the sun is rising. If you can't stay up to get a look, try to get up before the sun rises for a view. The skies are typically the steadiest in the early morning hours as the heat from the Earth's surface has had a chance to dissipate.

*Venus:* Look for brilliant Venus (mag. -4.0) to rise about 5:30 in the constellation Aquarius at the beginning of the month. By mid-month, Venus will have joined the group of un-viewable planets as it works its way around the "back" side of the sun.

*Moon:*

April 3rd: New Moon

April 11th: First Quarter

April 17th: Full Moon

April 24th: Last Quarter

### **Special Event:**

There is one meteor shower this month, and these are the Lyrids. The best time to see them will be late in the evening of Friday the 22nd into the morning of the 23rd. Predicted rates of 10~20/hr are common, but these again are estimates. The moon will wash out many of the more faint meteors, but the brighter ones you'll see are known to leave trails. And with the warmer weather here finally, it may be a nice treat to be observing without having to deal with mosquitoes.



## April General Meeting

### 101 Class... *By Kevin Bert*

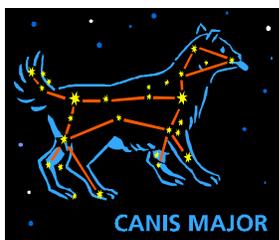
This months 101 class is entitled:

#### "Saturn at Opposition"

What can I see through a telescope and what is this opposition thing? We will cover the things needed to make your Saturn experience more enjoyable.

**Constellation of the month:**

#### "Canis Major"

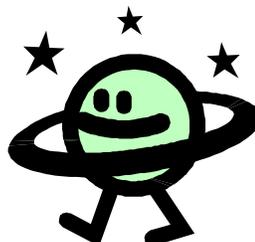


### Main Program... *By Joyce Jentges*

This Months Main Program is entitled

#### "Saturn's Rings"

A ring, D ring? What am I looking at on Saturn? Come and learn more about the jewel of the solar system at April's meeting! We will explore the planet Saturn in depth, specifically it's intricate system of rings and the important job the moons play



## March Events

### March 4 & 5

The Messier Marathon scheduled for Harrington Beach on the first weekend of March was unattended. Poor weather and cloudy skies were the culprits.

### 2011 NCSF Membership Roster

Enclosed in this April Spectrum is the 2011 Membership Roster

Please check your personal information listed and contact Kevin Bert with any corrections at 262-375-2239 or e-mail [kevin.bert@hotmail.com](mailto:kevin.bert@hotmail.com)

### **Binocular Parallelogram Update**

*By Kevin Bert*

It has been a while since I reported on the status of the bino-mount project and I thought it was time to report. The main components of the prototype are now complete and only a few pieces are needed to finish the entire design. I recently received the stainless hardware and am pleased with the initial setup of the Parallelogram without binoculars. The mount was bolted to a sturdy SCT tripod and it takes close to 5 lbs. of counter balance on the long arm to bring it into balance. The movement is very smooth using the large HDPE washers. I plan to test it with binoculars next and hope to have it fully operational at the April meeting.

The prototype as designed uses 3/8" brass sleeves at the pivot points with 5/16 bolts to apply the friction adjustment. This way only one size wrench is required. The unit folds up well for transport and the 1-1/2"

square aluminum tubing feels lighter than the typical commercial steel offerings I have seen on the market. My goal was to make it capable to hold 80mm binoculars. It is too early to tell but they might be able to hold 100mm if extra counter weight is used.

The overall plan is to make six for the observation area at the Observatory once the prototype is completed and approved. They will be stored in the observatory, set up and used for public events or for the membership when they wish. I will then continue with another run for interested club members that want their own personal mount. The specific price has yet to be determined, but I am hoping it will be under \$100 for materials. The mount will only be as good as the tripod you use so a sturdy tripod is needed to hold the larger binoculars adequately. I am in the design stage of making a dedicated tripod that will work with the mount if members prefer that option. It will be a sturdy low cost alternative.

## CURRENT CLACK

### Leaders for Public Viewing

#### May 6

#### **Public Viewing**

Leaders Needed

#### May 7

#### **National Astronomy Day**

Jeff Setzer

#### May 11

#### **Sidewalk Astronomy**

Jeff Setzer

### Star Parties

#### **NCRAL Convention**

April 29 & 30

Green Bay, WI

[www.npmas.org](http://www.npmas.org)

#### **Wisconsin Observers Weekend**

June 30—July 3

Hartman Creek State Park, WB

[www.new-star.org](http://www.new-star.org)

#### **Northwoods Starfest**

August 26 - 28

[www.cvastro.org](http://www.cvastro.org)

#### **Prairie Skies**

September 22 - 25

Kankakee, IL

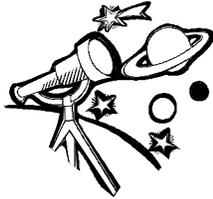
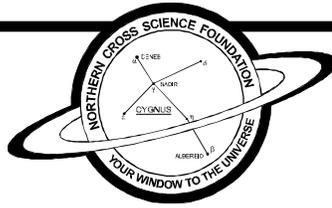
[www.prairieskies.org](http://www.prairieskies.org)

### **Jim and Gwen Plunkett Observatory**



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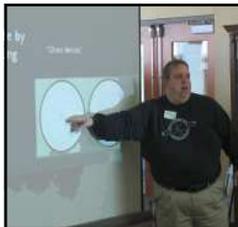
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(Remote Imaging Continued from Pg 1)

processing. I found this to be very helpful. This journey has been very rewarding for me. I can image details in distant galaxies that no telescope could ever show. Just as vacation pictures provide a record of your travels, these astronomical images for me are the record of my travels through the universe, and of journeys that I will never tire of making.

### 4th Annual Swap 'N' Sell

Presentations: Held at the Sheboygan Airport in the Aviation Heritage Center:



Jeff Setzer gave a workshop on:  
*Telescope Collimation*



Rick Kazmierski gave a presentation on: *Basic Astrophotography Using a DSLR*



Michael Bakich gave his *A-B-C's of Observing*

NCSF Members Joyce Jentges and Harvey Sherman both won Grand Prizes at the Swap Event!

Our club has a "Discussion Group on Google"  
 See our website: <http://www.ncsf.info> for details.

## 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 Location**  
 Unitarian Church North  
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