

# SPECTRUM

Northern Cross Science Foundation Newsletter

September 2011

## LOOKING UP

### September 1, Thursday

#### General Meeting

7:00 p.m. - Astronomy 101

7:30 p.m. - Main Program

Business Meeting to follow

### September 3, Saturday

#### Public Viewing

8:00 p.m.

Ice Age Center

### September 7, Wednesday

#### Sidewalk Astronomy

7:00 p.m.

Bayshore Town Center

### September 10, Saturday

#### Community Campfire

6:00 p.m.

Pike Lake

### September 15, Thursday

#### Board Meeting

7:30 p.m.

Home of Joyce Jentges

### September 16, Friday

#### Public Viewing

7:00 p.m.

Harrington Beach

### September 17, Saturday

#### Public Viewing

7:00 p.m.

Harrington Beach

### September 24, Saturday

#### Cedarburg Bog

8:00 p.m.

(UWM Field Station)

## *Colliding Galaxies...NASA Publication*

VV 340, also known as Arp 302, provides a textbook example of colliding galaxies seen in the early stages of their interaction. The edge-on galaxy near the top of the image is VV 340 North and the face-on galaxy at the bottom of the image is VV 340 South. Millions of years later these two spirals will merge -- much like the Milky Way and Andromeda will likely do billions of years from now. Data from NASA's Chandra X-ray Observatory (purple) are shown here along with optical data from the Hubble Space Telescope (red, green, blue). VV 340 is located about 450 million light years from Earth.



Arp 302 (Image Credit: NASA,)

Because it is bright in infrared light, VV 340 is classified as a Luminous Infrared Galaxy (LIRG). These observations are part of the Great Observatories All-Sky LIRG Survey (GOALS) combining data from Chandra, Hubble, NASA's Spitzer Space Telescope and Galaxy Evolution Explorer (GALEX) and ground-based telescopes. The survey includes over two hundred LIRGs in the local Universe. A chief motivation of this study is to understand why LIRGs emit so much infrared radiation. These galaxies generate energy at a rate this is tens to hundreds of times larger than that emitted by a typical galaxy. An actively growing supermassive black hole or an intense burst of star formation is often invoked as the most likely source of the energy.

Work on the full GOALS survey is ongoing, but preliminary analysis of data for VV 340 provides a good demonstration of the power of observing with multiple observatories. The Chandra data show that the center (cont'd on Pg 4)

## LOOKING UP

### September 30 Saturday

#### Public Viewing

7:00 p.m.

Harrington Beach

### October 1, Saturday

#### Public Viewing

7:00 p.m.

Harrington Beach

### October 6, Thursday

#### General Meeting

7:00 p.m. - Astronomy 101

7:30 p.m. - Main Program

Business Meeting to follow

### October 8 Friday

#### Solar Viewing

2:00 p.m.

Pike Lake

### October 15, Saturday

#### Public Viewing

TBA

Harrington Beach



## August Meeting Minutes

By Kevin Bert

The August Business meeting of the Northern Cross Science Foundation was held at Unitarian Church North. President Joyce Jentges opened the meeting at 8:05 pm and welcomed 17 members and guests.

Gene Dupree was absent for his treasurer report.

Secretary Kevin Bert reported that the last members to be added to the roster were Stephan Searcy and Jessica Thomason. There was no new Astronomical League information to report on.

Under Old business Joyce said that there was a little movement on the observing mound project. Concrete landscape blocks with a concrete top seat were being explored. She will keep the membership informed as decisions are made.

Under new business Joyce reported that the board is investigating options on the Panarusk's Cassegrain Secondary. After

OMI abandoned the project and sent us the wrong information the board wanted to keep the project going. Three optical shops were contacted to start a dialogue. Two will require additional optical information before a serious quote could be given.

Joyce continued on with a list of upcoming NCSF events. August 5 and 6 are PVN's at Harrington Beach. August 10<sup>th</sup> is a sidewalk astronomy evening at Bayshore. Lac Lawrann Nature Concervancy telescope viewing on August 17<sup>th</sup>. August 20<sup>th</sup> is the Small Scope Star party at the Observatory with Northwoods Starfest from the 26<sup>th</sup> – 28<sup>th</sup>.

With no further business Joyce closed the meeting at 8:50 pm.



## SSSP Star Party Report

By Kevin Bert

NCSF members and their telescopes set

the stage at the 3<sup>rd</sup> annual Small Scope Star Party. I counted 23 scopes on display or set up and ready for viewing in the parking lot. What a nice variety of old, new and home made, reflectors & refractors. No two were alike and hearing the stories behind them was entertaining.

Fourteen members and guests were watching the clearings decrease as the sun fell further below the horizon. As the brighter stars appeared the dust caps were removed and the small scopes steered toward their targets. This continued as stars peaked in and out between clouds and the hope was for a big clearing to move in from the west. Then came that dreaded cry, "Did you feel a drop?" Scopes were capped, bagged or put away in record time. Fortunately the rain was short-lived but solid clouds persisted so the focus turned to eating. Thanks to all those that contributed to the wonderful assortment of food. It looks like we will have to wait till next year' SSSP for a chance at more serious observing.

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

**Saturn & Venus:** Look for Saturn (mag. 0.9) early in the month right after sunset, and it is closely following the Sun. After the first couple of weeks, Saturn won't be visible, as it will appear to have slipped behind the Sun. In reality, we happen to be on our way around the "front side" of the Sun, and the objects behind the Sun appear to move backwards. In late October, Saturn will re-appear as a morning object, and continue to rise earlier and earlier throughout the winter. Venus is now on the back side of the Sun, so won't be visible until it emerges as an evening object (following the Sun) in mid-late October.

**Pluto:** Look for Pluto still in the constellation Sagittarius just as it gets dark. It will be highest in the sky as the Sun sets, and will set around midnight. As with most southern objects, try to pick an observing site with a clear view of the southern horizon, and away from city lights if possible. Bring good charts and be patient. You may be rewarded with admittedly, a lackluster sight of a very faint point of light, but you'll be one of the few people who've seen it.

**Neptune & Uranus:** Neptune (mag 7.8) still straddles the border of the constellation Aquarius & Capricorn, and will slowly move lower and to the right as the month

progresses. It's best seen about midnight. Uranus (mag 5.8) rises about an hour after Neptune, and is just to the East of the lower "fish" in Pisces. It will be closest to us the night of the 25<sup>th</sup>, so will be fully illuminated and the best time this year to view it. Look for a blue-green color to it.

**Jupiter & Mars:** Jupiter (mag -2.7) rises at about 10:30pm early in the month, and by about 8:30 by months end. Look above and slightly to the right of the "tail" of Cetus, and it will slowly drift to the west towards Pisces. Mars (mag 1.4) rises about 2:30am in the constellation Gemini, but will drift eastward into the center of the constellation Cancer by months end. Look around the night of the 16<sup>th</sup>, as Mars forms the bottom of three "stars" in a straight line (Castor on top right, Pollux in the middle, and Mars on the bottom left). They're all about the same brightness, but look for color differences. Mars continues to drift lower and to the left away from Gemini, and into Cancer, and will end up right in the middle of the Beehive cluster by October 1<sup>st</sup>.

**Mercury:** This month Mercury (mag -0.1) will be a morning object rising about a half hour before the Sun, and will have reached its maximum morning separation (greatest western elongation) from the

Sun on the 3<sup>rd</sup>. After the 3<sup>rd</sup>, Mercury will start to slip back towards the Sun, but before it does, take notice of Mercury the morning of the 9<sup>th</sup>. Mercury will pass about ¾ of a degree above and to the left of Regulus in the constellation Leo.

### *Moon:*

September 4<sup>th</sup>: First Quarter

September 12<sup>th</sup>: Full Moon

September 20<sup>th</sup>: Last Quarter

September 27<sup>th</sup>: New Moon

### **Special Events:**

There are a couple of meteor showers happening this month, but none of any substance, and most will be washed out by the Moon. There are a couple asteroids that may be worth a look. They are Asteroid Ceres and Asteroid Vesta. Ceres is at mag 7.8, and is currently on the border of the constellations Cetus & Aquarius. Vesta is at mag 6.0, and is in Capricornus. Check on-line or in a recent astronomy magazine for current positions. Both will be easily visible with binoculars. Good Luck

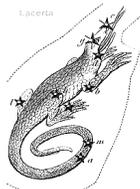
## September General Meeting

**101 Class...** by Jeff Setzer

### "Nightwatch"

(Book Review)

Jeff Setzer kicks off the book review series by reviewing Terrance Dickensen's Nightwatch, long considered a classic book for beginning amateur astronomers.



**Constellation of the month**

**"Lacerta"**

### **Main Program:**

This Month's Main Program will be a video from Carl Sagan's Cosmos Series.

### Cosmos

#### **"A Personal Journey"**

The Cosmos Series deepens our understanding of how we got from there (simple microbes in the primordial mud) to here (space-faring civilization in the 21st century). In his "ship of the imagination," Sagan guides us to the farthest reaches of space and takes us back into the history of scientific inquiry.

## August Events

### Yerkes Observatory August 7

Reported by Don Miles

On Sunday 08/07, a few MAS members and myself set up scopes in the shadow of the main dome at Yerkes observatory to give students from their KICP program some hands-on views of the heavens. The KICP program takes inner-city middle & high school students, and gives them a chance to focus on science and gear up for college. There were about 30 students and advisors at this event, and all enjoyed clear skies with solid views of Saturn and many other targets.

### Public Viewing August 5th

Reported by Kevin Bert

This Public viewing Event at Harrington Beach was clouded out. The Observatory was shut down after several hours. No visitors were reported.

### Public Viewing August 6th

Reported by Dan Bert

Skies were clear until around 10pm, when it rained. The event was well attended, as approximately 70 people viewed thru the variety of scopes setup in the parking lot and the observatory. Thanks to everyone who helped.

### Bayshore August 10

Reported by Jeff Setzer

This month's Sidewalk Astronomy at Bayshore was well-attended and the main draw was the Moon. We were also able to observe Saturn for about 30 minutes between twilight and setting behind the buildings. Estimated 70 people looked through our telescopes.

### Lac Lawrann August 17

Reported by Mickey Kazmierski

On Wednesday 08/17 NCSF had a terrific turnout of members for the Lac Lawrann Public Viewing Night! Thanks to Becca Setzer and Kate Peterman (LLC) for organizing this event. Many thanks to Al Steinberg, Don Miles, Charlotte & Gene DuPree, Jeff & Becca Setzer and Rick Kazmierski for coming out with scopes, sharing their knowledge & setting up a variety of scopes for viewing. We had 20-25 visitors who enjoyed clear skies. Becca and Kate set up materials for everyone attending to create Planisphere's. Rick Kazmierski contributed bookmarks of his astro-photo's to pass out. There is some talk of NCSF setting up again for LLC's October Lantern Night, an evening walking through the Conservancy which usually gets between 100-200 people. Stay tuned for more details.

### Small Scope Star Party August 20

(See article SSSP Pg 2.)

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



**Observatory Director:**  
Dan Bert: 262-375-2239

## CURRENT CLACK

### Leaders for Public Viewing

September 3

#### **Ice Age Center**

Gene and Charlotte DuPree

September 7

#### **Sidewalk Astronomy**

Jeff Setzer

September 10

#### **Community Campfire**

Pike Lake

Gene and Charlotte DuPree

September 16

#### **Public Viewing**

Leaders needed

September 17

#### **Public Viewing**

Gene and Charlotte DuPree

September 24

#### **Cedarburg Bog**

Kevin and Dan Bert

September 30

#### **Public Viewing**

Leaders needed

October 1

#### **Public Viewing**

Leaders needed

### Star Parties

#### **Prairie Skies**

September 22 - 25

Kankakee, IL

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

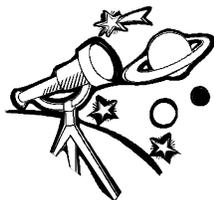
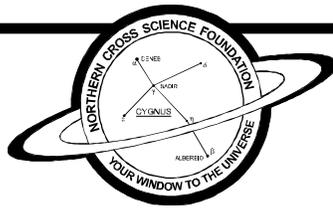
### **"Wanted"**

Sight tube... Preferably Tectronic

If you've got an old one you're not using anymore, let me know, and maybe we can work out a deal. Thanks.

Don Miles 262-483-4215

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## 2011 BOARD OF DIRECTORS

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### *(Colliding Galaxies Continued)*

of VV 340 North likely contains a rapidly growing supermassive black hole that is heavily obscured by dust and gas. The infrared emission of the galaxy pair, as observed by Spitzer, is dominated by VV 340 North, and also provides evidence for a growing supermassive black hole. However, only a small fraction of the infrared emission is generated by this black hole.

By contrast most of the ultraviolet and short wavelength optical emission in the galaxy pair -- as observed by GALEX and HST -- comes from VV 340 South. This shows that VV 340 South contains a much higher level of star formation. VV 340 appears to be an excellent example of a pair of interacting galaxies evolving at different rates.

### *For more information*

[http://www.nasa.gov/mission\\_pages/chandra/multimedia/photo11-086.html](http://www.nasa.gov/mission_pages/chandra/multimedia/photo11-086.html)

### **ASTRONOMY HUMOR**

A customer rang the telescope shop from where he had bought a 2x barlow lens saying he couldn't get it to fit into his star diagonal, the shop owner ascertained that he had tried both with and without the 2" adapter which the man assured him he had and the customer said he would bring it in for a replacement. He drove 30 miles and gave the "faulty" barlow lens to the shop owner who promptly took the protective plastic cap off and inserted it into the nearest star diagonal, the customer turned red with embarrassment and probably wished for a big black hole to appear. It can happen to the best of us.

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

## SPECTRUM

Is published by the Northern Cross Science Foundation, Inc. A nonprofit organization based the state of southeastern Wisconsin and is a Member of the North-Central Region of the Astronomical League.



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**  
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