

SPECTRUM

Northern Cross Science Foundation Newsletter

August 1998

LOOKING UP

August 1-2 Sat – Sun
Ozaukee County Fair
Public Viewing
Fireman's Park
Cedarburg

August 6 Thursday
Astronomy 101
7:00 PM
General Meeting
7:45 PM
Carlson Tool & Mfg.

August 19 Wednesday
Board Of Directors
7:30 PM
Jeff Setzer's House

August 21 – 23 Fri. - Sun.
Northwoods Starfest
Near Eau Claire, WI

August 22 Saturday
Public Viewing
7:30 PM
Harrington Beach
State Park

August 28 Saturday
Public Viewing
4:00 PM
Riveredge
Nature Center

Double Stars, Pt. 3

By Dan Bert

There are mainly three types of observation of double stars an amateur astronomer can do, photography, visual observing, or using a micrometer. I will concentrate more on visual observing.

When observing there are 5 factors which will determine what results you will achieve. These include: separation of the two components, quality of the telescope, brightness of the components, state of the atmosphere and the keenness of the Observer's vision. Finding pairs can be done, with the help of a star chart, by using setting circles, jumping from a known star, or sometimes sweeping for a pair.

Some problems one often encounters when observing is that the atmosphere tends to swell out star images into disks. This is known as the seeing. It is your own personal scale rating the steadiness of the view. Other effects that contribute to seeing are when the image appears to vibrate

randomly (known as wandering) or may swell and contract (boiling). Near the horizon atmospheric dispersion distorts the images so if you are to examine a difficult pair it should be done when it's highest in the sky.

When observing you record certain details and information on the double. One of these is referred to as **separation**, defined as the distance between the 2 stars. This can be estimated by a fraction of the total field diameter. To determine the field of view of an eyepiece, center a star near the celestial equator. Record how long it takes in seconds for the star to drift out of the field of view. Multiply your answer by 30 to get the total field in seconds of arc ("). Double Star Separation can be classified into 5 sections:

very close	.5" – 2"
close	2" – 5"

(See **Double** on page 2)

Northwoods Starfest

Taken from their Web Site

August 21-23, 1998, Sponsored by the Chippewa Valley Astronomical Society.

Join us at the 10th annual Northwoods Starfest, August 21-23, 1998, at Hobbs Observatory near Eau Claire, Wisconsin.

Hobbs Observatory is part of the Beaver Creek Reserve (BCR). Recreational possibilities include the Eau Claire County Youth Camp, the Wise Nature Center, hiking trails, and bicycling.



Hobbs Observatory has two domes, one with a 24-inch f/5 reflector and the other with a 14-inch Celestron. There is a large meeting area where talks and presentations take place.

There is a large field in front of the observatory to set up for observing. The skies are nice

and dark.

CVAS has reserved the Youth Camp for

(See **STARFEST** on page 4)

July Minutes

The July 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.

President Jeff Setzer opened the meeting at 8:30 p.m. to over 25 people.

Kevin Bert informed the members of the candidates running for office in the Astronomical League. A motion was made to cast a unanimous ballot for all 3 candidates that were running unopposed. The motion was seconded and approved. Kevin then presented Messier Observing Certificates to Jeff Setzer and Rod Nabholz.

Brad Plaumann reported on the finan-

cial transactions and gave the final status of the checking and savings accounts. The current fundraising balance for the 20" Panarusky telescope was just over \$1000. Kevin Bert presented Brad with a check for \$1200 from Alvin Panarusky to cover the final costs of the primary mirror.

Jeff ran down the upcoming events scheduled for the month. A sign-up sheet made the rounds to see what members would be bringing scopes to the Ozaukee County Fair.

Harold Rogers gave a report on the negotiations he had been having with the Park Superintendent at Pike Lake

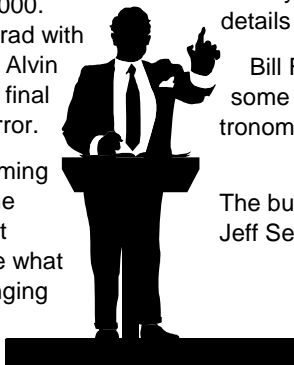
State Park. Bob Sedgwick then explained the details of a drawing that he made, of a roll off roof observatory.

A lively discussion about the Pike Lake details continued.

Bill Fisher presented to the club some posters left over from past Astronomy Days that he had come across.

The business meeting was closed by Jeff Setzer at 9:11 p.m.

Respectfully submitted,
Kevin Bert, secretary



(**Double** from page 1)

standard 5" - 10"
wide 10" - 30"
open 30" - +"

position angle, is the direction of the fainter component from the primary star in degrees. North is zero and the angle increases as you swing to the eastern direction.

Other things that are often recorded are the brightness and color, even a drawing can be made, although for the double star club you will not have to be as thorough.

The purpose of the double star club is to introduce

observers to 100 of the finest double and multiple stars in the heavens. It doesn't require a large expensive scope rather the program is meant to allow you to enjoy a different aspect of astronomy and not test your equipment. Double star observing can be



very forgiving so you don't need the darkest skies however best results can be obtained under optimum conditions. So always try for best conditions but if you don't have then no need to worry, you can still enjoy this program.

To qualify for the Astronomical Leagues Double Star Certificate and pin you need to be a member of the Astronomical League and observe the 100 selected objects on the list provided.

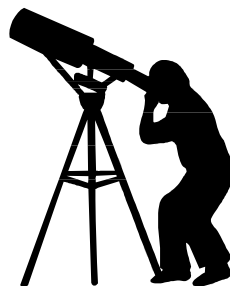
The objects are listed in Right Ascension order so that you can view them as they rise making planning your observing session much easier. The

information provided on the list also includes a checkbox, object to be observed, R.A. and Declination, magnitudes of the component stars, separation, and constellation.

To record your observations you use the log sheet which is also included along with your list. (see example below) Here you record the object, date, time, power, seeing, instrument, and a simple drawing.

To receive your double star certificate and pin simply give your observations to your club's Award Coordinator from whom you also can obtain the Double Star Club program sheet which gives you more information and the list and log sheet for your observing.

The objects you will be treated to, just 100 of the many thousands in the night sky, are only a small representation of what can all be seen and discovered. Best wishes to you on your double star observing. Discover your universe!!



EXAMPLE LOG ENTRY

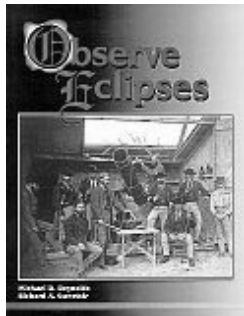
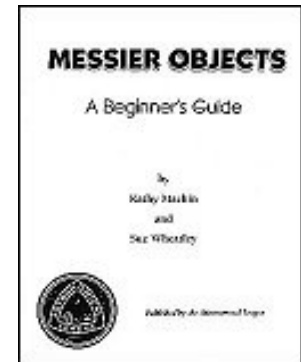
OBJECT	ALBERIO	DATE	7-31-98	TIME	10:15 P.M	
INSTRUMENT	8" F/8 NEWTONIAN	SEEING	6	Power	230 X	
DESCRIPTION	ATTRACTIVE BLUE PRIMARY WITH A YELLOW COMPANION.					

Astronomical League Sales

Taken from their Web Site

The *Messier Objects: A Beginner's Guide* is a new book that brings the brightest fuzzy patches of light in the sky, the Messier Objects, into sharp focus. A short introduction to observing techniques leads into a complete encyclopedia of Charles Messier's list of 110 objects. Arranged by optimum viewing season, each object is described in some detail. The New Galactic Catalog (N.G.C.) number, position, type, magnitude, size, and chart number in both SkyAtlas 2000 and Uranometria are given. Many objects also have photographs

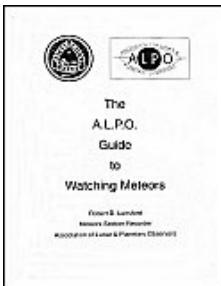
or sketches. There are tables of the Messier Objects by type, constellation and Messier number. Finally, there is an observing form for use in getting your Messier Certificate. This is a great book of novice stargazers. By Kathy Machin and Sue Wheatley, 30 pages, published 1997 by the Astronomical League. \$5.00



This excellent book will introduce both the new and experienced eclipse observer to the joys of observing eclipses. According to Hazel McGee as reviewed in the *Journal of the British Astronomical Society*, *Observe Eclipses* "is the best guide to eclipses for the general reader and amateur astronomer that I have ever seen. Visually it is superb, with photographs and drawings on every page, and four pages of magnificent color pictures as a central spread. The real

strength of the book however is in its text and tables - it is packed from beginning to end with solid, essential information for every eclipse observer." By Dr. Michael D. Reynolds and Richard A. Sweetsir, 92 pages, published 1995 by the Astronomical League.

Observe Eclipses\$10.00.



The *A.L.P.O. Guide to Watching Meteors* is a concise guide to how to observe meteors and scientifically record your observations. Written by Robert D. Lunsford, Meteor Section Recorder, Association of Lunar and Planetary Observers (A.L.P.O.), 10 pages, published 1995 by the Astro-

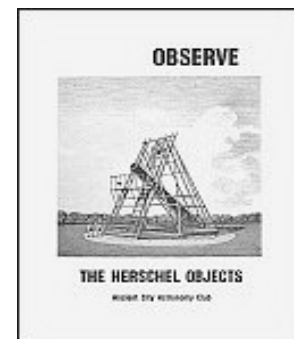
nomical League.

The A.L.P.O. Guide to Watching Meteors\$3.00.

After observing the Messier objects, the visual observer will want to rise to the challenge of 400 of the brightest Herschel Objects. *Observe: The Herschel Objects* details each of these objects with a description, its position, N.G.C. number and Herschel number. Some of the more distinctive are depicted photographically. There are also sections about the catalog, and William Herschel, along with information on the classifications

he used. By The Ancient City Astronomy Club (St. Augustine, Florida), 40 pages, published 1980/1992 by the Astronomical League.

Observe: The Herschel Objects\$5.00.



(**STARFEST** from page 1)

Starfest use. The camp has five cabins and the Cedar Lodge. The cabins sleep 20; the lodge, up to 40. Cabins have bunk-style beds and mattresses. You will need to bring sleeping bags and pillows. Showers are available for all guests, but bring your own towels. Tenting and camper spaces are also available.

If you want a swap fest, bring whatever astronomical goodies you want to get rid of. Also, if you have slides, a talk, or a video that you would like to show, bring them with.

Look around the CVAS web page for more information about the CVAS and Hobbs Observatory. The URL is: <http://athena.phys.uwec.edu/cvas/>

Riverside
Greg Furtman - An Aruban Eclipse
We will also have a mirror-grinding and mirror-testing demo. If you have

There are a few electrical outlets available outside the observatory for your use.

Please let us know if you have any other special needs before Starfest and we'll do our best to meet them. For hotel/motel information for the area call the Eau Claire Visitors Bureau at (715)831-2345. For more information, contact Hobbs Observatory at (715)877-2787, Bert Moritz at (715)835-4034, or Ray Forsgren at (715) 723-8489. Please let us know in advance if you are coming to help us with meal



Setting up a scope at Starfest planning.

Agenda

Friday, August 21

- 5 pm -- Registration
- 8 pm -- Speaker: Bert Moritz, "Deep Sky Eye"
- 9 pm -- Observing Session
- Midnight -- Snack
-

Saturday, August 22

- 11 am -- Brunch, Registration
- 1 pm -- Paper Session
- 4 pm -- Swap Fest
- 6 pm -- Dinner
- 8 pm -- Speaker: Aaron Steffen "Supernovae"
- 9 pm -- Observing Session
- Midnight -- Snack
-

Sunday, August 23

- 8 am -- Breakfast
- Noon -- Checkout

Paper Session

An informal paper session is planned for Saturday afternoon. If you have something to share: slides, a video tape, a unique telescope, or anything else that people might enjoy, we encourage you to sign up. We have the following sessions lined up so far:
Jim Elbert & George Stecher - Upgrades to the Hobbs 24" Telescope
Joe Benevides & Bill Childs - A Trip to

something you'd like to share, please do so.

Registration

The registration fee is \$30 per person until August 15th. It is \$40 after that. The fee includes registration, meals and snacks, lodging or camping fees, and speakers' fees.

If you plan to bring a camper, park in the field adjacent to the observatory.



Hobbs Observatory

A.L. Observing Clubs

The Observing Clubs offer encouragement and certificates of accomplishment for demonstrating observing skills with a variety of instruments and objects. These include the Messier Club; Binocular Messier Club and the Herschel 400 Club, the Deep Sky Binocular Club, the Southern Skies Binocular Club, the Meteor Club, the Double Star Club, and the newly formed Lunar Club.

Each Club offers a certificate based upon achieving certain observing goals. These are usually in the form of a specific number of objects of a specific group with a given type of in-

strument. Occasionally there are multiple levels of accomplishment within the club. There is no time limit for completing the required observing, but good record keeping is required.

When you have reached the requisite number of objects, your observing logs are examined by the appropriate authority and you will receive a certificate and pin to proclaim to all that you have reached your goal. Many local astronomical societies even post lists of those who have obtained their certificates. The current Observing Clubs are:

(see *CLUBS* on page 6)



Astronomy 101

By Kevin Bert

The August meeting 101 topic will be "Observing Hints." It is a list of things that can help bring out details in objects you're viewing. Most of the list will accommodate telescopic use. Some of the list contains elements of previous talks, but many have never been talked about..

The highlighted constellation will be Cygnus.

The August 101 topic will be on "Comets."



From The Editor

By Kevin Bert

On July 26th I returned from a family vacation in South Carolina. It was hot there too. At least I could cool off at the beach.

Starting at our August meeting, A box with nametags will be set out. Please look through it and affix it to your clothing. I think most people know each other, but it will help some members match a name with a face, especially the new members and



guests attending. Please be sure to sign in on the attendance sheet when you get to the meeting. I would like to add an accurate number to the minutes section each month. I always seem to count more people from a quick head count than those recorded on the attendance sheet.

Following the Astronomy 101 class at our next

CURRENT CLACK

NCRAL Regional Award

Congratulations to Nick Nichols as he has become the recipient of the North Central Region of the Astronomical Leagues highest Honor. The 1998 Regional Achievement Award. This award is given each year to recognize an outstanding member of a society or member-at-large who has worked to promote astronomy to the region. Thanks to Greg Gonia for nominating Nick for this award. Greg's nomination letter is contained in the latest issue of the regions newsletter "The Northern Lights." If you get a chance to read it you will understand what an asset it is to have Nick as part of our membership. It was presented at the Regional convention in Altoona, Iowa. Nick was unable to attend the convention, and old friend Frank Roldan accepted the award for him.

Panarusky Telescope

Mike Matthies has volunteered to take some photographs of the partially finished Panarusky 20" telescope for our upcoming fundraising efforts. For those who might not know, Mike is a professional photographer and has a studio in Grafton, which also happens to be the clubs official mailing address.

As far as the ongoing work on the big scope, Kevin hasn't been able to move as fast as he had hoped. The welding fixture for the secondary spider is complete and finished prints for the holder are now in his hands too. A 4.0" secondary mirror will be purchased soon.

meeting our main program will feature a slide presentation showing some of the best photos taken by the Hubble Space Telescope, by Mike Matthies .

If skies are clear we will try to find some of the Binocular Messier objects on a deck area near the south parking lot. I now have permission to turn off outside lights on the building.

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(CLUBS from page 5)

Binocular Messier Club;
Deep Sky Binocular Club;
Southern Skies Binocular Club;
Messier Club;
Herschel 400 Club;
Herschel II Club;
Arp Peculiar Galaxy Club.
Double Star Club;
Lunar Club;
Urban Observing Club.
Meteor Club;
SunSpotters Club

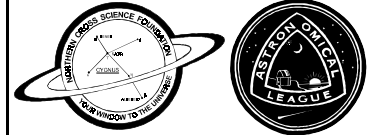
h <http://www.mcs.net/~bstevens/al/>



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

SPECTRUM

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