

The *Prairie Astronomer*

The Official Newsletter Of The Prairie Astronomy Club, Inc.

May 1998

Volume 39 Issue #5

Internet Addresses:

PAC Web Page: <http://www.4w.com/pac/>
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NSP Web Page: <http://www.4w.com/nsp/>
NSP E-Mail: nsp@4w.com
OAS Web Page: <http://www.top.net/cdcheney>

May's Program:

The featured speaker at the May PAC meeting will be "AstroMan", our favorite cosmic-comic, sharing his autobiography and some of the stories that inspired AstroMan cartoons.

If you would like to present a program at the monthly PAC Meeting, call **Erik Hubl** at 488-1698 or email at ehubl@ci.lincoln.ne.us



MEETINGS & EVENTS

PAC MEETING

TUESDAY MAY 25, 1998, 7:30 PM
at Hyde Memorial Observatory

NSP-5 PLANNING MEETING
THURSDAY JUNE 11, 7:30 PM
at Mahoney State Park Lodge

MAHONEY STAR PARTY
FRIDAY MAY 22, 1998
at Mahoney State Park - Driving Range

MAHONEY STAR PARTY
FRIDAY JUNE 26, 1998
at Mahoney State Park - Driving Range

PAC MEETING
TUESDAY JUNE 30, 1998, 7:30 PM
at Hyde Memorial Observatory

Only 1½ months until NSP !!!

You won't want to miss the **5th Annual Nebraska Star Party**
At **Merritt Reservoir, July 18-25, 1998.**
See page 9 for the NSP registration brochure

Get a free NSP-5 Mug by registering
before June 15th

SUPERNOVA IN M96

A new supernova has appeared, this time in the bright spiral galaxy M96 in Leo. As of 5/16/98 at 0530 UT, it was about magnitude 12.2, and sits near the galaxy's northern edge just inside the outer haze. I managed to see both the galaxy and the supernova in my 10 inch with the moon rising in the east, so it isn't all that difficult. The best powers to use are around 100x to 150x, since the galaxy isn't all that big to begin with.

- David Knisely

PAC-LIST: Mark Dahmke maintains an e-mail list for PAC. If you have an e-mail address and are not on the PAC List, you may subscribe by submitting an e-mail to list@4w.com. Write "Subscribe PAC-List" in the body of the e-mail.

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The *Prairie Astronomer* is published monthly by the Prairie Astronomy Club, Inc. Membership expiration date is listed on the mailing label. Membership dues are: Regular \$20/yr, Family \$22/yr. Address all new memberships, renewals, or questions to: The Prairie Astronomy Club, Inc., PO Box 80553, Lincoln, NE 68501. For other club information, contact one of the following: Dave Knisely - President (402) 223-3968, Doug Bell V.P. (402) 489-8197, Liz Bergstrom - Treasurer (402) 464-2038. All newsletter comments and articles should be sent to: Dave Scherping, 640 S. 30th St., Lincoln, NE 68510 (402) 477-2596 or e-mail dscherp1@aol.com ten days prior to the club meeting. Club meetings are held the last Tuesday of each month at Hyde Memorial Observatory in Lincoln, NE.



SECRETARY'S REPORT

Minutes of the April 28, 1998 PAC Meeting

By Dave Scherping

The April PAC meeting was kicked off by President Dave Knisely by introducing visitors. This month, we had one visitor, Peter Morin, who was our guest speaker.

There was a brief discussion of club star parties. April 24th was clouded out. There will not be a regular club star party in May, since the Mahoney Star Party falls on new-moon weekend. It will be held at the driving range at Mahoney State Park, beginning at dusk on Friday May 22nd. Everyone is encouraged to participate.

Details of the upcoming trip to the Cosmosphere are still being finalized. The Omaha club suggested the weekends of 6/13, 8/1, or 8/15. The consensus at the PAC meeting was that these all occurred too close to NSP, so we will be proposing sometime in September.

There was an extensive discussion about Astronomy Day, which is (was) May 2nd. Jack Dunn, Brian Weber and Martin Gaskell filled everyone in on the details and urged everyone to participate.

An update on NSP was given by Mark Dahmke, Dave Scherping and Dave Knisely. Mark passed around a copy of the finalized t-shirt design, which closely resembles Van Gogh's "Starry Nights". Mark also designed the NSP mug, which will be given to everyone who registers by June 15th. For those who are interested, Mark has copies of the NSP CD-ROM which includes hundreds of NSP photos, video clips and several software programs. The cost is \$15.

There was nothing new to report regarding the search for a new observing site.

In the Treasurer's report, Liz was happy to say that all checks have been deposited and all subscriptions have been sent in.

The Hyde supervisors agreed to allow PAC to keep its library at Hyde. Larry Hancock has graciously volunteered to purchase a cabinet to store the books in. Erik Hubl and Dave Scherping are working with Larry to finalize the details.

Mark Fairchild was awarded the "Volunteer Of The Year" award by the Hyde Supervisory Committee (Doc Manthey also received the award, but at last month's meeting). Ron Veys presented the award and commended Mark on his dedication. In addition to helping out at Hyde on dozens of occasions, Mark developed the Hyde web site. Congratulations Mark.

The award of a \$50 gift certificate to Orion Telescope was presented to Ron Veys for correctly completing the astronomy crossword puzzle which appeared in the March newsletter. Congratulations Ron. The runner-up was Liz Bergstrom, who also put in a lot of effort and got nearly every answer correct.

The meeting was then adjourned and turned over to the Programs Coordinator, Erik Hubl who introduced our guest speaker, Dr. Peter Morin who is a family physician in Lincoln. Dr. Morin gave a very informative presentation on sun dials, including the factors considered when designing, using, and interpreting sundials. He also gave information on the North American Sundial Society, history of sundials, and how to get the most out of prefabricated sundials.



PRESIDENT'S REPORT

By: Dave Knisely

I am proud of all those club members who helped with Astronomy Day on May 2nd. Although the crowds were a bit sparse in the museum that day, we did answer a few questions and handed out some club brochures. It seems that the major high school proms were to be held that night, and that, coupled with the fine weather, may have been the reason for the less than spectacular showing on the part of the general public. I did note that on the Internet newsgroup sci.astro.amateur, a few other clubs were reporting similar problems with turnout, so the date may have been one factor to consider. We may have to look at more publicity or a different weekend for the display next year. I want to thank Brian Weber and Jack Dunn for organizing this year's event, and I hope next year's will be even better.

The Nebraska Star Party is less than eight weeks away, and the Valentine motel rooms are almost filled up. If you are planning to attend this year's event, now is the time to get your registration in. Contact Dave Hamilton for registration information. The next NSP planning meeting will be held Thursday, June 11th at 7:30 PM at

Mahoney State Park Lodge, so if you might be available to help, you might want to attend this meeting.

On the Cosmosphere trip front, the dates the Omaha club favored didn't quite work out for most of those at the last PAC meeting, so we will probably wait until some time this fall to schedule the trip. With summer comes better observing weather, so the next scheduled PAC star party will be held on Friday June 19th at Wagontrain Lake at the eastern edge of the dam near the south side of the lake. We also should have some information soon from our club observing site committee concerning the sites presently under consideration.

On the observing front, the sun has been quite active lately, triggering a spectacular aurora late in the evening of May 3rd. Another supernova has come into range of our telescopes: SN1998bu, located near the north edge of the bright spiral galaxy M96 in southern Leo. The supernova is visible as a faint star of about 12th magnitude, and should be visible for some time in scopes as small as four inches. Check it out! See you at the meeting.

Comet Stonehouse

Comet Stonehouse (1998 H1) is hanging in there at about 11th magnitude. The comet is well placed in the sky for observers in the Northern Hemisphere. Comet Stonehouse moving north through Canes Venatici, just under the handle of the Big Dipper, and is thus visible throughout the night and is highest in the sky before midnight.



* * * *

ASTRO MAN

By Dave Scherping

WELL, IT'S SIMPLE.....

I USE MY SCOPE FOR STRESS RELIEF,

I'M AT THE OBSERVATORY MORE THAN I'M AT HOME,

AND MY WIFE SAYS IT'S LIKE I'M MARRIED TO MY SCOPE !

HEY... CAN I CLAIM IT AS A CHARITABLE CONTRIBUTION TOO?
AFTER ALL, I USE IT TO HELP NEEDY ASTRONOMERS
WHO DON'T HAVE A SCOPE OF THEIR OWN.

WHAT?... YOU'RE GOING TO PAY ME A VISIT?
TO LOOK THROUGH MY SCOPE I ASSUME !

ASTROMAN?... THIS IS THE IRS.
WE'D LIKE FOR YOU TO EXPLAIN WHY
YOU CLAIMED YOUR NEW OBSERVATORY
AS A MEDICAL EXPENSE, AS YOUR
PRIMARY RESIDENCE, AND AS A DEPENDENT.

MOST POWERFUL EXPLOSION SINCE THE BIG BANG CHALLENGES GAMMA RAY BURST THEORIES

From: <ftp://pao.gsfc.nasa.gov/pub/pao/releases/1998/98-052.htm>

A recently detected cosmic gamma ray burst released a hundred times more energy than previously theorized, making it the most powerful explosion since the creation of the universe in the Big Bang.

"For about one or two seconds, this burst was as luminous as all the rest of the entire universe," said Caltech professor George Djorgovski, one of the two principal investigators on the team from the California Institute of Technology, Pasadena, CA.

The team measured the distance to a faint galaxy from which the burst originated at about 12 billion light years from the Earth. The observed brightness of the burst despite this great distance implies an enormous energy release. The team's findings appear in the May 7 issue of the journal *Nature*.

The burst was detected on Dec. 14, 1997, by the Italian/Dutch BeppoSAX satellite and NASA's Compton Gamma Ray Observatory satellite. The Compton observatory provided detailed measurements of the total brightness of the burst, designated GRB 971214, while BeppoSAX provided its precise location, enabling follow-up observations with ground-based telescopes and NASA's Hubble Space Telescope.

"The energy released by this burst in its first few seconds staggers the imagination," said Caltech professor Shrinivas Kulkarni, the other principal investigator on the team.

The burst appears to have released several hundred times more energy than an exploding star, called a supernova, until now the most energetic known phenomenon in the universe. Finding such a large energy release over such a brief period of time is unprecedented in astronomy, except for the Big Bang itself.

"In a region about a hundred miles across, the burst created conditions like those in the early universe, about one millisecond (1/1,000 of a second) after the Big Bang," said Djorgovski.

This large amount of energy was a surprise to astronomers. "Most of the theoretical models proposed to explain these bursts cannot explain this much energy," said Kulkarni. "However, there are recent models, involving rotating black holes, which can work. On the other hand, this is such an extreme phenomenon that it is possible we are dealing with something completely unanticipated and even more exotic."

Gamma-ray bursts are mysterious flashes of high-energy radiation that appear from random directions in space and typically last a few seconds. They were first discovered by U.S. Air Force Vela satellites in the 1960s. Since then, numerous theories of their origin have been proposed, but the causes of gamma-ray bursts remain unknown. The Compton observatory has detected several thousand bursts so far.

The principal limitation in understanding the bursts was the difficulty in pinpointing their direction on the sky. Unlike visible light, gamma rays are exceedingly difficult to observe with a telescope, and the bursts' short duration exacerbates the problem. With BeppoSAX, scientists now have a tool to localize the bursts on the celestial sphere with sufficient precision to permit follow-up observations with the world's most powerful ground-based telescopes.

This breakthrough led to the discovery of long-lived "afterglows" of bursts in X-rays, visible and infrared light, and radio waves. While gamma-ray bursts last only a few seconds, their afterglows can be studied for several months. Study of the afterglows indicated that the bursts do not originate within our own galaxy, the Milky Way, but rather are associated with extremely distant galaxies.

Both BeppoSAX and NASA's Rossi X-ray Timing Explorer spacecraft detected an X-ray afterglow. BeppoSAX precision led to the detection of a visible light afterglow, found by a team from Columbia University, New York, NY, and Dartmouth College, Hanover, NH, including Professors Jules Halpern, David Helfand, John Torstensen, and their collaborators, using a 2.4-meter telescope at Kitt Peak, AZ, but no distance could be measured from these observations.

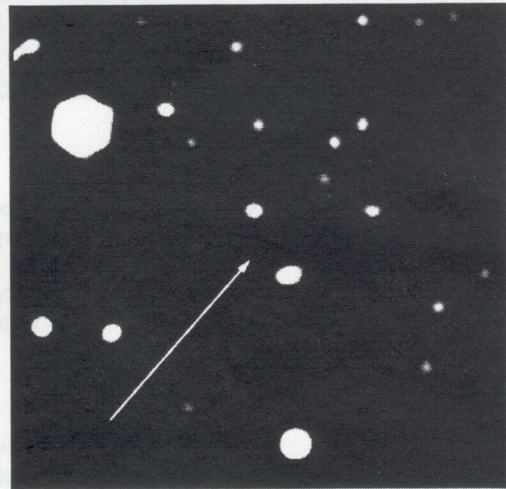
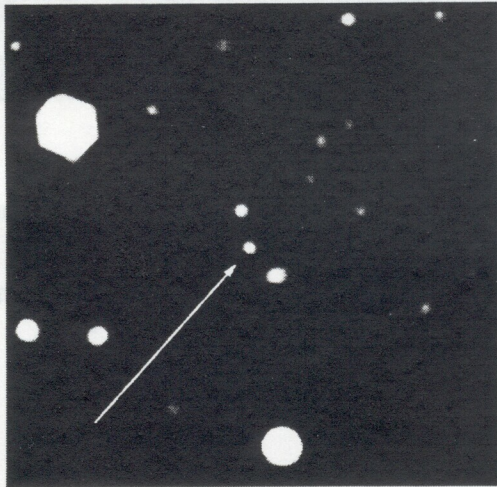
As the visible light from the burst afterglow faded, the Caltech team detected an extremely faint galaxy at its location, using one of the world's largest telescopes, the 10-meter Keck II telescope at Mauna Kea, Hawaii. The galaxy is about as faint as an ordinary 100 watt light bulb would be as seen from a distance of a million miles.

Subsequent images taken with the Hubble Space Telescope confirmed the association of the burst afterglow with this faint galaxy and provided a more detailed image of the host galaxy.

The Caltech team succeeded in measuring the distance to this galaxy, using the light-gathering power of the Keck II telescope. The galaxy is at a redshift of $z=3.4$, or about 12 billion light years distant (assuming the universe to be about 14 billion years old).

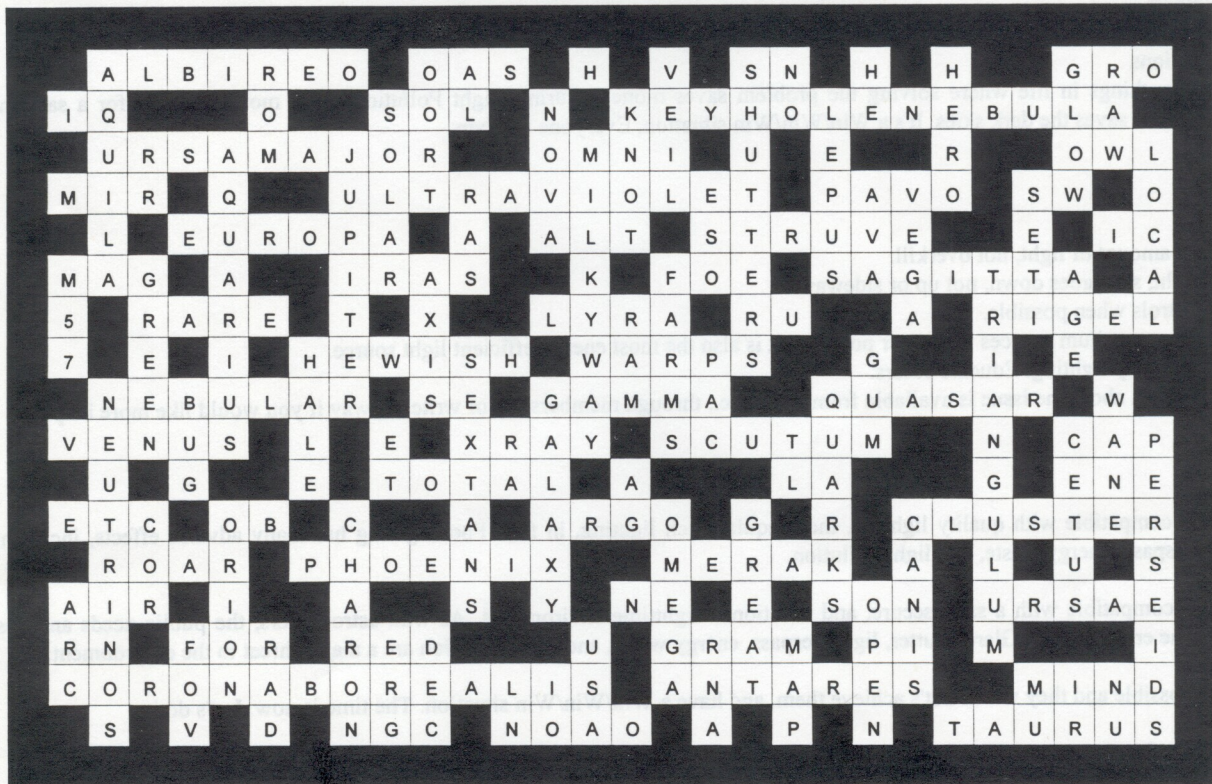
From the distance and the observed brightness of the burst, astronomers derived the amount of energy released in the flash. Although the burst lasted approximately 50 seconds, the energy released was hundreds of times larger than the energy given out in supernova explosions, and it is about equal to the amount of energy radiated by our entire Galaxy over a period of a couple of centuries. Scientists say it is possible that other forms of radiation from the burst, such as neutrinos or gravity waves, which are extremely difficult to detect, carried a hundred times more energy than that.

NASA is planning two missions to further investigate gamma-ray bursts: the High Energy Transient Experiment II (HETE II), scheduled to launch in the fall of 1999, and the Gamma Ray Large Area Space Telescope (GLAST), scheduled to launch in 2005. HETE II will be able to precisely locate gamma-ray bursts in near real-time and quickly transmit their locations to ground-based observatories, permitting rapid follow-up studies. GLAST will detect only those gamma-ray bursts that emit the highest energy gamma rays, and will be able to locate them with sufficient precision to permit coordinated observations from the ground. Because not much is known about the bursts at these high energies, the observations may permit researchers to choose among competing theories for the origin of gamma-ray bursts.



KECK IMAGE OF GRB 971214: Images of the gamma ray burst (GRB) 971214 field, obtained with the W.M. Keck 10-meter telescope on Mauna Kea, Hawaii. This GRB was detected on December 14, 1997, and is the most powerful one to date. The image on the left shows the visible-light afterglow of the burst (marked with an arrow), obtained about two days after the burst, while it was still relatively bright. The image on the right shows the same field as seen about two months later, after the burst afterglow has faded away, revealing a faint galaxy at its position (also marked with an arrow). The measurement of its distance shows it to be some 12 billion light years away (assuming the current best guess of the age of the universe of about 14 billion years). Image credit: S. G. Djorgovski and S. R. Kulkarni / W. M. Keck Observatory

SOLUTION TO THE MARCH CROSSWORD PUZZLE



LIGHT POLLUTION - A PROBLEM FOR ALL OF US

Information Sheet 2, September 1996

International Dark-Sky Association, 3225 N. First Ave., Tucson, AZ 85719 U.S.A.

E-mail: ida@darksky.org

WWW: <http://www.darksky.org>

Introduction:

Have you had a problem with light pollution? Of course. Whether you are a professional astronomer or an amateur astronomer or a member of the general public, you have undoubtedly been bothered by this scourge.

Write and tell me of your experiences. In detail. Include of course, whether or not you found any relief, and how. Be as specific as possible, please. I will compile the results and share the information, along with comments and suggestions where I can offer such.

Probably the problem had to do with:

Light Trespass:	Spill light bothering you.
Glare:	Bright, troublesome, always a bother.
Urban Sky Glow:	This item is the curse for many professional observatories.

What to Do? Here are some specific suggestions:

1. Talk to the offender. Ask for their help. Be friendly. But be persistent. Constant push without making enemies.
2. Educate people to what can be done. Most people have no idea about lighting, what is available, what costs are, or anything.
3. Educate about energy waste.
4. Educate about the adverse problems of poor lighting: glare, clutter, light trespass, sky glow, energy waste. Show what quality lighting can do. Set a good example.
5. Join the International Dark-Sky Association, a non-profit organization recently formed to help. There is strength in unity. Share information. Write the author for details.
6. Learn about quality lighting. Educate others.
7. Talk to people, individually and groups. City officials, the media, utility staff, lighting "designers", and the public.
8. Develop "networks":
 - = Helpers
 - = Awareness
 - = Solutions
9. There are few things in life where solving the problem saves money. Curing Light Pollution saves money, makes for a safer nighttime environment, and saves the dark skies. It's a Win/Win/Win situation. Everyone can win.

Solutions

1. Use the right amount of light, not overkill.
2. Shield the light, so it goes down, not up or sideways.
3. Use time controls when possible.
4. Use low pressure sodium sources whenever possible; it is also the most energy efficient light source.
5. Be aware of quality lighting. Educate others.
6. More information about the issue is available from IDA, Inc., through membership, or write anyway if you would like more help.

Summary

Dark skies are compatible with quality lighting, they require such lighting, in fact. Poor lighting has many adverse effects, including glare, clutter, light trespass, energy waste, and light pollution.

Dark skies are compatible with a safe, secure, and functional nighttime environment. As with astronomers, the public needs and deserves a quality nighttime environment. Glare, clutter, light trespass, energy waste, and light pollution are a major threat to the environment.

Solutions are possible and they work. Let's achieve them, and have a Win/Win/Win situation. The time is now. Let's do it.

[This is the text of a poster paper given by Dr. David L. Crawford at a meeting of amateur astronomers in California, in 1987.]

The Prairie Astronomy
Club & Omaha
Astronomical Society
Proudly Present

The 5th Annual
Nebraska Star Party

Merritt Reservoir
27 miles south of Valentine, Nebraska
July 18-25, 1998

In its first four years, NSP has established itself as the premier summer dark-skies star party. In 1997, 375 participants observed under the excellent skies at Merritt and many families enjoyed numerous daytime activities. After many months of preparation, we anticipate the 5th Annual NSP to be even better. We invite YOU to attend.

Located in the heart of the sandhills of north-central Nebraska, Merritt Reservoir is truly the pearl of Nebraska's lakes. Its pure water and beautiful sugar sand beaches offer great swimming and excellent fishing. In fact, Merritt Reservoir holds many state fishing records.

Other activities include sightseeing, hiking, canoeing, golfing, and boating. Boat rentals are available at Merritt Resort. You can see elk, deer, bison, & more at the nearby wildlife refuge. Or you may want to visit the Rosebud Casino at the Rosebud Reservation just across the South Dakota border.

One of the premier attractions of NSP is the fantastic view of the summer Milky Way. Though observers will obviously spend long nights at the eyepiece, expect to spend as much time just looking up in awe at the fantastic summer sky. The NSP Milky Way truly looks like an edge-on spiral galaxy and the central bulge is clearly visible.

Some observers have reported a limiting magnitude of 7.5 to 8 with the unaided eye!!
Come join us for an unforgettable vacation and observe under some of the darkest skies in the country!

A 1/2-DAY CANOE & TUBING TRIP is planned for Thursday, July 23rd on the beautiful Niobrara River near Valentine, Nebraska. We need to estimate the number of canoes and tubes to reserve, so please express your needs on the registration form if you are interested. Canoes hold 2 adults + 1 child. Covered inner tubes hold 1 adult + 1 small child. Transportation will be provided from Valentine to the river & back. The cost will be approximately \$15 per person, depending on the number of participants. Do not send money for the trip with your registration.

BEGINNERS FIELD SCHOOL New for NSP5 will be a daily field school to get you started with the great hobby of astronomy. Each afternoon the classes will focus a new skill!, then each evening the students will be paired with experienced observers to practice and fine tune those new skills.

DOOR PRIZES will be given out throughout the week. All NSP registrants are eligible for door prizes. Details will be included in registration packet. Those wishing to donate door prizes should contact Clark Cheney at (402) 733-7238 or e-mail cdcheney@aol.com.

CONTESTS will once again be held for amateur telescope making, astro-photography, and "Name That Object". Awards will also be given to those die-hard observers who successfully complete "The Great NSP Deep Sky Challenge".

MEALS There will be two catered meals in the camping area, one Tuesday night and the other Thursday night. Our ice cream social will be Monday night also in the camp ground area. We plan a beach party with kites, games and a barbecue on Wednesday. Information will be made available at NSP.

*** TO REGISTER, FILL OUT THE FORM BELOW AND MAIL TO THE ADDRESS SHOWN ***

NEBRASKA STAR PARTY
JULY 18-25th, 1998

check all that apply on both sides of form

STAR PARTY REGISTRATION

___ \$20.00 / Single ___ \$25.00 / Family
(when postmarked by June 15th)
___ \$30.00 / Single ___ \$40.00 / Family
(after June 15th)

Name: _____
Number of people in party: _____
Address: _____
City: _____
State: _____ Zip Code: _____
Phone: (____) _____
E-mail: _____
Fax: _____

**NSP T-Shirts
ORDER FORM**

Adult Size	Quantity	Price ea.	= subtotal
Small	_____	12.00	_____
Medium	_____	12.00	_____
Large	_____	12.00	_____
X-Large	_____	12.00	_____
XX-Large	_____	13.00	_____
XXX-Large	_____	13.00	_____
		Total \$	_____

___ Enclosed is my check for the total amount of \$ _____

(registration fee is non-refundable. T-shirt fee refundable to non-attending registrants upon request)

Please make check payable to:
Nebraska Star Party

NSP T-Shirts

NSP T-shirts are available and should be ordered with registration. For prices, see the order form. Although a few extras will be available at NSP on a 1st come / 1st served basis, you should order by June 15th to guarantee availability.

Lodging

There are 15 cabins, 1-4 beds each, at Merritt Resort. Plus, motel rooms are available in Valentine. There are a limited number of trailer spaces with hook-ups available at Merritt Resort and virtually an unlimited number of tent campsites throughout the state park & at the observing site.

Cabins & motels are obtainable by reservation only, on a first come-first served basis. Cabins must be reserved through the NSP Hotline and require a 2-night deposit within 10 days of making reservation. Those wishing to stay in a motel must make their own reservations. To make cabin reservations, call the NSP Hotline (402) 466-4170 or e-mail Tom Miller at TMiller232@aol.com.

Please Note:

•Motels in Valentine and cabins at Merritt Resort fill up fast, so make reservations as soon as possible. •A Nebraska state park permit is required for all NSP attendees and may be obtained at Merritt Trading Post. Cost is \$14.00/vehicle annual or \$2.50/vehicle daily. •For those camping in the state park, there is also a daily fee of \$3.00 per day. •Campgrounds have no electricity.

Camping

Unlimited primitive camping is available at the observing site. RV pads without utilities are available in the state recreation area surrounding Merritt Reservoir. A limited number of camper hookups are available at the Merritt Resort.

Deadlines

May 15, 1998-Brief abstract and outline of paper must be received by this date. Form will be provided.

June 15, 1998- Typewritten transcript of paper, if requested, must be received by this date.

June 15, 1998 - Registration fees increase as noted.

Last Day to get a free commemorative 5th anniversary coffee mug for early registration! July 1, 1998 - Registrations by mail must be postmarked no later than this date, however registrations will be accepted at the site of NSP.

Complete information regarding lodging, schedule of events, maps and registration confirmation will be mailed to you after registration is received.

NSP HOTLINE: (402) 466-4170 (Tom Miller) Please leave a message and we'll get back with you.
NSP COORDINATOR: Dave Hamilton (402) 421-2058 e-mail: hamilton@soapnotes.com
NSP e-mail address: nsp@4w.com
NSP Web Site: <http://www.4w.com/nsp/>

*** TO REGISTER, FILL OUT THE FORM BELOW AND MAIL TO THE ADDRESS SHOWN ***

1/2-DAY CANOE & TUBING TRIP

I am interested in canoeing.
I will need _____ (number) canoes.

I am interested in tubing.
I will need _____ (number) tubes.

NSP CD-ROM (photos, video clips, etc.)

I am interested in purchasing an NSP CD-ROM.

I will need _____ copies.
(approx. cost \$15).

LODGING

Send me more motel information.

Send me more cabin information.

Send me trailer spaces information.

I plan to tent camp.

BEGINNERS FIELD SCHOOL

Please reserve _____ positions in the afternoon classes for our family.

WE WILL BE AT NSP

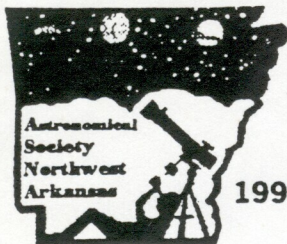
____ Sat 18 ____ Sun 19 ____ Mon 20 ____ Tues 21
____ Wed 22 ____ Thu 23 ____ Fri 24 ____ Sat 25

VENDOR

I plan to display & sell merchandise at NSP
Name of company _____

**DETACH AND MAIL THIS FORM
WITH ENCLOSED CHECK TO:**

Prairie Astronomy Club, Inc.-NSP
c/o Tom Miller
3400 No. 102nd Street
Lincoln, Nebraska 68527



Astronomical Society of Northwest Arkansas

Proudly Hosts

1998 MID-STATES REGIONAL CONVENTION of the ASTRONOMICAL LEAGUE

July 17-18, 1998

Springdale, Arkansas

We invite you to join us under "Ozark Mountain Skies" for a weekend filled with astronomical pleasures for Astronomical League Members, Families, and Friends—anyone with a serious interest in amateur astronomy.

PROGRAM HIGHLIGHTS

- Special Guest Speaker, Dr. John Wood, Astronomer and Optics Lead Engineer on the Hubble Space Telescope Project, from Goddard Space Flight Center in Maryland
- Informative guest speakers with a variety of topics of interest to amateur astronomers* (Friday afternoon and all day on Saturday)
- Astrophotography and CCD imaging exhibits
- Ever-popular vendor displays
- Amateur telescope-making exhibits
- Friday evening picnic/star party, combining "classic Arkansas good-eats cuisine" with dark-sky observing at Nearby Withrow Springs State Park
- Saturday evening awards banquet with door prizes and our own "Galactic Giveaway"

CONVENTION FACILITIES

The convention will be held at the Harvey and Bernice Jones Center for Families in Springdale, Arkansas. This new \$43 million multi-use facility plays host to many local community activities, both civic and recreational, for much of Northwest Arkansas. As an added attraction, our registrants and their families will be entitled to use the Center's indoor recreational facilities, including two swimming pools, basketball court, track, and ice skating rink. (Use of these facilities is free of charge, but **advance reservations are required** as indicated on the back of the registration form below.)

CALL FOR PAPERS*

As always, we invite papers by amateur astronomers to be presented at the convention. Please submit outlines for papers to Eliot Neel, MSRAL '98 Chairman, 2300 Old Wire Road, Fayetteville, AR, 72703 (by June 1, 1998).

AREA ATTRACTIONS

This corner of the Natural State is a great place to bring the family during the summertime, with a variety of activities sure to please everyone.

- Scenic Beaver Lake and Dam directly to our north
- Beautiful Devil's Den State Park [with nice campgrounds and pool] 25 miles south
- Historic Buffalo National River and the Upper-Buffalo Wilderness Area 70 miles to the east
- Craft and antique shops galore in every direction

LODGING

Lodging will be "on your own" as there are many conveniently-located motels in our area offering a broad range of prices and facilities. A map and lodging list will be forwarded to you upon receipt of your completed registration form and fees.

FOR FURTHER INFORMATION, CONTACT:

Harriett & Dennis Sisson, Co-Presidents, ASNA
2280 Winwood Drive, Fayetteville, AR 72703-3116
Phone: (501) 444-0746 E-mail: dsisson@compuserve.com

1998 MID-STATES REGIONAL CONVENTION OF THE ASTRONOMICAL LEAGUE

Hosted by the Astronomical Society of Northwest Arkansas

FRIDAY & SATURDAY, JULY 17-18, 1998

REGISTRANT INFORMATION

Name _____
Address _____
City _____ State _____ Zip _____
Phone(a.m.) _____ (evening) _____
E-mail address _____
Club (if member) _____

REGISTRATION FEES

Includes:

- Admittance to Friday afternoon programs & evening star party and Saturday programs
- Coffee & breakfast snacks on Saturday
- Vendor displays and all exhibitions
- Use of Jones Center recreation facilities open to all, including non-registrants (see reservation form on back)

	Thru July 1	After July 1
Individual Registration	\$25.00	\$30.00
Family Registration	35.00	40.00
Total REGISTRATION fees enclosed:	<input type="text"/>	

MEALS:

Friday evening picnic (BBQ sandwiches, cole slaw, baked beans, drinks, desserts) @ \$7.50/EA ___ meals = \$ _____
Saturday evening banquet (Smoked turkey & dressing, corn and green beans, rolls, drinks, dessert)
@ \$9.00/EA. ___ meals = \$ _____

Total MEAL fees enclosed:

(Dietary restrictions? We must know by July 1.)

Note: You will be "on your own" for Saturday lunch, either at the Jones snack bar or nearby Springdale (10 min. drive). The Center is closed Sunday mornings, so the convention will conclude with Saturday's banquet.

ABOUT A.S.N.A....

We are a small—but enthusiastic!—group of amateur astronomers from all across Northwest Arkansas (and two members come to us from Kansas). Our current membership of 40 is the largest we've enjoyed since our society first organized in 1979. Throughout each year, we intersperse club meetings, Messier marathons, and Christmas parties, between bimonthly star parties.

Even though A.S.N.A. does not own a club observatory or site, we do have access to several good dark-sky sites—and one observatory—privately owned by members. In addition to our own bimonthly observing sessions, A.S.N.A. is often invited to host public star parties around our area, as well as entertaining scouts, library groups, school groups, etc. We were particularly popular during the past two years while Comets Hiyakutake and Hale-Bopp stirred public interest! We also regularly co-host star parties held beneath the dark skies of Withrow Springs State Park, in conjunction with the Assistant Superintendent of that park. With this type of support, even a small group like ours can have a positive impact on educating the public about amateur astronomy.

A.S.N.A. members are looking forward to welcoming you to “our neck of the woods” this July!

JONES CENTER RECREATIONAL FACILITIES

Advance reservations (*by July 1*) are required from registrants (and members of their parties) wishing to make use of the indoor ice rink and/or indoor swimming pool, to allow for timely notification to the Jones Center. Please list the number of individuals for each facility:

Swimming Pool **How many?** Ice Rink **How many?**
 (No reservations required for use of the basketball court or track.)

CONVENTION T-SHIRT ORDERS:

Adult Size	Quantity	Price ea.	=	Total Enclosed
Small	<u> </u>	@ \$12.00	=	<u> </u>
Medium	<u> </u>	@ \$12.00	=	<u> </u>
Large	<u> </u>	@ \$12.00	=	<u> </u>
Ex-LG	<u> </u>	@ \$12.00	=	<u> </u>
XX-LG	<u> </u>	@ \$13.00	=	<u> </u>
XXX-LG	<u> </u>	@ \$13.00	=	<u> </u>
T-SHIRT TOTAL ENCLOSED				<u> </u>

SEND COMPLETED REGISTRATION FORM WITH CHECK (PAYABLE TO A.S.N.A.) TO:





MSRAL '98
 Harriett Sisson, Registrar
 2280 Winwood Drive
 Fayetteville, AR 72703-3116

GRAND TOTAL OF FEES AND T-SHIRT ORDERS ENCLOSED \$

Upon receipt of your registration form and fees, area maps and motel listings will be mailed to you along with your confirmation.



The PRAIRIE ASTRONOMY CLUB CALENDAR for JUNE 1998

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1 1 ST QUARTER 	2	3	4	5	6
7	8 Only one week left to register for NSP at the discount rate	9 FULL MOON 	10 The NSP Mugs are going fast !	11 NSP-5 Planning Mtg. 7:30 PM at Mahoney State Park Lodge	12	13
14	15 Last day to register for NSP at the discount rate & get a free NSP 5 Mug	16	17 3 RD QUARTER 	18 One Month Until NSP begins	19	20
21	22 Aldebaran Occulted by Moon	23 NEW MOON 	24	25	26 MAHONEY STAR PARTY	27
28 Regulus 0.8° N of Moon	29	30 PAC MEETING 7:30 PM Hyde Obs.	MAHONEY STAR PARTY DATES Friday May 22 nd Friday June 26 th Friday August 21 st Friday September 25 th Friday October 23 rd			

LONG-TERM CALENDAR

JUNE '98	Friday June 26	MAHONEY STAR PARTY	- Mahoney State Park
	Thurs June 11	NSP PLANNING MEETING	- Mahoney State Park Lodge
	Thurs June 25	NSP PLANNING MEETING	- Mahoney State Park Lodge
JULY '98	Thurs July 9	NSP PLANNING MEETING	- Mahoney State Park Lodge
	July 18 - 25	NEBRASKA STAR PARTY	- Mahoney State Park
AUG '98	Friday Aug 21	MAHONEY STAR PARTY	- Mahoney State Park
SEPT '98	Friday Sept 25	MAHONEY STAR PARTY	- Mahoney State Park
OCT '98	Friday Oct 23	MAHONEY STAR PARTY	- Mahoney State Park

**Public Presentation on
The NASA Mars Exploration Program**

Date: Friday May 29
Time: 8 PM
Location: Kimball Recital Hall, UNL Campus

Dr. Thomas C. Fraschetti, Manager of the Observational Systems Division of the NASA Jet Propulsion Laboratory, will speak about the NASA Mars Exploration Program on Friday, May 29 at 8 PM in Kimball Recital Hall on the University of Nebraska-Lincoln campus. The talk is free and open to the public. Dr. Fraschetti will give an overview of the Mars Exploration Program beginning with the 1997 Pathfinder Mission and the Mars Global Surveyor including the most recent spectacular photographs of Mars. He will also discuss future aspects of the Mars Program and the Mars Sample Return mission, which will be launched in 2005. His talk is part of the May 28-30 conference "Shaping the Future of Undergraduate Science, Mathematics, Engineering, and Technology," sponsored by the University of Nebraska-Lincoln and the National Science Foundation. For further information, contact Professor Robert Hilborn, 472-2894.

**OFFICERS
OF THE PRAIRIE ASTRONOMY CLUB**

PRESIDENT: Dave Knisely
223-3968
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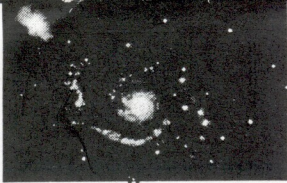
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The Prairie Astronomer
 c/o The Prairie Astronomy Club, Inc.
 P.O. Box 80553
 Lincoln, NE 68501



Next PAC Meeting
 May 26, 1998
 7:30 PM
 Hyde Observatory

EARL MOSER 9/98
 P O BOX 162
 HICKMAN NE 68372-0162