

I wish you could see this in color! Here's a shot of Jupiter submitted by Dave Knisely.

## The Prairie Astronomer

c/o The Prairie Astronomy Club, Inc.

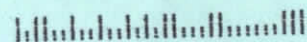
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Next Meeting February 25, 1992



# THE *Prairie Astronomer*

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## PRESIDENT'S MESSAGE

by David Knisely

I received a call last week from a writer for ASTRONOMY NETWORK NEWS, a bi-monthly newsletter from Kalmbach publications which is sent to club officers around the nation. It seems they have seen our newsletter, and now they want to do a club profile for an upcoming issue! I spend over an hour on the phone trying to describe our club and its history, along with correcting a few minor misconceptions like the idea that the club has a 14 inch telescope (I wish!). Hopefully, they will have quoted me correctly for the article, and I will have something to brag about at a future club meeting. In the last issue was a short article which I must share with you from "The Shallow Sky Bulletin", (Cleveland, Ohio) entitled:

### THE MEMBER WHO NEVER CAME BACK

"It amuses me to think that your organization spends so much time looking for new members, when I was there all the time. DO YOU REMEMBER ME?" "I'm the fellow who was asked to join. I paid my dues, and then I was asked to be a loyal and faithful member. I came to every meeting, but NOBODY paid attention to me. I tried several times to be friendly, but everyone seemed to have their own friends to talk to and be with. I sat down among some unfamiliar faces several times, but they didn't pay much attention to me. I hoped somebody would ask me to join one of the committees or to

somehow participate and contribute, but no one did. Finally, because of an illness, I missed a meeting. The next month, no one asked me where I had been. I guess it didn't matter much whether I was there or not. On the next meeting date, I decided to stay home and watch a good television program. When I attended the next meeting, no one asked me when I was the month before." "You might say that I'm a good guy, a good family man, that I hold a responsible job and love my community. You know who else I am? I'M THE MEMBER WHO NEVER CAME BACK! New members are needed in ALL organizations, but not just as statistics. Everyone wants to feel welcome, AND needed!"

Well, what do you think? Are you becoming this member? Do you know anyone who feels this way? It's time to think about this when we sit down to meet, or, more importantly, when we break for refreshments after the meeting. If you feel lost or ignored, please don't give up. Tell us about it, because there are more than a few people in our group who will listen. And if you see someone who looks a bit lonely, take a few moments to speak to them. You may make a friend and help retain a valuable member. ■

## Editor's Note

As I slowly move in making newsletter improvements, I'd be grateful for any feedback or idea's anyone in the club might have. I'm toying with the idea of having a monthly calendar inserted

containing observing highlights, club events, etc. In some ways this might be redundant with what you can find in Sky & Tel or Astronomy, but it seems that many club newsletters have these types of calendars. What do you think? Drop me a line and let me know. And as always, if you have something you'd like to contribute, my mail box is **always** open! ■

## Notes from Lee

### MID-STATES CONVENTION REMINDER

Astronomical Society of Kansas City, the host club for the 1992 Mid-States convention sends along the following preliminary information:

*Time:* June 19, 20, 21

*Place:* Avila College, Kansas City, MO

No 'formal' activities other than check-in will occur before Friday morning. The convention will officially be two full days—Friday and Saturday with a Sunday morning "goodbye" breakfast. Thursday night, Powell Observatory (ASKC's observatory) will be open for observing, both with your and their equipment.

*Friday night:* BBQ at Powell Observatory, perhaps a good speaker as well.

*Saturday during the "noon break":* solar observing in the courtyard at the college.

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The Prairie Astronomer is published monthly by the Prairie Astronomy Club, Inc., and is free to all club members. Membership status and expiration date are listed on the mailing label. Membership dues are: Junior Members and Newsletter Only Subscribers...\$10/yr; Regular Members...\$26/yr; Family Memberships...\$29/yr; Address all new memberships, renewals, or questions to THE PRAIRIE ASTRONOMY CLUB, INC., P.O. BOX 80553, LINCOLN, NE 68501. For other club information contact one of the following officers: Dave Knisely (Pres)223-3968, Eric Hubl (V.Pres)423-6267, Ron Veys (Sec)486-1449, Lee Thomas (Tres)483-5639, Jack Dunn (2nd V. Pres)475-3013. All newsletter comments and articles should be sent to Newsletter Editor JOHN LORTZ, 12023 PARKER PLZ #105, OMAHA, NE 68154 no later than 10 days before monthly club meetings. Club meetings are held the last Tuesday of each month at Hyde Observatory in Lincoln, NE.

*Saturday night:* the Banquet with the observatory open afterwards for those interested. The Banquet will be at a GREAT nearby restaurant this time.

ASKC vows they are working on some "high powered" speakers, there will be a display room for vendors, and anyone with something to sell. And, the call for "talks" (30 minutes maximum) is out. Contact Jackie Wade, Mid-States Chairman, 11305 King St., Overland Park, KS 66210 (913) 469-0135.

Plan to attend this convention if you are at all able, because PAC is hosting the 1993 convention in Lincoln. The last Mid-States in KC was an excellent convention, so we want to have as many of our people present to see how it's done, i.e., steal all their good ideas!

### IN OTHER NEWS...

A letter dated January 28, 1992, has been received from Randal K. Petersen, P.E., Chief, Environmental Branch, Engineering Division, Army Corps of Engineers, Omaha District, to wit:

"Your (Prairie Astronomy Club's) property, a portion of the former Lincoln Air Force Base (AFB) Facility, Site 7, has been evaluated for restoration eligibility under the purview of the Defense Environmental Restoration Program (DERP) for Formerly Used Defense Sites (FUDS).

"The Department of Defense (DOD) has determined that Lincoln AFB Facility, Site 7 was

# Observing Chairman's Report

by Dave Knisely



THE NEXT SCHEDULED STAR PARTIES WILL BE HELD ON FRIDAY, FEBRUARY 28th AND FRIDAY, MARCH 6th AT THE ATLAS SITE. Remember, you may use the Atlas site on any night you choose, but you must have a key, or be with someone who does. Keys are still renting for the low price of \$15 per year, so contact Lee Thomas if you are interested.

Late winter offers many pretty open star clusters and a few other items for the patient viewer. In the faint constellation of Monoceros is M50, a good-sized group of about 100 stars located about 3.75 degrees north and two east of Theta Canis Majoris. It is easily resolvable in even fairly small instruments and is rich in stars.

If you look about four degrees south and slightly east of Sirius, you will see M41, a large and bright open cluster which is visible to the unaided eye under good conditions. It resolves in binoculars, with small telescopes revealing about 20 fairly bright stars. An eight inch will even show some color contrast in the stars, including some red giants.

In Puppis are several spectacular open clusters for your viewing pleasure. M47, located four degrees south and one west of Alpha Monocerotis, contains about 25 bright stars in a moderate-sized grouping. Large instruments again bring out some color to the members.

Nearby, about 5.25 degrees south and 1/4 east of Alpha Monocerotis is M46, a large, rich, but fainter open cluster. Small telescopes will have trouble with the fainter stars, but a six inch will reveal more than 50 members fairly evenly spread over about a 30 minute of arc field. Those having a six inch aperture and sharp eyes may note a faint puff of light on the north edge of the cluster. This puff is the planetary nebula NGC 2438, a miniature version of the ring nebula. The ring shape is fairly easy in an eight inch, although the nebula is rather faint.

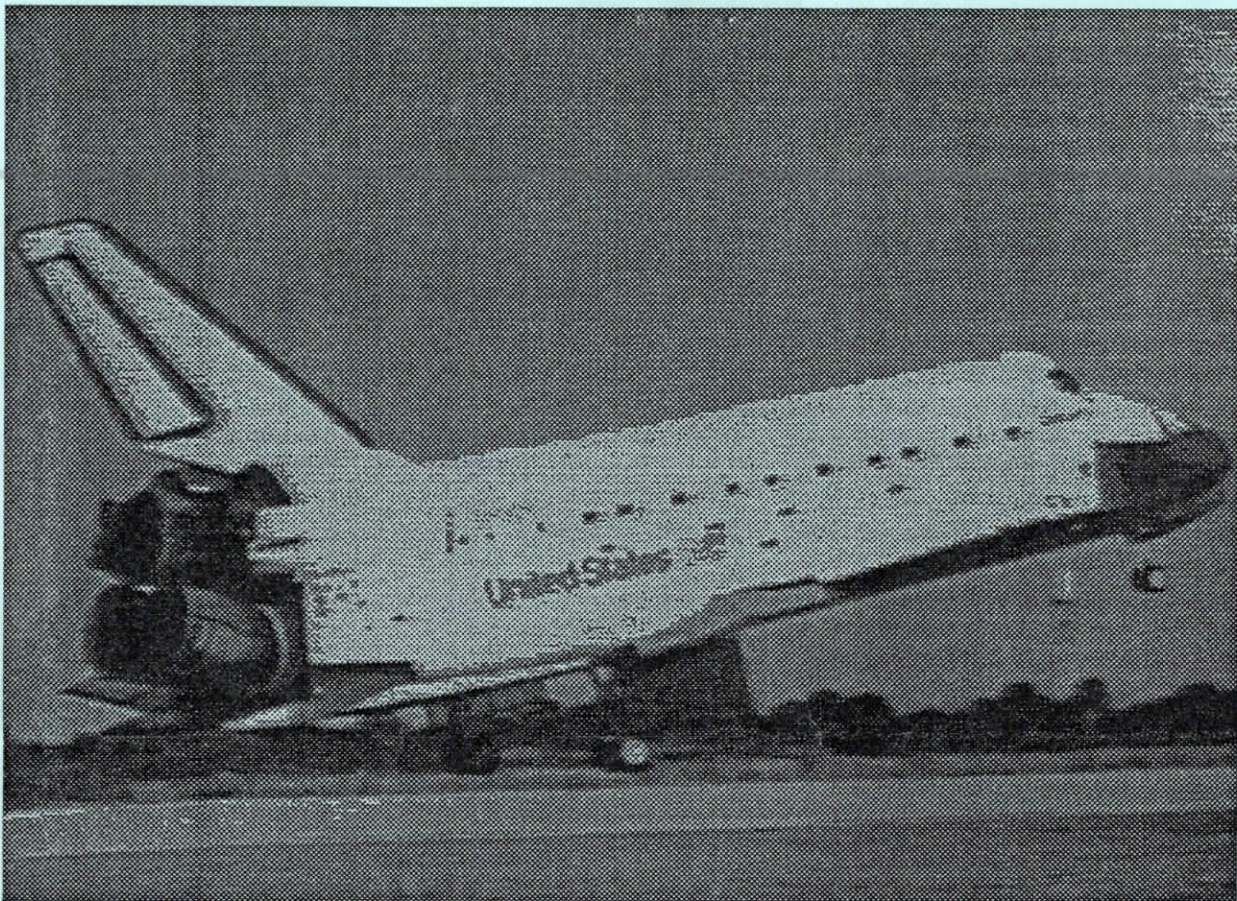
Also in Puppis is M93, a infrequently observed cluster located one degree north and one west of Xi Puppis. It is a nice group of faint stars which is tough for small telescopes but rich in anything else. This

group has several nice star chains in the middle, and the faint Milky-Way background enhances the beauty of the group.

If you are a bit tired of looking at clusters, take a look at the planetary nebula NGC 3242, located 1.75 degrees south and 1/3 west of Mu Hydrae. Sometimes known as the "eye", or the "Ghost of Jupiter", this nebula appears as a fuzzy 9th magnitude star in a 2.4". An eight inch at low power shows it as a bluish oval disk. Higher magnification reveals a rather elliptical inner shell and faint central condensation, all surrounded by a circular outer shell. The whole thing looks a bit like a bluish eye staring back at the viewer when a ten inch aperture is used.

Also in Hydra is another open cluster, M48, located two degrees south and three west of 30 Monocerotis. It is large and fairly rich, but has faint component stars making it tough for small telescope users. It is slightly wedge shaped, with a ten inch revealing about 80 to 90 cluster members. There is an interesting crescent shaped star chain near the center.

One star cluster dominates the late winter/early spring sky, namely M44, the Beehive in Cancer. Visible to the unaided eye as a faint puff near the star Delta, this object offers something for both the small and large telescope user. Those using small apertures should use low power (binoculars will resolve it), since the object is over a degree across. Its large size and bright component stars make it a real show piece for star parties. Large telescope users also have a challenge in M44, or rather, many millions of light-years behind M44. There are five small and faint galaxies listed in Uranometria 2000 as being within the borders of M44. Two of them are near the south-west edge of the cluster, and the other three are more strung out along the south-east side. I have seen two of them in my ten inch, but it takes a good night. ■



Another Shot by Dave Knisely of a shuttle landing.

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## Computer Viruses

In his last letter, Dave Knisely mentioned that his computer had contracted a virus of some sort. Nasty things, those computer viruses. I have never personally had to deal with one at home or at work, but in my profession (as a software developer) I always have to be on the lookout for one to pop into my office network system or those of my clients.

So what do you do? As with just about every human disease, prevention is the best measure. Most viruses are spread via file downloads from computer bulletin board

systems, and then propagate when you pass a program along to a friend on floppy disk. There are many shareware programs that exist that will 'read' a program you have pulled from somewhere else and detect if a virus exists in it, before you run the program for the first time. You can find these on CompuServe, American Online, Prodigy, and most other commercial BBS's (or drop me a line and I can send you one.)

If you do catch a bug, there are also programs that can often eliminate them from your system. These are also available as shareware. Unfortunately, all too often you have to completely wipe out your drives and reinstall your operating system to get things back to normal. So, be alert!!!

formerly owned and used by the DOD, making this site eligible for inclusion in the DERP. The project at your site will consist of environmental sampling and testing to include soil borings and chemical analysis of soil, surface, and ground water. The investigation will determine the existence of on site contaminants.

"You will be notified when funding is available to commence work at your site. If you have any questions concerning your site, please contact Mr. Bruce Little at telephone number (402) 221-7693 or Mr. Hector L. Santiago at telephone number (402) 221-7699."

Condensed to governmentese this means that the DOD has determined that our AFB Site 7 comes under the purview of DERP for FUDS.

However, it appears that the key language appears in the last paragraph where we learn that, presently there are no \$\$\$ for our AFB-7 under DERP for FUDS. Translation: "Never Mind."

However, it is nice to know that Your Government hasn't forgotten about that 135-foot hole in the ground that we Cherish as our very own...and that, some day, they will come and punch even more holes in the ground around it! ■

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## Ask Uncle Sol

*Ask Uncle Sol is a monthly feature in The Smokey Mountain Astronomical Society Bulletin.*

This month's question comes from little Debbie Doublet of Fraunhofer, Tenn. Debbie Asks, "Uncle Sol, What is an equatorial drive?"

Uncle Sol Answers:

Debbie, as you probably know, before the rise of modern astronomy, most people believed the

earth stood still. What you may not know is that at that time, it did.

The rotation of the earth is due to a modern invention, the equatorial drive, which astronomers use to push the earth around under their telescopes. If it weren't for these drives pushing against the earth and turning it, in one hemisphere daytime would last six months, during which astronomers would not be able to observe their beloved nebulae. Even worse, in the other hemisphere amateurs would have six months of night, but no light by which to write checks for eyepieces and such.

How does it work? If you have ever seen an illustration of an equatorial drive in action, you probably noticed that the telescope circles in one direction, while the earth is turned in the opposite direction; for every action there is an equal and opposite reaction.

To the earthbound observer the scope appears to circle from east to west; actually, the drive is pushing the earth toward the east.

Of course, one equatorial drive couldn't turn the earth fast enough to matter, but there are thousands and thousands of them chugging away every night. And to maximize the effect, astronomers line up their drives so they push the same way - around what they call the "polar axis". (The term derives from a tall pole that in pre-equatorial-drive days stood at Greenwich Observatory, directly under Polaris - which is why even today Polaris is sometimes called "the Pole Star".)

You have probably noticed that many equatorial drives can be adjusted to run at different rates. This is to compensate for the number of stargazers out. On an average night, the earth rotates at the proper speed, so objects stay in the equatorially-driven telescope's field of view. But if most astronomers are watching TV, the

earth won't turn rapidly enough. Astronomers out observing notice the objects they want to see slipping out of view, so they increase the power to their drives to compensate.

On the other hand, if there's nothing good on television a great many astronomers will be observing and the earth will spin too rapidly. So they decrease the power to their drives until the earth is spinning at the right rate.

These corrections cause the breezes so common right after sunset. Precise fine-tuning of the earth's speed of rotation is achieved even though most of these hobbyists never get closer than 52 arc minutes to true celestial north. Their errors average out.

At least the speed of rotation averages out; the axis on which the earth rotates has gone amuck. You see, once the earth began rotating, Polaris no longer remained over the pole. And over a long period of time, the scholarly consensus about the original location of the Greenwich pole has shifted several times. (Some archeoastronomers even claim that in 2000 BC the original pole stood in Thuban, in Egypt!)

Since equatorial drives are aligned with whatever point the scholars say was originally directly above the pole, the earth now wobbles on its axis - a phenomenon known as "precession". Precession is encouraged by publishers of star atlases and celestial catalogues, as it has the beneficial effect of periodically requiring everyone to go out and buy new editions. This keeps several astronomers gainfully employed.

The equatorial drive also explains why winter nights are longer. When it's winter here in the northern hemisphere, it's summer in the southern hemisphere, so southern hemisphere astronomers spend more time surfing and less time using their drives, and our days get longer. The same thing happens six months later, but

then it's northerners who put in fewer hours, so the southern nights get longer.

I think you'll agree that the equatorial drive is a wonderful example of a cooperative project from which all of us on earth—even non-astronomers—benefit. ■

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## TOP TWENTY BOOKS

*I don't know about you, but when it comes to books about astronomy, I tend to have this fatal attraction. Of course, fatal in this case refers to the balance in my checking account rather than my physical well-being. But when I wander through the book store, invariably I'll pass the science section, stop and pick up the latest-greatest astronomy book, and then end up with it at the check-out counter, VISA in hand.*

*Now, there are a lot worse things I could spend my money on. Mr. Bulkey carmels, Goodrich icecream, and Burger King breakfast taco's come immediately to mind. So usually I can justify my purchase as another step toward ultimate knowledge and arm-chair astronomy supremacy.*

*But who's to know what books I should really buy? The Astronomy Network News recently had an article which highlighted what it thought were the best books of all time. I've reprinted it here so that you can compare what you have (if you're striving toward that ultimate knowledge too!) to what they suggest. I don't have all these books, as Ron Veys probably does, but I've got a lot of them. Plus I have about a zillion more that aren't listed.*

*How many do you have?*

A library is only as good as its material. Wondering where to begin? Dave Eicher, associate editor at ASTRONOMY, offers this list of the top twenty books that should be included in your club library or library at home.

The Cambridge Atlas of Astronomy, Jean Audouze, and Guy Israel, eds. A folio-sized survey of fundamentals for backyard astronomers.

**The New Solar System**, Kelly J. Beatty and Andrew Chaikin, eds. The best overview of the solar system and what's known about it.

**Man Discovers the Galaxies**, Richard Berendzen, Richard Hart and Daniel Seeley. How early scientists demystified the Milky Way Galaxy.

**Build Your Own Telescope**, Richard Berry. Plans for six telescopes you can build and information useful to commercial telescope owners.

**The Milky Way**, Bart J. and Priscilla F. Bok. Regarded as the definitive book on our Galaxy for nontechnical readers.

**Burnham's Celestial Handbook Vol 1-3**, Robert Burnham. A voluminous compilation of deep-sky objects with photos, charts and tables.

**Astrophotography for the Amateur**, Michael Covington. Chapters provide how-to advice for getting started in astrophotography.

**The Backyard Astronomer's Guide**, Terence Dickinson and Alan Dyer. A luxuriously illustrated beginner's guide to amateur astronomy.

**The Universe from Your Backyard**, David J. Eicher. Republished "Backyard Astronomer" Articles from Astronomy magazine.

**Sky Catalogue 2000.0**, Alan Hirshfeld and Roger W. Sinnott, eds. Fundamental data on stars and deep-sky objects that every club should have.

**Galaxies**, Timothy Ferris. A folio-sized essay on galaxies with an engaging narrative.

**Colours of the Stars**, David and Paul Murdin.

Professional astronomers discuss color in astronomy and what it reveals. Many photographs.

**The Cambridge Encyclopedia of Astronomy**, Simon Mitton, ed. Authoritative, fact-filled reference covers all aspects of modern astronomy.

**A Guide to Amateur Astronomy**, Jack Newton and Phillip Teece. The best all-around introduction to what amateur astronomy is all about.

**Starlight Nights**, Leslie C. Pelteir. One of the greatest amateur astronomers of all time describes his experiences as a stargazer.

**Norton's 2000.0 Star Atlas and Reference Handbook**, Ian Ridpath, ed. A classic, showing stars to magnitude 6 with an introduction about observing.

**Cosmos**, Carl Sagan. A superb narrative tour of the universe.

**Uranometria 2000.0 Vol 1-2**, Wil Tirion, Barry Rappaport and George Lovi. Minutely detailed, large-scale atlas shows 332,556 stars to magnitude 9.5 and many thousands of deep-sky objects.

**Atlas of Deep-Sky Splendors**, Hans Vehrenberg. Contains hundreds of photographs of deep-sky objects at the same scale for easy comparison.

**Color Star Atlas**, John Cox and Richard Monkhouse. An easy-to-use atlas showing the colors of all naked-eye stars. ■