



Issued by the *Milwaukee Astronomical Society* Summer 1988

I N S I D E

Election Results ----- 1
 Annual Family Picnic ----- 1
 New Members ----- 1
 Meteor Showers ----- 1
 Calendar of Events ----- 1
 For Sale ----- 2
 Greenbush Camp-out ----- 2
 ALCON-ALPO '88 ----- 2
 Lunar Eclipse ----- 2
 Moon Settlement ----- 2
 Open Houses ----- 2
 Observatory News ----- 2
 Last "Focal Point" ----- 2
 Occultation ----- 3
 "Northern Lights" ----- 3
 TeleVue Response ----- 3
 NCRAL '88 Report ----- 4
 Keyholders ----- 4
 Directory ----- 4

New Members

Richard Crosby, Milwaukee; Eric Kramer, West Allis; Joseph Meyers, Milwaukee; and L. Kent Stephenson of Waukesha, are the newest stars in the MAS galaxy! Welcome.

Meteor Showers

Delta Aquarids - July 30. Peak at 2 AM. Rate of 10-35/hr. Look south.
Perseids - August 11-13. Peak at 4AM. Rate of 50-100/hr. Look northwest.

Election Results

The 44 ballots cast at the May Election Meeting elected Jeanine Nichols and Lee Keith to serve a second term on the board. John Asztalos will replace Dan Koehler. Our new president is Dr. Richard Wiesen. Dan Koehler is now treasurer, and Mathew McNeeley was chosen as vice president. Ms. Karen Wesener will continue as secretary. Dan replaced Jim Toeller who faithfully performed this demanding task for the last ten years in addition to doing much work on the 26" telescope and other tasks. Thanks, Jim. The current list of board members includes John Asztalos, Paul Borchardt, Lee Keith, Mathew McNeeley, Sally-Jo Michalko, Nick and Jeanine Nichols, Tom Renner, Frank Roldan, Virgil Tangney, and Dr. Wiesen. Officers also serve ex-officio. We have good, conscientious people in charge. It behooves the rest of the membership to support them in the plans and tasks that lie ahead.

Annual Family Picnic

All MAS members are invited to attend the Annual Family Picnic on Saturday, July 16, at the observatory, rain or shine. Come on out at 2:00 PM and stay until "?". The Society will furnish ice cold beer and soda, members will bring their own goodies and grills, if needed. There will also be volley ball, bocci, or other fun things if anyone brings equipment. Sorry, no prizes this year. If you have anything astronomical you'd like to sell or trade, bring it along. And bring your scope or use the Society instruments. The three-day old moon will occult Regulus at 8:00 PM. Pete Smitka will chair the picnic. Call him at 785-0926 for further information.

Calendar of Events

- Wednesday, June 29 - Full Strawberry Moon.
- Wednesday, July 6, Aug 3, Sep 7 - First Wednesday at the observatory.
- Saturday, July 16 - MAS Family Picnic. Moon occults Regulus.
- Tuesday, July 19 - Venus at greatest brilliancy.
- Thursday, July 28 - Full Buck Moon.
- Wednesday, August 17 - September "Focal Point" deadline.
- Saturday, August 27 - Full Sturgeon Moon.
- Friday, Sep 16 - September Program-Meeting.
- Saturdays - Observatory maintenance and improvements. Help wanted. Call 475-9418 or 258-5626.
- Saturday Nights - Member's night at the observatory.

A schedule of events through October can be had by calling 933-3052.

For Sale

- An 8" Pyrex blank and tool. \$25 for both. Please call Leo Kohlman at 548-0480.
- Edmund ASTROSCAN 2001 4.25" f/5 rich field reflector. Excellent condition. Includes base-tripod adapter, rifle sight finder, 28mm RKE eyepiece, carrying strap. Asking \$195. Contact Mike Wolkomir, 871-6202 evenings.

ALCON-ALPO '88

The Omaha Astronomical Society will host the combined meetings of the Association of Lunar and Planetary Observers (ALPO) and the Astronomical League (AL). The meeting will be held at the Iowa Western Community College near Council Bluffs, Iowa, near Omaha, Nebraska. The convention will convene from July 27 through July 30, 1988.

For details, please refer to your copy of "Northern Lights" and the "Reflector" which you have recently received.

Your "Focal Point" editor has some general information. Call (414) 933-3052.

Lunar Eclipse

Here is something for everyone, a partial eclipse of the moon will occur in the morning of Saturday, August 27. The view should be good in the Milwaukee area.

The eclipse begins at 2:52 AM CST and ends at 7:17 AM CST.

Open Houses

Public Open Houses will take place at the observatory on; July 8 (Deep Sky), July 22 (The Moon), Aug 5 (Meteors), Aug 19 (Stars), Sep 16 (Telescopes), Sep 30 (Mars), Oct 14 (General Astronomy), all on Friday nights, starting at 8:00 PM.

Bring a sweater or jacket and mosquito repellent. The observatory is located at 18850 W. Observatory Road, New Berlin. If you get lost, call 542-9071.

Members! Call Frank Roldan at 423-0210 if you can help, or just come on out. We need 'scope operators, guides, and parking attendants. Bring your 'scopes or use ours.

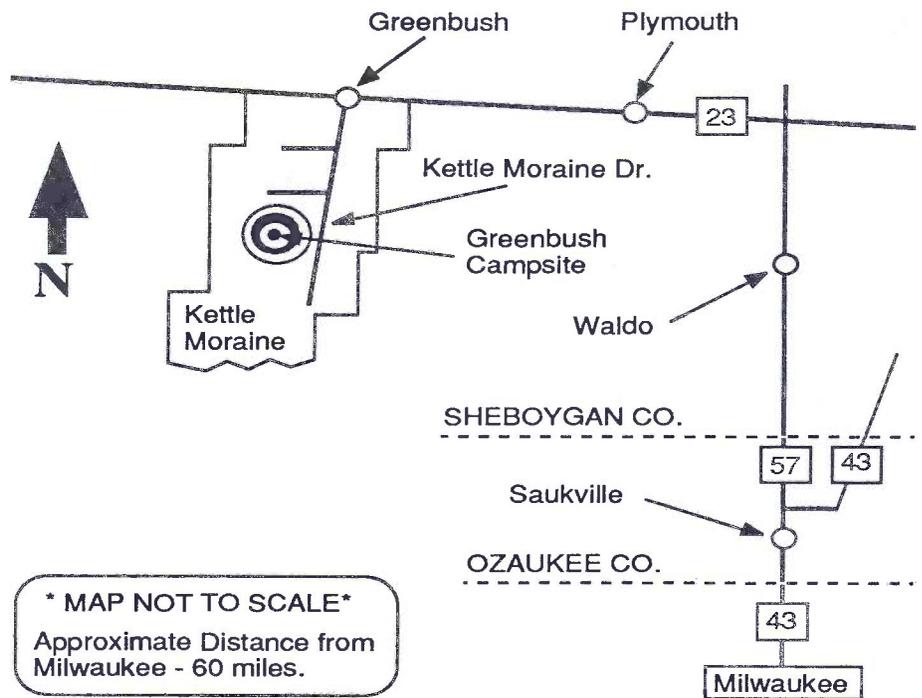
Last "Focal Point"

This is your last "Focal Point" until September. Best wishes for a safe, enjoyable summer. The next general meeting will be held on Friday, September 16.

Greenbush Camp-out

The Greenbush summer campers may join the Star-Party camp-out at the Greenbush Kettle Moraine campsite #6. Enjoy a dark, moonless sky and see the stars! The Perseid meteor showers will be at their peak. How many will you see?

Bring your tent, telescope, warm clothes, and firewood. When? Friday through Sunday, August 11-14. Call John Asztalos at 258-5626 for details.



Moon Settlement

Moon settlement will be the subject of a one day conference to be held on Saturday, July 16, 1988, from 9 AM to 4:30 PM at the Milwaukee School of Engineering Library, 500 East Kilbourn Avenue, Milwaukee.

The central theme of the 1st Annual Milwaukee Space Week Conference sponsored by the Milwaukee Lunar Reclamation Society, is focused on the WHY and HOW of developing human settlements on our nearest cosmic partner - the MOON. Development of the necessary technology and infrastructure is a key first step towards a significant permanent human settlement off planet.

The program features many speakers versed in space technology, as well as displays and models on exhibit.

The deadline for the \$4.00 preregistration fee is June 30, 1988. After that the fee will be \$6.00 for the day. For a brochure with full information please write the:

Milwaukee Lunar Reclamation Society

P.O. Box 2102

Milwaukee, Wisc. 53201-2102.

Your "Focal Point" editor can supply some information. Please call 933-3052.

Observatory News

The freshly painted Quonset hut auditorium looks great! The office has been carpeted thanks to a carpet donor. Whatever happened to the 26" telescope? Nothing. It's in fine shape. Work is underway to computerize the drive. Still working on the stubborn dome slit. The building interior is not yet finished, but it will be open for Open House night visitors.

NOTE! John Asztalos (258-5626) will be Acting Director in the absence of Gerry Samolyk.

Keep your eye on the sky this summer. Mars will be the star attraction, approaching to within 36.3 million miles of our Earth, growing brighter until September 26-27, not repeating this great performance until year 2003!

Occultation

An occultation of M-45 (the Pleiades) by the moon will occur on Friday Morning, September 1-2 at 5:41-8:30 UT (12:41-3:30 AM CDT). This passage will feature dark limb reappearances on a 60% sunlit moon. Please call John Asztalos at 258-5626 for full details. Here is a great opportunity to learn occultation timing procedures! Eleven observers of the September 1987 passage recorded 99 contacts and reappearances of 24 stars.

"Northern Lights"

"Northern Lights", the official North Central Region of the Astronomical League quarterly newsletter will soon publish its July edition. Editor Ray Wendt will accept newsy astronomical articles of general interest. MAS members receive "Northern Lights" free as a membership benefit. Subscriptions are \$2.50 per year for four editions.

Send your article(s) and/or subscription to:

Ray Wendt, Editor
4834 N. 70th Street
Milwaukee, Wisc. 53218

Tele Vue Perspective on S&K Review

by Barry Santini

Rodger Gordon's recent review of 9 low power eyepieces in the May 1988 issue of "Sky & Telescope" points up the problems inherent in any product review performed by *one* observer on *one* telescope. For instance, in a review purported to be a new performance and data base for long focal length eyepieces, why did he simply accept all the manufacturer supplied specifications as fact, without careful, scientific verification of them?

Although he correctly defined apparent and true fields of view, none of the eyepieces had this easy-to-test area verified. He could have, by simply holding up any two eyepieces, one to each eye against a reasonably well lit background, viewed the edge of the field stop clearly.

The apparent angle subtended by this stop at the observer's eye is referred to as the *apparent field*. Performing this test, Rodger would have been able to compare the apparent fields in relative fashion, and would had, despite competitor's claims, seen that the Tele Vue 55mm Plossl has a greater apparent field than the competing 56mm. The amateur can make this easy test himself even during the day!

In the same way, Rodger would have seen that the "40mm" eyepieces of 1.25" diameter (he said are available from some importers) cannot deliver a 50 degree apparent field. Our 40mm Plossl, which has a correctly stated 43 degree apparent field, already had the largest *true field* possible in 1.25" eyepieces. The 40mm Plossl's field stop is, essentially, the internal diameter of the 1.25" eyepiece barrel.

By limiting testing to only a relatively short focal length, *non-flat field* refractor, the reviewer failed to recognize that the focal planes of refractors curve the opposite way from reflectors. (Toward the objective in refractors and away in reflectors.)

When Rodger tested for edge definition, would his results possibly have been different if he had used a reflector? (His caveat that "amateurs with different performance goals or different telescopes" getting different results is simply too weak.) Also, during this edge-definition testing, did he "refocus" to eliminate differences in field curvature before recording his observations? Perhaps if he had tested the eyepieces on a flat-field telescope (as we do), his results would have been different.

He also ignored significant eye defects which can influence observations made with a large eye pupil, such as astigmatism and spherical aberration. His mention of the human eye's imperfect color correction at low powers (which implies a large eye pupil) is, at best, only theoretical. When was the last time you saw color fringing with your naked eye? (The brain is a marvelous image processor.) I do not believe Rodger took into account, when he mentioned that the Clave appeared to have the best center-to-edge performance, that perhaps it was the Clave's smaller apparent field and its edge vignetting which combined to produce this impression. (It is important to note that apparent field size and edge-of-field vignetting clearly affect edge-of-field performance in eyepieces.)

By limiting his testing of the eyepieces to only a single telescope, Rodger was also led to incorrectly conclude which eyepiece had the largest *true field*. As we know, the eyepiece's field stop defines the true field, and a simple measurement of its diameter (from the filter-end) would have shown that the Tele Vue 55mm Plossl has the largest true field possible in a 2" eyepiece. (The 55mm has no *field-stop*, per se. Rather, the lower internal edge of its 2" eyepiece barrel is the *designed* field stop.)

For this reason, a test of these eyepieces on any reflector equipped with a common (and desirable) low-profile 2" focuser would have revealed not only the 55mm's larger true field, but that it is important for observers to be aware of the vignetting effects that can be contributed by the size and location of a star diagonal, as well as the length and diameter of the focuser tube.

All of the above points out that a truly representative *ranking* of these eyepieces would have been most successfully achieved by employing multiple observers with several different telescopes. Most importantly, the statement "that is makes no sense to purchase a 50mm or longer focal length eyepiece unless the telescope is f/7 or slower" demands further examination. This advice may be true for reflectors, where the growth of the black spot in the exit pupil caused by the secondary mirror results in light loss and shadowing. However, for refractors, it doesn't matter how fast the scope is or how large the exit pupil is. Heresy? No! Because you already have the maximum brightness and resolution the eye can use in these situations where the exit pupil is larger than the observer's pupil. In effect, you trade unused aperture for larger true fields at the lower powers produced by these long focal length eyepieces. And, it is important to note that the use of a 2" barrel permits an observer to realize 3x greater field area versus a 1.25" barrel eyepiece. Amateurs are cautioned to avoid the lure of a 2" eyepiece beyond our 55mm. Longer focal lengths will yield no benefit, and the observer will be disappointed to find a reduction in apparent field, a loss of image detail (due to the resultant lower magnification), *no* gain in true field, and no gain in contrast.

Last, on a minor point, his statement that other examples of the same eyepiece may yield different results is simply exaggerated for most of the more costly models. As far as I know, we are the only manufacturer to individually test each of our eyepieces (at the demanding speed of f/4 on a flat field refractor, the MPT), and have never seen a visual difference.

Reprinted with permission granted by Barry Santini and Al Nagler of Tele Vue Optics, Inc. This article was originally published in Data Library 2 of the Compuserve Astroforum on 5/3/88.

Report on NCRAL '88

by Dick Wiesen

The 42nd Annual Convention of the North Central Region of the Astronomical League was held on May 14th, 1988 at Northern Michigan University Marquette, Michigan.

The dark sky viewing was exquisite on the night of May 13-14 from the Marquette Astronomical Society's observatory grounds. (Long 87.7 deg W / Lat 46.5 deg N) Comet Liller was easily observed and enjoyed by all. M-51 was outstanding in detail. M-13 was great. The temperature was in the mid-twenties and the wind was calm. Seeing was between good and best. The Milky Way was at its best as the North American Nebula was a naked eye object. The scheduled second night of observing was rained out.

The North Central Region of the Astronomical League is comprised of 35 Clubs/Societies representing about 1500 members. This year's convention was hosted by the Marquette Astronomical Society and was attended by about 90 NCRAL members. The Milwaukee Astronomical Society had a delegation of 14.

The Keynote Address was given by Dr. Richard G. Teske of the Department of Astronomy University of Michigan who titled his address "Supernova Remnants: Not Just the Paper of the Firecracker." He gave an easily understandable discussion of current concepts of supernova formations and the differences between the types.

Dan Koehler, Past-President of the Milwaukee Astronomical Society, reviewed the Voyager I & II missions and what we learned from them regarding Uranus and the state of the craft (Voyager II) as it continues on to Neptune.

After a break for lunch, the business meeting of the NCRAL was held. A series of amendments to the constitution were approved and the current slate of officers were reelected. The current interest free loan of \$1000 to the Astronomical League was renewed and a gift of an additional \$1000 was approved.

A group picture was taken before the afternoon paper sessions. Tom Jacobs, the observatory director of the Madison (Wis) Astronomical Society, presented two papers. The first was on "The Use of Solid State Image Sensors in Astronomy" and the second was on "Art Kaster's Solar Spectroscope."

Barry Beaman then gave a presentation on "1989 NCRAL Convention at Rockford." The 1989 Convention will be held on Saturday, April 29th in Rockford, Illinois at the Clock Tower Inn. The Clock Tower Inn houses the "Time Museum" which has a world renowned collection of time pieces. Rockford is the home Society of Roland Christen who manufactures the Astro-Physics refractors. The Society has an observatory which houses a large refractor (10") donated by Roland.

Larry Jans of the Naperville Astronomical Society gave part one of "The Great Debate: An Historical Moment." He plans to give part two at the National Convention in July.

Dan Troiani of the Chicago Astronomical Society presented "Observing & Sketching Mars." Besides tips and techniques on observing and recording the forthcoming close approach of Mars, Dan urged us to start making observations now because beginning dust storms were seen earlier this week by him and confirmed by Don Parker. There is a fair chance that features on Mars could be obscured by a planet wide dust storm by the time of opposition.

Frank Roldan of the Milwaukee Astronomical Society gave a very lucid presentation of the WHY's, WHEREFORE's, and HOW TO's of all kinds of occultations.

The Banquet Speaker was Dr. Gordon McAlpine of the Department of Astronomy of the University of Michigan who spoke of his work with quasars. His presentation was entitled, "Cosmology within Quasars: Life on the Edge." It was a lucid and entertaining discourse on the current redshift dogma. In my opinion, he disposed of the arguments to the contrary made in S&T and by Halton Arp with ridicule rather than reasoned rebuttal.

It was raining when the banquet was done. By the way, the food was excellent. My compliments to the chef! All in all, a great meeting.

Keyholders

June 25	.....Pete Smitka	.....785-0926
July 2	.....Virgil Tangney	.....327-7976
July 9	.....William Tuerck	.....782-2844
July 16	.....Richard Wiesen	.....781-4747
July 23	.....John Asztalos	.....258-5626
July 30	.....Harry Auchter	.....542-2158
Aug. 6	.....Paul Borchardt	.....781-0169
Aug. 13	.....William Collins	.....255-4169
Au.t 20	.....Brian Ganiere	.....272-4649
Aug. 27	.....Garth Hall	.....786-8579
Sept. 3	.....Lee Keith	.....961-8752
Sept. 10	.....Dan Koehler	.....662-2987
Sept. 17Nick Nichols542-2055
Sept. 24Aris Penikis354-9708
Oct. 1John Pfannerstill475-6494

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