


FOCAL POINT



Newsletter for the

Milwaukee Astronomical Society

October 1993

From The Editor

There is a lot going on this and next month what with the Greenbush Campout, Racine Star Party and Post Meeting Pizza Party. Before you know it, the snow will be flying and those cool, though bugless, days of fall will be just a memory so try to attend one, two or all three of these events.

It is imperative that you get your dues renewal in, especially if you are ordering ASTRONOMY magazine. They are going to raise their rate but we can get this last renewal at the current prices. Renew now!

Please read the enclosed insert on the Light Pollution Bill. Another item which needs your attention!

Note my announcement on page 4 that I am stepping down as *Focal Point* editor. It has been an enjoyable stint, but it the time has come to pass the baton.

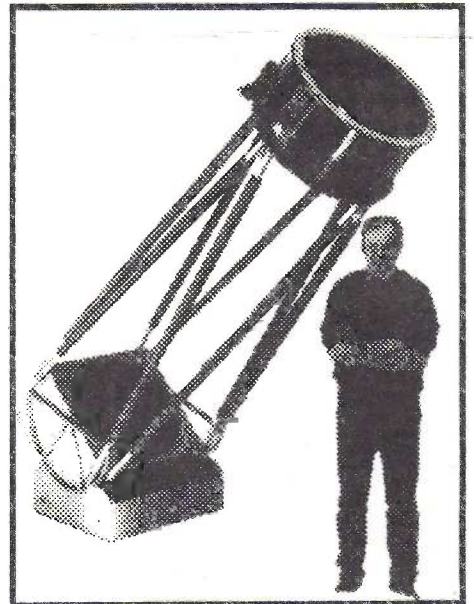
-Tom Gill

Program/Meeting

Our speaker this month is none other than our very own Dave Kriege, owner of Obsession Telescopes. Dave makes what are arguably the best large aperture alt-azimuth telescopes *in the world!* Dave will discuss how he became obsessed with large aperture and what it is like to run a hobby business.

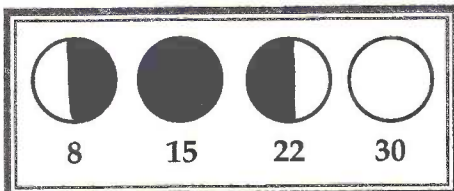
PIZZA PARTY AFTER MEETING, BE THERE!

Meeting held at the Observatory (you'll love the new furnace!) at 8 pm. After the meeting and speaker, we will take up a collection for an on-site pizza party! Bring your own beverages.



DUES ARE DUE! PLEASE MAIL YOURS IN NOW!

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Calendar of Events	
October 8, Friday	Last Open House of Season-8pm
October 11, Monday	MAS Board Meeting 7:30pm at MAS Observatory
October 15-17,.....	Greenbush Campout (see article)
October 22, Friday	8:00 pm Program-Meeting
October 24, Sunday	Computer Group Meets (see article)
November 3, Wednesday.....	First Wednesday Meeting 7:30 at the Observatory
November 6, Saturday	Racine Star Party (see article)

Saturday Nights—Member night at Observatory—Call key holder

Library News

The following reviews were submitted by MAS members. Both books are recent acquisitions and can be found in the MAS Library.

Astronomical Photometry by A.A Henden and R.H. Kaitchuck. The emphasis of the book is on observational work which is within the reach of amateurs with modest equipment.

Modern technology has now developed to the point where amateurs no longer need to be dependent on visual measures alone. A few amateurs have already built photoelectric equipment and have made useful observations with it. This book is written in an attempt to interest more observers in this sort of work and to indicate how suitable equipment can be built and used, what sort of objects will most profitably repay observations and how such observations should be treated, once obtained.

I'm grateful to **Brian Ganiere** for my introduction to this book.

-reviewed by Chris Hesseltine

The New Astronomers by Donald Goldsmith. This companion volume to the PBS series of the same name travels from the very basic "What is astronomy" to astronomy for the 21st century. On its way, you will meet these new astronomers through very brief biographies, and learn of new instrumentation, birth and death of stars, planetary voyages, dark matter, neutrino astronomy, CCD's, and proposed new projects. One of these is SLIGO, the Laser Interferometer Gravity Wave Observer, to be used to detect gravity from "localized sources" such as supernovas, or colliding black holes. Packed with information and photos, this book has something for every interest and is very readable.

-reviewed by Assistant Librarian Mary Ann Tangney

MAS Computer Group

The MAS Computer Group will again meet at the home of **Lee Keith**.

MAS Computer Group Meeting Sun., Oct. 24, 7:30 pm.

The featured software demonstration will be of *Distant Suns for Windows*.

Lee lives at 8150 S. Legend Drive in Franklin. If you have questions you can call Lee at 425-2331.

Greenbush Campout

Fall must be here because its time for our annual Fall Campout at Greenbush, 1 hr. N of Milw., sites #5&6. Join us for dark skies, camaraderie and bad jokes around the campfire.

Greenbush Fall Campout Sites #5&6 October 15-17

Bring your tent, 'scopes and firewood. Cost is \$2/day/person plus vehicle sticker. Even if you cannot attend both nights, why not stop up for just one? For more info/directions, call Paul Borchardt at 781-0169.

Antique 'Scope Convention

If you are interested in antique telescopes, consider attending the Antique Telescope Society's '93 Convention. It will occur on October 22-25 at the George Williams College campus in Lake Geneva, WI. The theme for this year's convention is "In the Shadow of Yerkes."

Speakers, displays, tours, socializing, and the society's business meetings are on the agenda. Early registration was encouraged but you may still be able to attend. Contact Ms. Liz Moy c/o Yerkes Observatory. Sorry, the only number I had was the Fax: 414-245-9805.

Richard Wiesen Memorial Telescope

For two months much dialog has been generated concerning the Richard Wiesen Memorial Telescope. Between the Board, and our members too; many thoughtful ideas were discussed. Now the time has come to bring specificity to this worthwhile endeavor. For the October 11 Board meeting, I am asking the Board to prepare a specific plan that will permit us to put in place at the earliest possible time, this Memorial to Richard. In this way we pay honor to his memory and express our gratitude to his family for their generous gift to our society—the society that Richard loved so much.

-Matthew McNeely, President

Racine Astronomical Society Hosts Star Party

Our neighbors to the south have invited us to visit their and observatory spend some time under the stars with them. Refreshments will be served. Bring your telescopes, binoculars, whatever, or just come with nothing if you like.

Racine Star Party
Saturday, November 6th, 1993 at dusk
(rain date, November 13)

If weather is questionable call their observatory @ 878-2784

If you have any other questions, contact MAS and RAS member **Jerry Kunicki** at 886-9580.

Directions: Take expressway south to Hwy. 20, go west on 20 approx. 3.5 miles to 63rd Drive. Take a left (going south now) to get to the observatory.

Letters to MAS

Dear Focal Point,

Although I've been a member of the MAS for about 20 years, I've been at the Jet Propulsion Laboratory here in Pasadena, CA, for the last decade. Recently I've been involved in the upcoming recovery of the Hubble Space Telescope and thought some of your readers might be interested in what we've been up to.

Some of my old MAS friends may recall that I participated in the development of the High Speed Photometer while attending UW-Madison. The High Speed Photometer is one of five scientific instruments currently on board the Hubble. Another of the five is the Wide Field and Planetary Camera (WF/PC) provided by JPL. WF/PC is the source of most of the images returned by HST. You can imagine the heartache felt around here when the spherically aberrated images began flowing down from the telescope.

JPL was in the process of completing a flight spare camera when the spherical aberration was diagnosed. Interestingly, we quickly realized that the aberration could be completely corrected by making a minor change to the WF/PC optical design. We've now completed and delivered the replacement camera (WFPC-2) which will be installed in Hubble this December. WFPC-2 incorporates the new optical design along with several science enhancements, such as improved CCD's improved filters including a solar blind FUC photometric sensitivity and stability, and improved dynamic range. After the servicing mission this December, HST should be more scientifically capable than it would have been originally had it not suffered from spherical aberration.

In order to correct the aberration, the alignment of the camera to the Hubble must be perfect. To achieve this, we needed to quickly develop four mirrors that could be steered into position from the ground after WFPC-2 is installed in HST. I joined the WFPC-2 management team with responsibility to add an active optics capability to the instrument in nine months time—a schedule we consider quite challenging. Interestingly, the articulating fold mirrors utilize new technology actuators developed by the Defense Department for deformable mirrors which are used on ground based telescopes to compensate for the "seeing" effects of atmospheric turbulence. This is the technology's first application to spaceflight hardware.

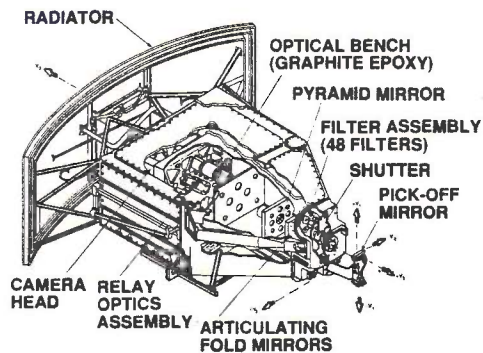
Enclosed is a paper coauthored by myself and the WFPC-2 Principal Investigator, John Trauger, that details how the active optics are used in the overall scheme to correct the spherical aberration. Since WFPC-2 only corrects the aberration for itself, a separate device called COSTAR (Corrective Optics Space Telescope Axial Replacement) has been developed by the Space Telescope Science Institute, and which performs a similar service for three of the four remaining axial science instruments. Unfortunately, the High Speed Photometer will be sacrificed in December to make way for COSTAR.

Now that WFPC-2 is completed and awaiting launch, I've moved on to other projects. Half of my time is now spent leading a team that is defining the Advanced Camera for Hubble, and the other half is spent developing technology for imaging interferometer telescopes that will ultimately outperform Hubble at a fraction of the cost.

Please extend my best wishes to everyone at MAS. May you enjoy clear skies and steady seeing!

Sincerely, James Fanon, JPL

Ed. note—thanks James, we'll be pulling for you come December. To the members: the article mentioned above is being placed in the MAS Library—look for it!



Saturday Night Keyholders

Oct 9	Ken Waraczynski	321-0918
16	Wanda Berner	646-8229
23	Paul Borchardt	781-0169
30	Marty Brunet	544-1342
Nov 6	Tim Burrus	783-6572
13	Greg Cieslak	529-0548
20	Brian Ganiere	961-8745

For Sale

8-inch Celestron C-8 with starbright coatings. Includes HD tripod and wedge, Byers drive, 110v AC or 12v DC, 8x50 finderscope with illuminated reticle, right angle viewer with 26mm, 20mm, 15mm eyepieces, Astromaster guidance computer (8000 object memory), 12v converter/drive corrector and joy stick, dew shield & zapper, declination motor, Telrad, eyepiece rack and counterweights. All for \$1300. Willing to assist new owner is setting up and familiarizing with scope and computer operation. Call J. Kempter, 228-7379.

Orion alt-az slow motion control. Fits on camera tripod or any 1/4-20 threaded bolt. Brand new. Cost \$48, sell for \$35. **Prinz Tripod**, medium duty, good for copyscope or small refractor. Tubular legs, opens to 60", \$35. Both items for \$65. Tom Gill, 476-6986

8-inch Cave Newtonian with setting circles, clock drive, finder, and strong tripod. No oculars. Mirror and diagonal just recoated. \$350 firm. Paul Sorenson, 679-4339.

Extra Calendars & RASC Handbooks

There will be available a FEW extra calendars and RASC books after receiving regular order in near future. Please get your renewal in now! Contact Paul Sorenson, 679-4339

Wanted: New Focal Point Editor

After 4 years of working on the Focal Point, the time has come for another MAS member to step forward and grab the reigns. Matthew McNeely and I enjoyed the opportunity to do something for the MAS that was both an important contribution to the society and a truly rewarding experience.

I would be happy to discuss the implications of the role, but please don't assume it is some kind of monumental task. You will have a lot of freedom to put your own ideas to work, or if you'd rather, just fill in the templates which already exist.

I've been using a Macintosh computer with both Pagemaker (last year) and Quark Express (recently) but any brand of computer would work as well, as would a plain old typewriter for that matter (though a bit more cut & paste work would be involved). Don't be shy, here's your chance to get involved in an important aspect of MAS. Contact either me (476-6986) or the MAS Board if interested.

-Tom Gill

Total Lunar Eclipse-November 29, 1993

If you have a desire to use MAS equipment to observe or photograph the total lunar eclipse of Nov. 29, please contact assistant observatory director Paul Borchardt. Paul would like to coordinate use of the equipment to assure everyone has an opportunity to benefit from our equipment. You can reach Paul at 781-0169.

Meteorite Seminar Scheduled

All M.A.S. members are invited to participate in a seminar on meteoritics to be conducted by Dr. Paul Sipiera at Harper College in Palatine, IL on Saturday, November 13, 1993 from 1:00 to 4:00 p.m. Cost of the seminar is \$10 per person, payable on the day of the seminar, along with a \$3 per person contribution for transportation. Participation is limited to 15 M.A.S. members. We'll be car-pooling to Palatine, probably from the Observatory parking lot. Plan on meeting there about 10:00 a.m. We'll stop for lunch near the college before beginning the afternoon program.

This is an excellent seminar designed to acquaint the participant with the three broad classifications of meteorites and many of the major sub-groups. A detailed introductory lecture will be followed by a lengthy "hands-on" session where we'll get to handle and examine a large number of samples and look at thin sections of meteorites with petrographic microscopes. You'll be an expert meteoriticist, capable of identifying meteorites in the field, by the end of the day!

Paul is a leading expert on meteoritics and is Professor of Geology and Astronomy at Harper College. He has participated in a number of six-week long expeditions to Antarctica in search of the "blue ice" specimens, sponsored by the National Science Foundation. He is currently President of the Planetary Studies Foundation at Harper. This seminar is a rare opportunity to learn a great deal about the fascinating world of meteorites. For more information or to make a reservation, call Dan Koehler at 662-2987, evenings after 6:00.

Changing Your Address?

Changes of address and/or telephone number should be sent immediately to Membership Chairman Paul Sorenson, W188 S8660 Brooke Lane, Muskego, WI 53150 (414-679-4339). Paul will update your membership roster listing so you'll continue to receive The Focal Point, The Reflector, and any other Society mailings on a timely basis. Note that you are responsible for notifying Sky Publishing and Kalmbach Publishing of address changes for your magazine subscriptions.

MAS INFORMATION

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