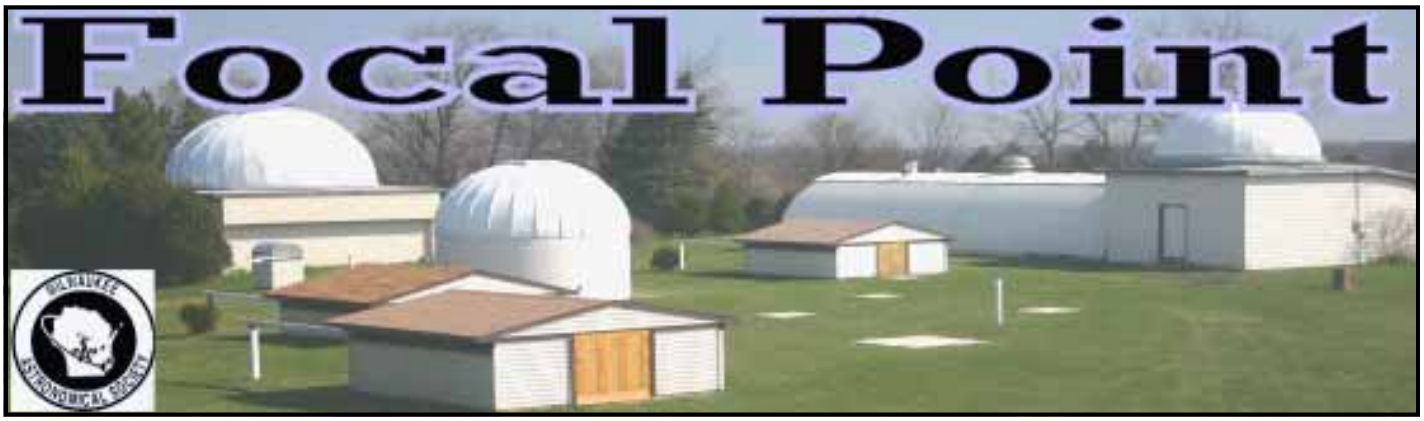

Newsletter of the Milwaukee Astronomical Society **September and October 2005**

MAS Fall Campout at Rib Lake

Dan and Helen Yanko have opened up their farm in Rib Lake, Wisconsin for the annual MAS campout this **September 30th through October 2nd**. The new moon will be on October 3rd.

There is plenty of room for tents, campers, or for however you want to sleep. There are also a few hotels in the area if you would like to stay there. This will not be a 'roughing it' campout like at Greenbush.

The farmhouse has everything you need to make you comfortable, running water, stove, microwave, refrigerator, a stove in the garage to warm up by, and power for telescopes and laptops, etc.

All the lights in the house and garage are outfitted with red bulbs so you can keep your dark eye adoption when going inside the house for a snack or to get something warm to drink.

But best of all, the skies are very dark.

There are also many campgrounds within 5 miles if anyone is interested.

For the daytime, a 30 mile bike trail nearby as well as the Ice Age trail about three miles away if anyone wants to do some hiking. We can also hike around the property since there are 40 plus acres to hike on. There are restaurants in the area or you can cook out on the grill.

This is a great opportunity to have some dark skies

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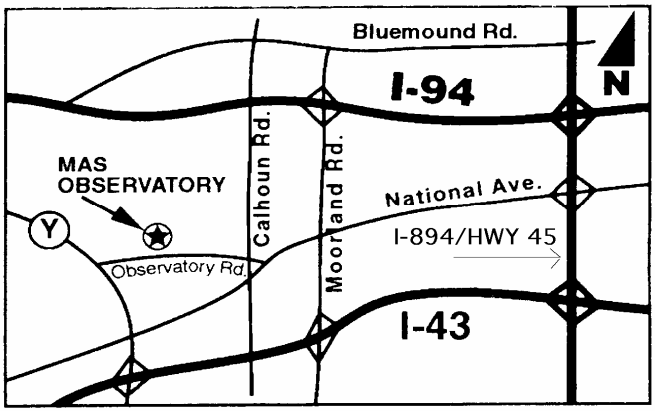
Basic Intro to Amateur Astronomy

Starting Friday, September 16th at 7:30 a program geared for members seeking an introduction to amateur astronomy, will be held under the large telescope in the Z-dome, providing new members a place to learn about the local astronomy scene and meet one another in a small group setting outside of the board or the general meetings.



Bob Manske will talk about our club's organization, other organizations of interest, basic constellation recognition, finding things in the sky, and hands-on demos with our telescopes.

September's Program

The program for September 16 will be from Alex Filippenko's (UC-Berkeley) Understanding the Universe: What's new in Astronomy, 2003 astronomy lecture series. Rudy Poklar has graciously loaned us his DVD.

This lecture, entitled "Other Worlds Galore!", will run just under 50 minutes and provides and understanding of the search for planets around other suns with nice visual support that is geared to a level that everyone can appreciate.

7:00 pm — Board Meeting.
7:30 pm — Basic Introduction to Amateur Astronomy (Z-dome)
8:00 pm — Membership meeting.

MAS Campout (Continued from page 1)

and have a great weekend of observing. We will be taking the 18" up there for the first time. So mark your calendar and take a drive up there to be with your fellow MAS members. Let's make this a great turnout. Thanks, Helen and Dan, for inviting the club up.

For directions to Dan's, his address and the address and phone numbers of the hotels please send an email to vern.hoag@bradleycorp.com

Editor— Dan Yanko and Vern Hoag provided input for this article.

Featured Web Links

Thanks to Dave Weier for this issue's web link. Again you need to have a high-speed connection to the internet to appreciate the spiffy user interface Google has put on the planet Earth in http://earth.google.com. You will need to install the program provided at this site. I have zoomed through the Grand Canyon after tilting the view to give a wonderful sense of depth! The database for some cities have building height info to allow you to zoom around like a helicopter. Included is a database of all sorts that make this a wonderful tool for house searching, and vacation planning. — Editor

A few Astronomical Greats of the 20th Century by Tom Schmidtkunz

I would like to write briefly about a few individuals who made some brilliant astronomical discoveries, often with the help of each other's work.

Most of us know about the importance of Cepheid variables, and how they are used as distance indicators. There is a direct correlation between a Cepheid's intrinsic brightness and it's period. Fainter ones have periods of a few days, brighter ones have periods of several weeks. By looking at the Cepheid's apparent brightness and period, it can be determined how far away it is, in order to be seen at this observed magnitude. Henrietta Leavitt did much work on this subject in 1908, while studying the Magellanic Clouds. This 'allowed' many of the following discoveries to occur.

Fast forward to 1920's. Astronomers debate about what the spiral nebula are. Are they within the Milky Way or not, no one knew. Hubble took Leavitt's work, and applied it to this issue. On October 6, 1923, Hubble took a plate photo of M31 at the 100" reflector at Mount Wilson. Before long, he found a dozen Cepheids. He realized that the only way these stars could be so faint is that they were very far away.

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Picnic Photomontage credit Scott Berg

Scott shot 3 images out of the slit of A-Dome (A is for Armfield) with his Nikon Coolpix S1 and stitched them into the image above.

20th Century (Continued from page 2)

We now know that M31 is 2.2 million light years away, using Hubble's discoveries.

Hubble was also able to apply the work of Vesto Slipher. By the early 20's, Slipher had taken over 40 spectrographs of galaxies, and by looking at the shift of the spectral lines, realized that these galaxies were receding from us, often at great speeds. At the time astronomers did not know what this meant. After Hubble found Cepheids in other galaxies, it became clear that the shift was evidence of the galaxy's recessional speed. Hubble's Law, relating recessional speed and distance, is one of the great astronomical insights of the 20th century, and meant that we are living in an expanding universe. Part of Hubble's genius, was seeing how the work of others could be applied to current issues. That, and his own work, helped him solve some of these mysteries.

When you talk about the early understandings of the form of the Milky Way, you must mention Harlow Shapley. He studied variable stars in globular clusters, in particular, RR Lyrae stars, which have about a ½ day period, and have a luminosity of about 100 suns. Shapley noticed that open clusters were scattered at random throughout the galaxy, but that the globulars where preferentially located in the Sagittarius region of the sky.

By studying about 80 of the globular's RR Lyrae stars, he was able to determine their distance based upon their apparent brightness. This allowed him construct a three dimensional map of these clusters. From that, be was able to deduce that these clusters identified the center of the galaxy, and that the sun was located away from the galactic center. As Copernicus showed that the earth was not the center of the Solar System, so Shapley identified our place in the galaxy. — *Tom Schmidtkunz*

MAS Membership is open to anyone interested in enriching their knowledge of Astronomy and related topics.

Yearly Membership Dues:

Student (under 18)	$13		
Resident		Non-resident	
Individual	$31	Individual	$19
Family	$37	Family	$23

For more information contact :
Carlos Garces, 16430 Melody Drive, New Berlin, WI. 53151. Phone: (262) 786-2623 Email: cgarces@wi.rr.com

For Sale

Lonnie Cotteleer is in Wisconsin for the summer, and belongs to the Southern Cross Astronomical Society out of Miami, Florida and the Central Florida Astronomical Society out of Orlando, FL.

He has a Celestron Nextstar 8 GPS and a list of accessories for sale including Kendrick dew removers, wheely bars from JMI, a carrying case, an Astrozap Baader solar filter, The Sky6 software, and cables to hook the telescope up to the computer. All are recent purchases, and some items have not even been used. Phone 262-886-3391.

Picnic Update

First of all I would like to thank the 67 members and family that came out to the picnic. Since I have been doing the picnic this is the best ever and was very nice to see. There were newer members and of course the regulars that showed up. I even met someone I have not seen in 7 years on the hill. I hope you all enjoyed yourselves. We lucked out as we were right in between heat waves so the weather was very nice.

We did get some observing in as A-Scope had the solar filter on it and Tim Burrus brought out his hydrogen alpha telescope again this year. Tim's scope was showing a huge solar prominence. Thank you Tim, for bringing it out again this year. For those of you that did not get a chance to look through it, you need to check it out next time.

Even though the night sky gave way to clouds, that did not stop 12 members from talking until 11:00 or so and enjoying a cold beverage or two. It is always nice just to stand around and relax with fellow members.

Again this year we had some very nice door prizes donated by the following companies: JMI, Meade, Orion, Sky & Telescope and Yerkes Observatory. One lucky member won a very nice 2" 36mm eye-

(Continued on page 4)

Clear Skies for R.O.W.D.Y.

By Vern Hoag

Three MAS members along with Helen and Dan Yanko and a few of their friends made it up for ROWDY (Rib Lake Observers Weekend @ Dan Yanko's) on August 5-6. When we got there on Friday the sky was clear and the weather very comfortable. After some grilled food we set up the telescopes under the clear blue skies. We were looking at Jupiter very early in the evening. From there on in we were finding objects and it was not even dark yet. When it finally got dark the Milky Way went right down to the horizon in Sagittarius. The northern lights were a faint glow to the north. By 3:00 am everybody packed it in, except for me. I was left out under the clear dark skies with my 2 camera's and the wild animals walking around.

On Saturday night, clear skies again. Lana and Glenn where hunting down all kinds of objects. Dan would verify some of the fainter ones with his 'go to' scope. The views through those two dob's were incredible. On both nights we were treated with at least one bright fireball an hour. Some going all the way across the sky with green trails lasting 20 plus seconds. Glenn and I packed it in some time around 3:30 or so after warming up by the stove fire in the garage.

The annual fall campout is scheduled to be up at Rib Lake this year. If you want dark skies and a great place to stay, the 4-hour drive is well worth it. The 18" will be up there, which should be a real treat.

I would like to thank Helen and Dan Yanko for being such gracious hosts and for opening up their farmhouse to us. It was a great weekend, thank you both.

Focal Point Publishing Guidelines

The "Focal Point" is published bi-monthly (Jan, March, May, July, Sept, Nov).

Articles, Announcements, Graphics, Photos, Swap/Sale Ads etc. should be **submitted prior to the first of the month** of the pending issue.

Article inputs are strongly recommended via email in a Text or Word compatible format.

Submit Focal Point inputs to: **MASFocalPoint@yahoo.com**

Picnic Update (Continued from page 3)

piece from Meade. These companies have been very generous and have helped us for many years, please support them when you can.

And of course the following members help out year after year without me even asking. Gerry, Henry, Chris, and Diane thank you all very much. And thank you Rudy for running out to get the extra supplies that were forgotten.

So because of all the members that came out to support the club, I think it was another nice picnic. Again thank you all. I hope you all had a good time. — *Vern Hoag*

Deep Impact – OBSERVED

By Gerry Samolyk

On July 4 of this year, a projectile released by the Deep Impact spacecraft collided with comet Tempel I. The comet was visible from the western US at the time of the impact. The effect of the impact was difficult to predict. Some predicted that the comet would brighten by as much as 3 magnitudes, others predicted that nothing would be seen.

Since I was on vacation in Utah at that time, I decided to record a series of CCD images during the impact. My location was the island in the sky district of Canyonlands National Park. The Green River overlook provided an ideal observing site, located about 6000 ft above sea level with clear west horizon. While CCD rig was running, I also observed the comet visually with a second scope.

The visual observations were inconclusive as no significant brightening was noted. The CCD observations were reduced using the photometry routines of the Mira software. The S/N ratio was poor because of the low elevation (3 to 5 air mass) of the comet during the observations. A Johnson V filter was used for the observations.

For those of you who are interested in the technical details, the images were shot in the alt-azimuth mode. The Mira software allows images to be registered using multiple stars to de-rotate the images. Since the comet was moving against

(Continued on page 5)

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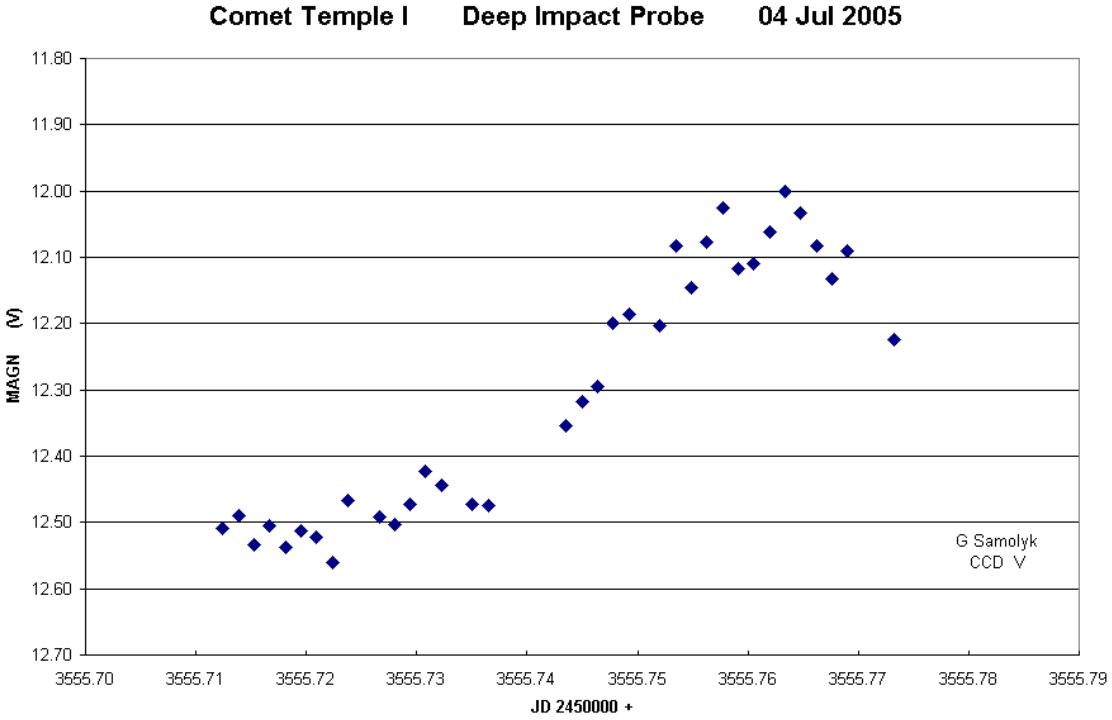
the star field, the images had to be reduced independently. Ensemble photometry using a half dozen comparison stars, chosen from the Guide 8 software, was used.

The lightcurve below shows a rise of about a half of magnitude in the V band, starting at the time of impact. The gap in the lightcurve around 3555.74 JD was due to a passing cloud.

Many of us have seen satellites in orbit around the Earth. A few of us have seen waste dumps from Moon bound Apollo spacecraft. However, at 0.89 AU, this is by far the farthest from Earth I have ever been able to optically detect a man-made object. *— Gerry Samolyk*

Gerry's feat far exceeds my imaging of what has been tentatively identified as the third stage of the Saturn V that sent Apollo 12 to the moon. The distance at the time was about 2.5 lunar orbit radii. Gerry's feat will be hard to beat. Is any one up for the challenge? — Editor.



Editor's Note

Once again a strong response from the membership has made this a full newsletter. I note however that the submissions come mainly from our board members and wish to reinforce the notion that anybody can submit an article, cartoon, and/or picture to our club's newsletter. We would certainly love to hear about your experiences either recent or past. The newsletter is a success because of community input. I choose to write as little as possible, and will not hesitate to publish a one page newsletter, but thankfully that option has not yet presented itself.

I especially like to thank Dan Yanko, Vern Hoag , and Bob Manske for information about upcoming club activities, but in no way consider the articles by Tom Schmidtkunz and Gerry Samolyk of lesser importance. Then there is Dave Weier's web-link suggestion and the wonderful picture of the picnic by Scott Berg. I thank all of you.

As always, any blunders are my own and I take full responsibility for having sent them to print.

Open Houses for 2005

Our open houses start at 7:30 pm, rain or shine and feature a presentation followed by observing if weather permits.

September 9 — *Star Clusters*
October 7 — Fall Galaxies
November 4 — Mars

November marks the end of this year's open house season, but will start up again next spring.

Star Parties

The Milwaukee Astronomical Society provides tours and viewing for groups of people interested in astronomy. Contact Paul Borchardt for more information about scheduling and fees.

MAS Officers / Staff

President:	Paul Borchardt	(262) 781-0169
Vice President:	Steve Diesso	(262) 641-0331
Treasurer:	Brian Ganiere	(414) 961-8745
Secretary:	Henry Gerner	(414) 774-9194
Observatory Dir:	Gerry Samolyk	(414) 529-9051
Newsletter Ed:	Neil Simmons	(262) 889-2039

MAS Observatory: (262) 542-9071

Visit our website at
http://bb.1asphost.com/milwaukeeastro

Saturday Night Key Holder

On Saturday nights the MAS opens its New Berlin facilities to all its members. If interested in using an observatory on the following nights, the following key holders will be on hand. Please contact them in advance to ensure access.

September

3	Henry Gerner	414-774-9194
10	Chris Hesseltine	414-482-4515
17	Vern Hoag	262-548-9130
24	Tim Hoff	262-662-2212

October

1	Scott Jamieson	262-896-0119
8	Lee Kieth	414-425-2331
15	Dan Koehler	262-662-2987
22	Scott Laskowski	414-421-3517
29	Bob Manske	608-849-5287

November

5	Gary Parson	262-895-3015
12	Terry Ross	262-784-2093
19	Gerry Samolyk	414-529-9051
26	Tom Schmidtkunz	414-352-1674

Loaner Telescopes

These telescopes are available to members for local use.

Scott Jamieson (Waukesha)	(262) 896-0119	8"
Paul Borchardt (MAS site)	(262) 781-0169	6" & 8"
Chris Weber (New Berlin)	(262) 789-7128	8"

The Milwaukee Astronomical Society
c/o Neil Simmons
8918 270th Avenue
Salem, Wisconsin 53168

ADDRESS CHANGE SERVICE REQUESTED

September 16 — 7pm Board; 7:30 Basic Intro to Astron; 8pm "Other Worlds Galore" — at the Observatory