



## Next Meeting on August 14<sup>th</sup>

The Milwaukee Astronomical Society will hold its next meeting on **Monday, August 14<sup>th</sup>, from 7 PM at the Observatory**. This is going to be a combined Board / Membership Meeting, where mostly organizational and Observatory related issues will be discussed.

As always, the Observatory is open on Saturday nights, and also when it is posted on the Google Group.

### Inside this

July meeting	1
MAS Picnic	1
Solar Eclipse	1
Meeting Minutes	2
Membership	2
Treasurer Report	2
Observatory Director's Report	2
Yerkes Star Party	3
MAS Campout	4
In the news	5
Adopt a Scope	6
Officers/Staff	6
Keyholders	6

## MAS Picnic



Don't forget about our annual picnic, which will be held on **Saturday, August 5<sup>th</sup> at 4:00 PM at the Observatory**. Come and join us, together with your family and friends.

Please bring your favorite dish to pass. Beverages and charcoal grill will be provided.

While enjoying the fellowship, you can take the opportunity to check out the modernized Quonset if you have not done so yet. Sun observation will also be possible. See you there, in rain or shine!

## Solar Eclipse

The upcoming total solar eclipse on August 21<sup>st</sup> is easily the most anticipated astronomical event of the year. For many who get to view one of these, it becomes a life changing event. Some even go on to chase these eclipses throughout the world.

Although our Club hosts certain astronomical events such as Mercury and Venus transits, lunar eclipses, **we will not be holding an open house at the observatory on August 21<sup>st</sup>** for the solar eclipse. That is because almost every member of our club won't be in the Milwaukee area.

This solar eclipse will only be seen as a "total" eclipse in a 68-mile path that cuts through the middle of the United States. And though the path does not go



through Wisconsin, it is at fairly easy driving distance from the Milwaukee area. We will be traveling south or west to be in the path of totality.

## Observatory Report

The cables that open and close the slit on B-dome have failed again, repair of the slit is scheduled. The Lunt Solar Scope is back to optimum performance now that Lunt has repaired the broken etalon. Visual viewing and imaging recording are both working great as the scope is often in use. The dome though is still leaking rain water and the Observatory Committee will have to work out a plan to permanently resolve the problem. On the A-domes drive that rotates the dome a belt has broken that transmits power from the motor to the horizontal drive shaft. Before the belt is replaced the reason for the dome not rotating freely must be found and resolved. Bob Kasten of Hartland Wisconsin has donated an 8-inch Dobsonian Reflecting Telescope to the MAS. The optics in this scope appear to be in great shape, but the homemade mount though operational is in need of reworking so it can be used as a loaner scope. Dismantling of the 26" Z-scope's OTA has begun, pieces of the scope are being arranged in Z-dome. The MAS is waiting for a balance of \$1200 to be made by John Allseits, the buyer of the mirrors before the mirrors can be released to him.

Respectfully Submitted,  
Paul Borchardt, Observatory Director

## Treasurer's Report

<b>\$5,961.05</b>	<b>Starting Balance as of 6/11/2017</b>
	<b><u>Expenditures</u></b>
\$5.25	PayPal fees
\$34.87	Repair cut 220V wire
\$22.69	Repair parking lot outlet
\$765.00	Insurance annual fee
\$10.00	AL annual club fee
\$51.07	WE Energies
\$59.95	Solar eclipse glasses
\$2,308.11	Quonset project
\$3,256.94	<b>TOTAL Expenditures</b>
	<b><u>Revenue</u></b>
\$69.95	Donations (Timlin)
\$27.00	Donation (eclipse glass)
\$248.00	Membership dues
\$28.00	Public Night
\$372.95	<b>TOTAL Revenue</b>
<b>\$3,077.06</b>	<b>Ending Balance as of 7/7/2017</b>

Respectfully Submitted,  
Sue Timlin, Treasurer

## Meeting Minutes

The meeting was held on July 10<sup>th</sup> at the MAS Observatory, New Berlin and was called to order at 7:03PM by Tamas Kriska President.

**Minutes** of the June Board Meeting electronically submitted by Agnes Keszler Secretary ahead the meeting were approved.

**Treasurer's Report electronically** submitted by Sue Timlin Treasurer ahead the meeting was approved.

**Observatory Director's Report** electronically submitted by Paul Borchardt Observatory Director ahead the meeting was approved.

**Membership Committee Report** was electronically submitted by Jeff Kraehnke Committee Chair ahead the meeting. Membership application of Dean Chapman, Michael Hastings&family, Kathy Erickson & family, Nick Baker, and Barry Brezan were approved. Between 2014 and 2017 there is an increasing slope of the yearly membership number. In order to minimize the drop out Steve Volp volunteered doing a special outreach via phone/email to new members around the renewal period regarding their experiences, expectations and ideas.

**Old Business – Solar Eclipse:** Gene has arranged talks in the Sussex and Brookfield Libraries. Clark volunteered being a contact person for potential interviews on the day of the eclipse. **MAS campout:** The event will be held in rain or shine. **Loaner scope:** We need to build a mount. **Key holder duties:** The Observatory Committee laid out a proposal, which was further discussed and will be finalized by the August meeting.

**New Business – Night Sky Network:** A motion was made and carried to join the NASA's Night Sky Network. Tamas Kriska will be the contact Officer, while Gene Hanson and Steve Volp will be the coordinators.

**Announcement –** John Hammetter announced a possibility to join the 1<sup>st</sup> Annual Green Sustainability Fair organized by Waukesha County on August 26<sup>th</sup> at the Lapham Peak State Park.

Respectfully Submitted  
Agnes Keszler, Secretary

## Membership Report

Since the last Report we received three new membership applications and would like to welcome Jamie Jackson, Xiaoshu Liu, and Colin Boynton. We now have 149 active members.

Respectfully Submitted,  
Jeff Kraehnke, Committee Chair

## Observatory News



### Yerkes Star Party

This year a record number of MAS members participated in the star party that traditionally marks the beginning of the Yerkes Summer Institute. The weather was nice with a fairly clear sky and a second quarter moon. The students were having fun seeing the Moon, Jupiter, Saturn and some brighter deep sky objects through different kind and size telescopes. By the time the party was over they had better understanding of how telescopes work, and what kind of objects can be seen on the sky. As always everybody had a great time.

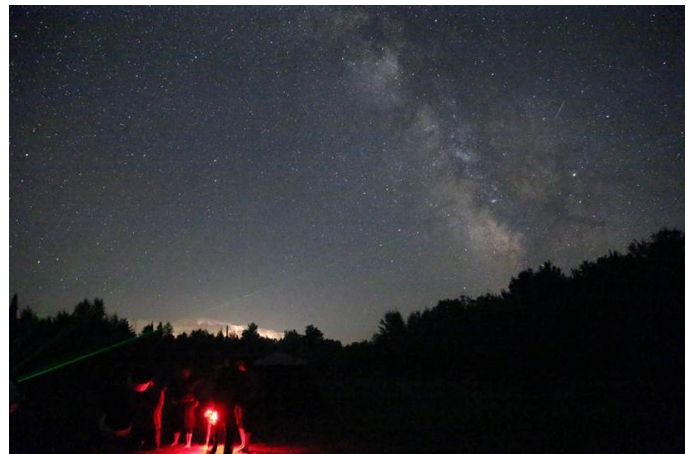


## Observatory News

### First Annual MAS Campout

We had a wonderful campout on the weekend of July 21-23 at Toni and Tom Maxwell's property in the Nicolet Forest. The weekend has not started very well. The forecast was miserable, overcast, rain, thunderstorms, you name it. But this could not discourage a small but brave group of MAS members who travelled all the way there and put up the tents and assembled the telescopes. The weather turned out much better than it was predicted. Even the first night we got a peak of breathtakingly dark sky. Saturday night cleared up after a brief afternoon shower and we were able to observe many deep sky objects through the ball scopes while watching lightning on the horizon as can be seen on Paul's spooky photo of the Milky Way.

Everybody had a great time during the weekend, enjoying the most generous hospitality of Tom, Toni, and her nephew Jake. They treated us with delicious meals and beverages, took us a boat tour on Pine Lake, and let us ride their ATVs, which was so much fun. Thank you very much!



## In the Astronomical News

### Big, Dangerous Comets Are More Common than Previously Thought

There are a lot more big, potentially dangerous comets zooming through deep space than scientists had thought, a new study suggests.

Astronomers have likely underestimated by a factor of seven the number of "long-period" comets — those that take at least 200 years to complete one lap around the sun — that are at least 0.6 miles (1 kilometer) wide, according to the study.

"Comets travel much faster than asteroids, and some of them are very big," co-author Amy Mainzer, of NASA's Jet Propulsion Laboratory in Pasadena, California, said in a statement. "Studies like this will help us define what kind of hazard long-period comets may pose."

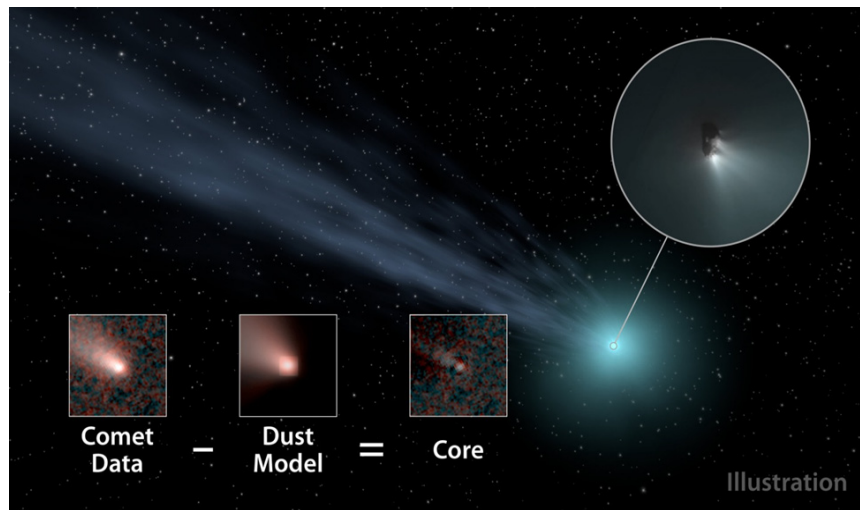
The study team, led by University of Maryland professor James Bauer, analyzed data gathered by NASA's Wide-field Infrared Survey Explorer (WISE) spacecraft.

The data set includes observations of long-period comets and Jupiter-family comets. Long-period comets are thought to arise in the distant Oort Cloud, a spherical shell of icy bodies that begins perhaps 186 billion miles (300 billion km) from the sun, researchers said. The long-period comets that WISE spotted were likely booted inward, toward the sun, by gravitational interactions with other Oort Cloud denizens millions of years ago, the researchers added. Jupiter-family comets are quite different beasts. They lie relatively close to the sun, completing one lap around the star in less than 20 years. (They are so named because Jupiter's powerful gravity has shaped their orbits. The WISE data revealed an unexpected abundance

of long-period comets, the researchers said. For example, over an eight-month stretch, three to five times more of these objects zoomed by the sun than scientists had predicted.

"The number of comets speaks to the amount of material left over from the solar system's formation," Bauer said in the same statement. "We now know that there are more relatively large chunks of ancient material coming from the Oort Cloud than we thought." The study team also determined that long-period comets are up to twice as large, on

average, as Jupiter-family comets. The size discrepancy is likely a consequence of the Jupiter-family comets' more frequent trips past the sun, the researchers said: Every time these icy wanderers get close to Earth's star, the sun's intense heat drives off



*This illustration shows how scientists used data from NASA's WISE spacecraft to determine the nucleus sizes of comets. They subtracted a model of how dust and gas behave in comets in order to obtain the core size.*

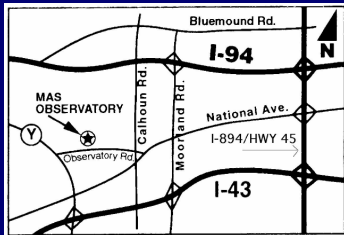
water and other volatile substances, which drag dust with them as they jet into space. "Our results mean there's an evolutionary difference between Jupiter-family and long-period comets," Bauer said. The WISE spacecraft launched to Earth orbit in December 2009 and successfully carried out an all-sky survey in infrared light. NASA put WISE into hibernation in February 2011 but reactivated the spacecraft two years later to search for asteroids and other near-Earth objects. (Mainzer is the principal investigator for this new mission, which is called NEOWISE.)

The new study, which was published earlier this month in *The Astronomical Journal*, looked at data the spacecraft gathered during its prime mission, in 2010.

by Mike Wall, Space.com

## Adopt a Telescope Program - Signup Sheet

<b>Adopter</b>	<b>Scope</b>	<b>Location</b>
<b>1</b> Sue Timlin/John Hammetter	18" F/4.5 Obsession	Wiesen Observatory
<b>2</b> Steve Volp	12.5" F/7.4 Buckstaff	B Dome
<b>3</b> Robert Burgess	12.5" F/9 Halbach	A Dome (Armfield)
<b>4</b> Russ Blankenburg	18" F/4.5 Obsession	Albrecht Observatory
<b>5</b> Jeff Kraehnke	14" F/7.4 G-scope	Z Dome
<b>6</b> Lee Keith/Tom Kraus	12" F/10 LX200 EMC	Tangney Observatory
<b>7</b> Herman Restrepo/Matt Mattioli	8" F/11 Celestron EdgeHD	Ray Zit Observatory
<b>8</b> Tamas Kriska	14" F/1.9 F-scope	Jim Toeller Observatory
<b>9</b> Paul Borchardt	Solar scope	SkyShed POD



### MAS Observatory

18850 Observatory Rd  
New Berlin, WI 53146

[www.milwaukeeastro.org](http://www.milwaukeeastro.org)

## At Your Service

### Officers / Staff

President	Tamas Kriska	414-581-3623
Vice President	Sue Timlin	414-460-4886
Treasurer	Sue Timlin	414-460-4886
Secretary	Agnes Keszler	414-581-7031
Observatory Director	Paul Borchardt	262-781-0169
Asst. Observatory Director	Jeff Kraehnke	414-333-4656
Newsletter Editor	Tamas Kriska	414-581-3623
Webmaster	Gene Hanson	262-269-9576

### Board of Directors

Scott Berg	262-893-7268
Russ Blankenburg	262-938-0752
Clark Brizendine	414-305-2605
Robert Burgess	920-559-7472
Jason Doyle	414-678-9110
John Hammetter	414-519-1958
Lee Keith	414-425-2331
Frank Kenney	414-510-3507
Jeff Kraehnke	414-333-4656
Sue Timlin	414-460-4886
Steve Volp	414-751-8334

### August/September Keyholders

8/5	Scott Berg	262-893-7268
8/12	Frank Kenney	414-510-3507
8/19	Tom Schmidtkunz	414-352-1674
8/26	Brian Ganiere	414-961-8745
9/2	Paul Borchardt	262-781-0169