MILWAUKEE ASTRONOMICAL SOCIETY

FOCAL POINT

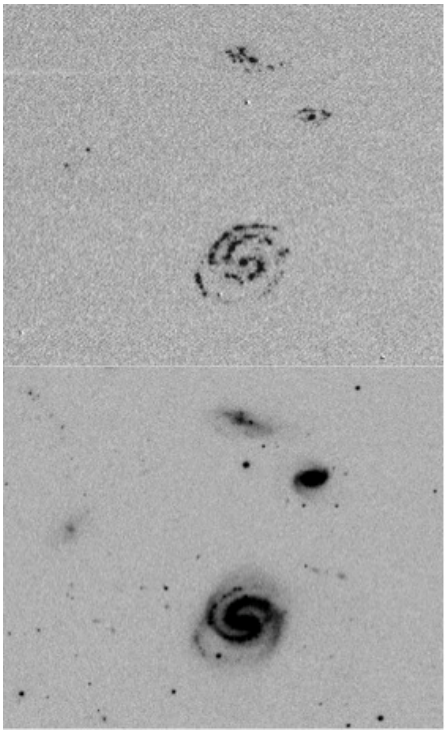
April, 2016

April 15th: Membership Meeting at Retzer Nature Center

The upcoming General Membership Meeting of the MAS is going to be held on April 15th, at 8:00 PM at the Retzer Nature Center, which is located at S14 W28167 Madison St. Waukesha, WI 53188.

The speaker of the night will be **Angela Van Sistine**, PhD from UWM. Her talk is entitled: "The Cosmic Star-Formation Rate "

Abstract: The observed rate at which galaxies have been forming stars has changed with time. Measuring this cosmic star-formation rate is crucial to our understanding of the formation of stars and galaxies. Local measurements are of particular importance because they anchor our understanding of the evolution of the cosmic star-formation rate from early times to today. I will talk about extragalactic star-formation, how it has changed with time, and our survey's measurement of the local cosmic star-formation rate.



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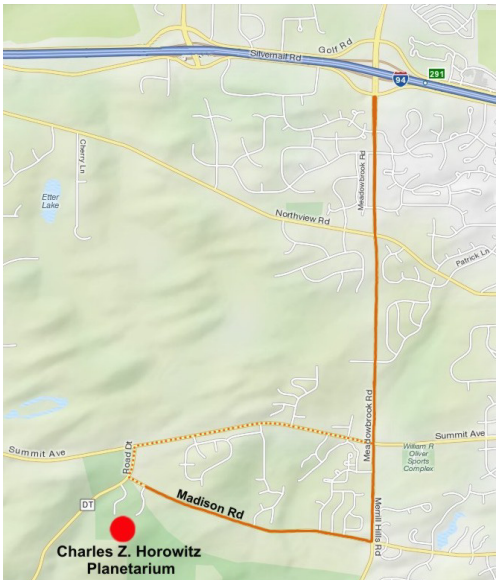


The MAS Winter Schedule

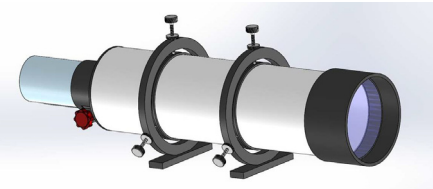
The winter meetings from January through April will be held in the lecture room of the Retzer Nature Center, S14 W28167 Madison St in Waukesha. Starting from May the meetings will return to the MAS Observatory.

Directions to Charles Z. Horwitz Planetarium: take I-94 West to Pewaukee/ Waukesha (exit 291) and go south on Meadowbrook Rd. Turn right onto Madison Rd. The driveway to the planetarium will be on the left side of the road (see solid line on the map). Alternatively, turn right onto Hwy. 18 (Summit Ave), turn left onto Hwy DT and follow the signs to Retzer Nature Center (dotted line on the map).

Observatory Report

The snow is gone so some activity has returned at the observatory, but we are really anxious for sustained warmer weather so we can begin construction on the new solar observatory.

We have established the location of the observatory which is just west of the Tangney. We have decided for the secondary solar telescope to use the 5 inch f/5 reflector that was mounted on the A-Scope. It will be outfitted with a standard solar filter in front of the objective. It will be essentially refurbished. The lens was cleaned, the tube repolished, and a new focuser installed. This is a CAD mockup of what it will look like when it's completed.



Two purchases have been made: the DMK51AU Solar Camera - that has been donated to the MAS by your Observatory Director, Gene Hanson, and a Sky-Watcher NEQ6 Pro mount donated by our President, Tamas Kriska, and our Secretary, Agnes Keszler. (to be continued on page 3)

Respectfully Submitted,
Gene Hanson, Observatory Director

Treasurer's Report

$1,629.22	***Ending Balance as of 2/16/2016***
	Expenditures
$95.54	WE Energies
$4.91	PayPal Fees
$618.69	Solar Scope project
$100.00	Vigeland speaker fee
-$819.14	TOTAL Expenditures
	Revenue
$52.00	Calendar Sales
$216.00	Membership Dues
$10,000.00	Protective Withdrawal
$10,268.00	TOTAL Revenue
$11,078.08	***Ending Balance as of 3/16/2016***

Respectfully Submitted,
Sue Timlin, Treasurer

Meeting Minutes

Held on March 18th at the Retzer Nature Center, Waukesha. The meeting was called to order at 8:00 PM by President, Tamas Kriska.

Minutes, **Treasurer's Report**, **Observatory Director's Report**, and the **Membership Report** were submitted electronically.

Old Business - A new insurance agent visited the Observatory, will give options to choose from. Four Open House speaker slots have not been filled yet. Paul gave an update about the solar scope project. Sue suggested to use Amazon Smile for purchases whenever it is possible and make the Club the recipient of 0.5% donation.

New Business - A discussion took place about attending the 2017 solar eclipse as a group. There will be two open positions in the Board of Directors. There was a suggestion to try to revive the Adopt a Telescope program. There were proposals to reorganize the MAS Library to meet the 21st century's needs and to remodel the Z-dome office (walls, ceiling, and floor). $2000 was allocated to this project.

The Program - Paul Borchardt gave a talk entitled: **Haleakala: surf to sunset.**

The meeting was adjourned at 9:08 PM.

Respectfully Submitted,
Agnes Keszler, Secretary

Membership Report

Since the March Report we received 2 new membership applications and would like to welcome Dave & Kristin Ruka, and Jeffrey Vogt & Family. We now have 99 active members.

Respectfully Submitted,
Jeff Kraehnke, Committee Chair

Observatory Director's Report (continued from page 2)

The DMK51AU Solar Camera contains a Sony 1/1.8 " CCD Chip with a resolution of 1600X1200 pixels. It is a monochrome camera without an IR cut filter.

The Skywatcher mount has a full GOTO capability with a 40lb load capacity.

Website: The annual fee for the website which is $120/year were due and I have donated the payment. With the help of our Treasurer, Sue Timlin, I am testing a Donate button on our website. As with our applications and renewals, we are utilizing PayPal. The technical part of this is extremely easy. But there were various hoops to jump through in order to adequately prove we are a legitimate nonprofit, a prerequisite.

A Science Day in Elementary School

Back in December the Co-President of the PTA at Eisenhower Elementary School in Wauwatosa and also the High Interest Day committee chair contacted us with a request for a speaker on the topic of Astronomy.

Dennis Roscoe attended the event and sent the following summary: The Science day went great. It was held at Eisenhower Elementary on March 24th. I gave two 45 min sessions to 4th and 5th graders and had about 10 kids in each session. They had their choice of many different session themes so the kids in attendance really wanted to be there. I covered four topics: Motion in the Universe (Earth, Sun and Milky Way); How the moon was formed; Closeup pictures of Pluto; and Where did their atoms come from. It is amazing how sharp the kids were and there was no shortage of questions. When asked how old the Earth was I got answers that ranged from a couple thousand years to 10 million years. Time was their hardest concept. One of the best comments from a 5th grader was "I going to ask my parents if they know any of the things I learned today". That was the best possible feedback I could have gotten. I have already committed doing the program next year. The photo was taken during my session.

by Dennis Roscoe

Observatory News

Library Rearrangement

With the proliferation of the World Wide Web and online information access, where members can find the information they need, books are no longer the only source of information. With this in mind, the role of the MAS library has changed. The current library is a large collection of books and VHS videos that are rarely, if ever used.

Also, the MAS is planning a remodeling of the Z-dome office and the library takes up two walls in the office. Consolidation of the library into one wall would leave more space for working area or expansion as well as making room for more new media.

After a Board decision, we selected for disposal all books older than 10-15 years, since astronomical science moves fast. We did not keep books on popular level either, because more up to date information can be found online. We kept media with historical connection to the MAS or with relevant to activities of our members.

Disposed books are offered up for sale to the membership, then on Swap&Sale event, while the remaining would be donated to local libraries for sale by them. All money could go towards either a Z scope office and/or Quonset hut renovation.

by Lee Keith

Z-dome Office Remodeling

The office area in the Z-dome now housing the remote control units for G and F scopes, and also for the Meade 12" LX200 telescope. Members spend more and more time there, and we also invite guests during Public Nights and star parties. It was decided to spruce the room up to make it more attractive.

The ceiling panels are dirty and torn, and the walls well deserve a new paint. So does the floor, but instead we will put some insulation by installing a floating hardwood flooring over the concrete. That would give some comfort during those cold winter nights when the heaters are struggling to compete with the sub zero temperatures.

According to the plan shelves will not be remounted to the west wall of the office, instead there will have a flat screen TV connected to the computers. This way members will be able to easily follow the imaging process, while the public will enjoy live images.

The remodeling has already started. Stay tuned for update.

by Agnes Keszler

In the Astronomical News

Fast Radio Burst "Afterglow" was Actually a Flickering black Hole

Last February a team of astronomers reported detecting an afterglow from a mysterious event called a fast radio burst, which would pinpoint the precise position of the burst's origin, a longstanding goal in studies of these mysterious events. These findings were quickly called into question by follow-up observations. New research by Harvard astronomers Peter Williams and Edo Berger shows that the radio emission believed to be an afterglow actually originated from a distant galaxy's core and was unassociated with the fast radio burst. Part of the scientific process is investigating findings to see if they hold up. In this case, it looks like there's a more mundane explanation for the original radio observations.

The new work has been accepted for publication in *Astrophysical Journal Letters*.

As their name suggests, fast radio bursts (or FRBs) are brief yet powerful spurts of radio energy lasting only a few milliseconds. The first ones were only identified in 2007. Their source has remained a mystery.

"We don't even know if they come from inside our galaxy or if they're extragalactic," explains Berger.

Most FRBs have been identified in archival data, making immediate follow-up impossible. The new event, FRB 150418, is only the second one to be identified in real time. Radio observations reported in Nature purportedly showed a fading radio afterglow associated with the FRB. That afterglow was used to link the FRB to a host galaxy located about 6 billion light -years from Earth.

In late February and March of this year, Williams and Berger investigated the supposed host galaxy in detail using the NSF's Jansky Very Large Array network of radio telescopes. The fantastic sensitivity of the VLA allowed the researchers to monitor the radio galaxy at the necessary cadence without having to disrupt the observatory's regular operations.

If the initial observations had been an afterglow, it should have completely faded away. Instead they found a persistent radio source whose strength varied randomly by a factor of three, often reaching levels that matched the initial brightness of the claimed afterglow. The initial study also saw this source, but unluckily missed any rebrightenings.

"What the other team saw was nothing unusual," states Berger. "The radio emission from this source goes up and down, but it never goes away. That means it can't be associated with the fast radio burst."

The emission instead originates from an active galactic nucleus that is powered by a supermassive black hole. Dual jets blast outward from the black hole, and complex physical processes within those jets create a constant source of radio waves.

The variations we see from Earth may be due to a process called "scintillation," where interstellar gases make an intrinsically steady radio beacon appear to flicker, just like Earth's atmosphere makes light from stars twinkle. The source itself might also be varying as the active galactic nucleus periodically gulps a little more matter and flares in brightness.

While the link between the fast radio burst and a specific galaxy has vanished, the astronomers remain optimistic for future studies.

"Right now the science of fast radio bursts is where we were with gamma-ray bursts 30 years ago. We saw these things appearing and disappearing, but we didn't know what they were or what caused them," says Williams.

"Now we have firm evidence for the origins of both short and long gamma-ray bursts. With more data and more luck, I expect that we'll eventually solve the mystery of fast radio bursts too," he adds.

by Phys.org

Adopt a Telescope Program - Signup Sheet

	Adoptee	Scope	Location
1	Sue Timlin	18" F/4.5 Obsession	Wiesen Observatory
2	Neil Simmons	12.5" F/7.4 Buckstaff	B Dome
3	Russell Chabot	12.5" F/9 Halbach	A Dome (Armfield)
4	Dan Yanko	18" F/4.5 Obsession (Kyle Baron)	Albrecht Observatory
5	Tamas Kriska	14" F/7.4 G-scope	Z Dome
6	Henry Gerner	12" F/10 LX200 EMC	Tangney Observatory
7	Vacant	8" F/11 Celestron EdgeHD	Ray Zit Observatory
8	Vacant	14" F/1.9 F-scope	Jim Toeller Observatory

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	Gene Hanson	262-269-9576
Asst. Observatory Director	Jill Roberts	414-587-9422
Asst. Observatory Director	Jeff Kraehnke	414-333-4656
Newsletter Editor	Tamas Kriska	414-581-3623
Webmaster	Robert Burgess	920-559-7472

Board of Directors

Paul Borchardt	262-781-0169
Robert Burgess	920-559-7472
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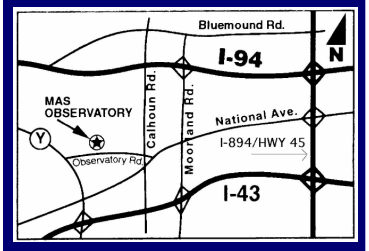
John Hammetter	414-519-1958
Gene Hanson	262-269-9576
Lee Keith	414-425-2331
Frank Kenney	414-510-3507
Jeff Kraehnke	414-333-4656
Agnes Keszler	414-581-7031
Tamas Kriska	414-581-3623
Sue Timlin	414-460-4886

April/May Keyholders

4/16	Russell Chabot	414-881-3822
4/23	Brian Ganiere	414-961-8745
4/30	Scott Berg	262-893-7268
5/7	Gene Hanson	262-269-9576
5/14	Paul Borchardt	262-781-0169
5/21	Tamas Kriska	414-581-3623
5/2	Sue Timlin	414-460-4886



MAS Observatory

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