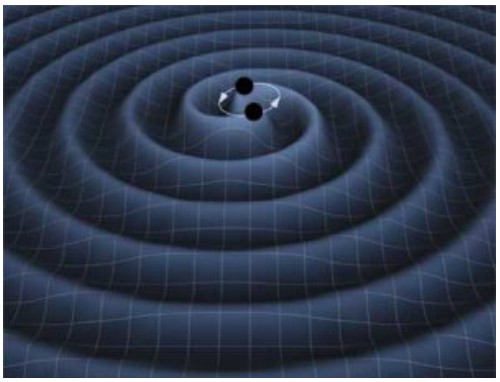
Focal Point

October, 2011

Next Meeting on October 21st
Gravitational-Wave Astronomy in the Next Decade

The next Membership Meeting will be held on October 21st at 8PM, at the MAS Observatory. We will have an invited speaker **Xavier Siemens**, assistant professor at UWM Department of Physics. **The abstract of his lecture:** Gravitational waves — propagating fluctuations in the geometry of space and time predicted by Einstein — are among the most captivating and elusive phenomena in physics. The direct detection of gravitational waves will open a new field in astronomy. In the next decade two types of gravitational wave experiments are poised to directly detect gravitational waves: Advanced ground-based interferometric detectors and pulsar timing experiments. In my talk I will describe both types of experiments and their sensitivities to various types of gravitational wave sources. I will also discuss some of the impacts of these experiments on astronomy and cosmology.



Two black holes inspiraling and emitting gravitational waves.

Inside this issue:

Loaner Scope Program

The MAS has a loaner scope program for those who would like to use an 8" dobsonian. Members can borrow the telescope and use it anyplace they want to. This is a benefit of being a member of the MAS. If you would like to use the loaner scope, call me and we can make arrangements to sign the scope out. My phone number is 414-559-3502. If you need some help using the scope, look on the website or in the Newsletter to find the name and phone number of the current keyholder.

Each Saturday evening there is a keyholder, who is supposed to open the property for members for stargazing. The keyholder should be able to give you some help with that or any other scope of the Observatory.

We had recently recoated the mirrors and then I culminated the scope. I was delighted with the results, when I took it to the Annual Yerkes Observatory Star Party where I participated for the first time in August of this year! The moon was sharp and we could see many of the features of its surface. The rings of the Saturn were also beautiful.

Remember that we also have an extensive library of astronomy books & astronomy related videos for members to sign out and read or watch.

by Russell Chabot

Last Membership Meeting

The last membership meeting was held on September 16th. We kept the MAS business short because we had an invited speaker from Astronomy Magazine. Karri Farron one of their editors spoke to us about the editorial staff and then about the process of publishing the magazine. We had 14 people at the meeting.

Respectfully Submitted,
Russell Chabot

The meeting before Karri Farron's talk (Karri is on a far right side of the photo).

Treasurer's Report

The MAS has received generous donations from the following people: Neil Drake, Brian Ganiere, Michael Macali, Joseph Payne, and Gerry Samolyk. I would also like to highlight a few individuals who have given very generously: Gene Hanson, Founder Member Milton Lange, and Carl Perez-Pena Jr.

We processed $2182 in membership dues during August and September and have a total of 57 members.

Currently, the checking account has $5,480.89 and we ended the 2011 fiscal year in the black with $285.81 to spare. With our projected income being very close to what we expect in bills, the MAS is still dependent on sweat equity and member donations to pay for the rest of our operating expenses.

Respectfully Submitted,
Neil Simmons, Treasurer

Public Nights

On September 23rd we held our sixth Public Night. Even though it was cloudy the quonset hut meeting room was full for the talk on **galaxies** and we had a few guests who could not even get into the

room. We had another fun evening with our visitors interested in astronomy.

The last Public Night of the 2011 season was held on October 14th, and the topic was: **The Fall Constellations**. This time we had better luck with the weather.

Sue Timlin is talking about constellations.

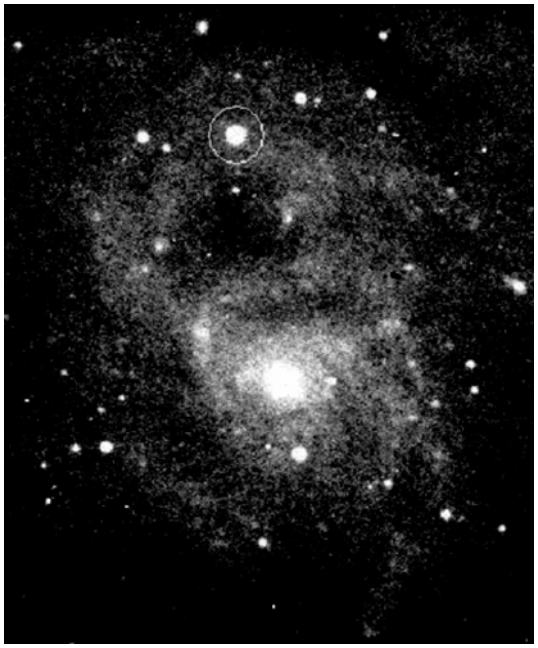
Also we had record turnout, due to an interview with Henry Gerner and Russell Chabot published in the New Berlin Now magazine. Sue Timlin gave a presentation twice, both times in front of a full room. The guests donated to MAS $240.

Observatory News

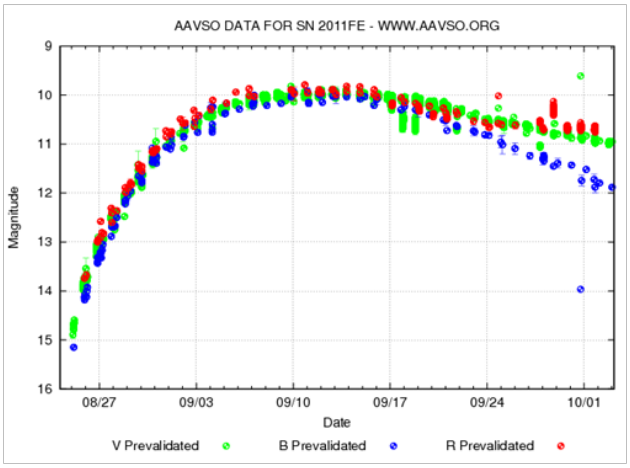
SN 2011 FE — A Bright Supernova for Amateurs

As was reported in the September issue of this newsletter, there is a bright supernova now visible in the galaxy M101. This is the brightest supernova seen in the past 20 years. What makes this star so important is that it was discovered very faint allowing detailed observations while still on the rise.

During a brief visit to the MAS observatory, I was able to image the SN with B scope using a V filter on October 1. The image is noisy because the galaxy was close to the northern horizon and I kept the exposure short (60 seconds) to avoid any saturated pixels in the SN. I was able to measure the brightness at magnitude 10.801 V.



Below is a plot of filtered observations received by the AAVSO. It is interesting to note that, a few weeks ago, the star started fading faster in B (blue) that in V (visual) or R (red).



I suspect that we are seeing the beginning of the formation of a nebula around the supernova, because blue wavelengths of light are scattered more than yellow or red when passing thru a gas. It makes me think of what the Crab Nebula went thru a thousand years ago.

The star should remain within reach of armature telescopes for a year or more before it fades beyond detection. M101 is now very low in the northwest after Sunset. By the end of October it will be better observed in the morning sky before dawn. This is a great opportunity to become familiar with CCD imaging and photometry.

by Gerry Samolyk
Observatory Director

Work Party: Quonset Hut Painting

I called a work party for September 17. Four members participated, Neil Simmons, Jim Drzewiecki, Jeffrey Fillian and myself. Jim & Jeffrey painted the west side of the Quonset hut, I painted the north end and Neil cleaned the dark room. Jim and I have tried twice to get back and paint the east side of the Quonset hut, but the weather has not cooperated and we still have not gotten it done. We will be trying again around the middle of October.

by Russell Chabot
Observatory Chair

Member's Stories

Attending My First AAVSO Meeting

I joined the American Association of Variable Star Observers about three months ago and have yet to make my first variable star observation; however I did manage to get to the 100th anniversary meeting of the AAVSO, held this Oct. 4 thru Oct. 9, In Woburn and Cambridge, MA. Ann & I stayed in Acton, MA at the home of my friend George and his wife, Jane, for the week. Ann & Jane spent the time together while George and I attended the meeting.

A couple of weeks before the meeting Gerry Samolyk challenged me to see if I could tell the difference between the professional astronomers and the amateurs. No luck! The only way for me to tell was to listen to the

More than 100 people took time from the annual meeting of the American Association of Variable Star Observers to celebrate the AAVSO's 100th birthday at its headquarters on October 6th. *(AAVSO website)*

About 1½ days were spent on historical papers and 1½ days were spent on scientific papers. I liked hearing some of the history of the AASVO and getting a feel for what is observed and how it is interpreted. I did not understand everything that was presented, however I am sure that in time I will learn about these things. I think that the time between sessions was as valuable as the sessions themselves, time to get to know new people and discuss what others are interested. I also got some advice on how to observe the objects that I am interested in.

A banquet for past and present council members only was held on Wednesday evening. On Thursday the 6th we went to Cambridge to celebrate the 100th anniversary and dedicate the newest headquarters building. Also on the 6th a large group from the meeting went on a Duck ride on the Charles River, Back Bay, Beacon Hill, West End and elsewhere. After the ride, we went to a fine restaurant and had clams, oysters and then lobster for dinner. Then a bus ride back to the hotel in Woburn where the meeting was held. Another banquet was held on Saturday evening, but George and I choose not to attend. We decided that we should spend some time with our Wives. The membership meeting was held on Friday morning.

introductions before the individual talks. And if no titles were given I could not tell. On Saturday, one of the speakers gave a report on a test she conducted among the members of the AAVSO about the science of astronomy. She told us that the test was designed to make people fail. The people in the general population scored in the middle of her results chart, those with college astronomy degrees scored about ¾ of the way up the chart, and the members of the AAVSO, even when counting just those without any college astronomy classes scored at the top of her chart, with 86% of that group getting every question correct. I think that this shows how extraordinary the AAVSO is.

I have never been to a scientific meeting before and I have been assured that this meeting is typical of what a scientific meeting is all about. I certainly had a marvelous time, learned a lot & want to go again to other AAVSO meetings.

by Russell Chabot

In the Astronomical News

Jupiter: Big, Bright, and Beautiful

What's your favorite planet? If it's Mars, you certainly have lots of company. Or perhaps you're fondest of Saturn. Nothing compares to those wonderful rings.

For me, however, it's Jupiter. Jupiter was king of the gods in Roman mythology, and in late 2011 it rules unchallenged as the brightest "star" in the evening sky. You'll find it low in the east after sunset in October, and it climbs higher up week by week through year's end. By next April, Jupiter's early evening position will have shifted far to the west.

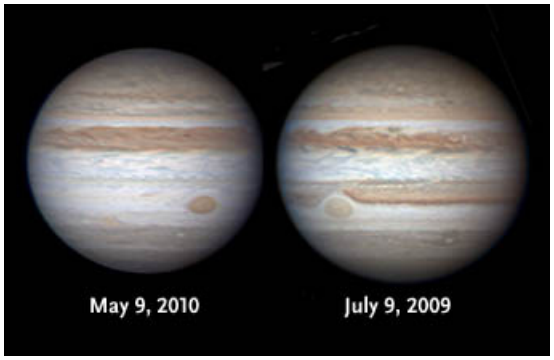
First grab your binoculars and find a tree or wall to brace against while pointing them toward Jupiter. If your binoculars are good quality and magnify at least seven times (7×35 or 7×50, for example), you'll see Jupiter as a tiny white disk. Look closely to either side of Jupiter's disk — do you see a line of three or four tiny stars? Each of these is a satellite of Jupiter roughly the size of our own Moon. They only look tiny and faint because they're about 2,000 times farther away.

Now put a low-power eyepiece in your telescope and center Jupiter. Depending on the size of your scope and the quality of the night's seeing, you'll see something like the view here.

A Jupiter and three of its four satellites, as they would appear in a small telescope.
Sky & Telescope illustration

Now the moons are much more obvious. You'll probably see all four — but possibly only three. The count often changes from night to night (or if you're patient, even from hour to hour). These hide-and-seek movements confounded Galileo Galilei when he first spied these "stars" in 1610. But he soon realized they were actually circling around Jupiter, forming a miniature solar system of sorts.

The four are named Io, Europa, Ganymede, and Callisto — or, collectively, the Galilean satellites — and it's hard to tell which is which just by looking. Callisto is usually farthest from Jupiter, and Ganymede is brighter than the others. Sulfur-coated Io has a pale yellow-orange cast. Still not sure? The answers are just a mouse clicks away, thanks to SkyandTelescope.com's handy guide to identifying the Galilean satellites at any time and date.



In 2010 observers were surprised to find that Jupiter's South Equatorial Belt had completely disappeared over a 10-month span — leaving the Great Red Spot quite easy to glimpse. But since then the SEB has returned.
Anthony Wesley

Now turn your attention to Jupiter itself. Study the disk closely, and two things should be noticeable. First, the disk is not perfectly round. Jupiter spins so fast (once every 10 hours) that its equatorial midsection bulges out a bit. It's 7% wider across the equator than from pole to pole. Look for at least two tawny-colored stripes running parallel to the equator. These darkish cloud bands are called *belts*, and the brighter cloud areas between them are called *zones*. The North and South Equatorial Belts, usually the most prominent. If you're using at least a 6-inch telescope, you may be able to pick out a few belts and zones closer to Jupiter's poles.

The single most famous cloud feature on Jupiter is the Great Red Spot, an enormous, oval-shaped storm about twice the size of Earth. Be forewarned that seeing the Great Red Spot is a challenge in a small telescope. Your best prospects will be when the spot appears near the middle of Jupiter's disk — SkyandTelescope.com's online calculator helps you know when to look. The planet's rapid rotation means that these windows of opportunity last only a couple hours.

No matter how you look at it, Jupiter is so easy to see that it makes an irresistible telescopic target anytime it's visible in the night sky — and *that's* why it's my favorite planet.

by Kelly Beatty, Sky and Telescope

Adopt a Telescope Program - Signup Sheet

	Adoptee	Scope	Location
1	Sue Timlin	18" F/4.5 Obsession	D Shed
2	Neil Simmons	12.5" F/7.4 Buckstaff	B Dome
3		12.5" F/9 Armfield	A Dome
4	Dan Yanko	10" F/6 Newtonian	Albrecht Observatory
5	Tamas Kriska	25" F/15 Zemlock	Z Dome
6	Henry Gerner	12" LX 200	Tangney Observatory
7	Jeffrey Fillian	14" Z-Two scope	Ray Zit Observatory
8		10" LX 200	Jim Toeller Observatory

New Adoptee - Telescopes still waiting for adoption

At Your Service

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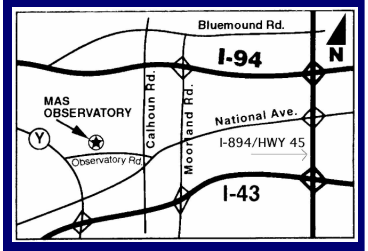

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