

SPECTRUM

Northern Cross Science Foundation Newsletter

June 1999

LOOKING UP

June 3 Thursday

Astronomy 101

7:00 PM

General Meeting

8:00 PM

Carlson Tool & Mfg.

June 11 & 12 Sat. & Sun.

Wisconsin Observers

Weekend (WOW)

Hartman Creek

State Park

Waupaca

June 16 Wednesday

Board Of Directors

7:30 PM

Jeff Setzer's House

July 1 Thursday

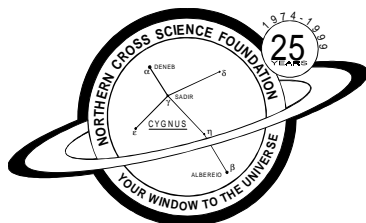
Astronomy 101

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A Publication Of
The Northern Cross
Science Foundation

Mars

Taken from <http://spaceart.com/solar/eng/solarsys.htm>

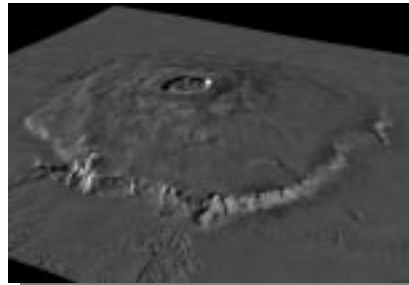
Mars is only about one-half the size of Earth and yet has several volcanoes that surpass the scale of the largest terrestrial volcanoes. The most massive

volcanoes are located on huge uplifts or domes in the Tharsis and Elysium regions of Mars. The Tharsis dome is 4,000 kilometers (2,500 miles) across and rises to 10 kilometers (6.2 miles) in height. Located on its northwest flank are three large shield volcanoes: Ascraeus Mons, Pavonis Mons and Arsia Mons.

Beyond the dome's northwest edge is Olympus Mons, the largest of the Tharsis volcanoes. Olympus Mons is classified as a shield volcano. It is 24 kilometers (15 miles) high, 550 kilometers (340 miles) in diameter and is rimmed by a 6 kilometers (4 miles) high scarp. It is one of the largest volcanoes in the Solar System. By comparison the largest volcano on Earth is Mauna Loa which is 9 kilometers (6 miles) high and 120 kilometers (75 miles) across.

Elysium Planitia is the second largest volcanic region on Mars. Elysium Planitia is centered on a broad dome that is 1,700 by 2,400 kilometers (1,060 by

1,490 miles) in size. It has smaller volcanoes than the Tharsis region, but a more diverse volcanic history. The three volcanoes include Hecates Tholus, Elysium Mons and Albor Tholus.



3D image of Olympus Mons

The large shield volcanoes on Mars resemble Hawaiian shield volcanoes. They both have

effusive eruptions which are relatively quiet and basaltic in nature. Both have summit pits or calderas and long lava flows or channels. The biggest difference between Martian and Terrestrial volcanoes is size. The volcanoes in the Tharsis region are 10 to 100 times larger than those on Earth. They were built from large magma chambers deep within the Martian crust. The Martian flows are also much longer. This is probably due to

(See **MARS** on page 3)

Astronomy Day 99!

By Kevin Bert

This year had all the makings of a great Astronomy Day. We had a respectable attendance by members for the daytime and evening activities and the weather was clear to use scopes.

The facilities at the Jansen Family Park were great. It was nice to be able to set things up and not worry about the weather. We had the entire building to ourselves.

Mirror grinding was set up at one end of the building. Bob Sedgwick had his portable grinding machine while a traditional stand was available for hands on type of grinding. A small 4 inch glass was roughed from a flat, all the way to 500 grit during the day.

Bill Fisher had a corner to himself for

(See **DAY** on page 4)

May Minutes

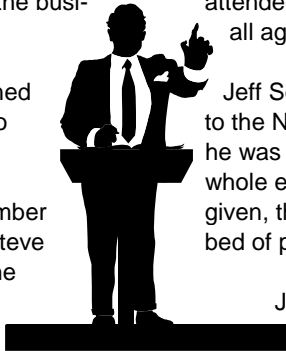
By Kevin Bert

The May meeting of the Northern Cross Science Foundation was held in the conference room of Carlson Tool & Mfg. in Cedarburg. The Astronomy 101 class preceded the business meeting.

President Jeff Setzer opened the meeting at 7:45 p.m. to over 22 people.

Jeff welcomed a new member that had recently joined. Steve Graf. He then called for the regular reports.

Treasurer Brad Plaumann reported that there was little activity for the past month.



Kevin Bert thanked Brad for giving his time to give a presentation at the Cedarburg Public Library. Mike Mathies also helped. About 15 people attended the program. It was a mix of all ages.

Jeff Setzer commented on his trip to the NCRAL convention. He said he was very impressed with the whole event. Based on the talks given, the Midwest is the current hotbed of professional astronomy.

Jeff was interested in the observatory grounds and buildings that the local club had. He said that he had taken a lot of pictures and that he will share them with the members at a future meeting.

Jeff informed us that the NCRAL 2000 convention will be in La Cross Wisconsin and the 2001 convention will be in Green Bay.

He covered the upcoming events for May. The National Astronomy Day on the 22nd took the majority of time as members signed up for activities and bringing telescopes.

The business meeting was closed by Jeff Setzer at 8:10 p.m.

Respectfully submitted,
Kevin Bert, secretary

Iridium Flares

By Kevin Bert

<http://www.gsoc.dlr.de/satvis/>

Observer's Location: Cedarburg (43.2970°N, 87.9880°W)

Local Time: Central Daylight Time (GMT - 5:00)

Date	Local Time	Intensity		Azimuth	Distance to flare centre	(Mag.) at	
		(Mag.)	Elev.			center	Satellite
30 May	05:00:22	-3	71°	242° (WSW)	15.2 km (W)	-9	Iridium 11A
31 May	03:12:49	-1	42°	284° (WNW)	40.3 km (W)	-8	Iridium 73
31 May	04:54:17	-3	73°	243° (WSW)	12.2 km (E)	-9	Iridium 3
31 May	22:25:53	-1	22°	267° (W)	68.8 km (E)	-6	Iridium 8
01 Jun	22:29:04	-2	18°	270° (W)	54.3 km (W)	-6	Iridium 19
01 Jun	23:45:54	-8	36°	225° (SW)	0.1 km (E)	-8	Iridium 83
02 Jun	03:05:07	-2	39°	287° (WNW)	33.1 km (W)	-8	Iridium 64
02 Jun	21:33:05	-6	13°	346° (NNW)	0.1 km (W)	-6	Iridium 2
02 Jun	22:23:06	-6	19°	271° (W)	19.1 km (E)	-6	Iridium 36
02 Jun	23:39:56	-2	37°	227° (SW)	34.2 km (E)	-8	Iridium 56
03 Jun	02:59:01	-7	39°	289° (WNW)	6.4 km (E)	-8	Iridium 67
03 Jun	22:17:09	-1	19°	273° (W)	101.5 km (E)	-6	Iridium 7
03 Jun	22:19:14	-6	18°	273° (W)	16.2 km (W)	-6	Iridium 51
03 Jun	22:26:19	-1	16°	275° (W)	86.1 km (W)	-6	Iridium 8
04 Jun	02:52:53	-1	39°	290° (WNW)	43.0 km (E)	-8	Iridium 72

(MARS from page 1)

larger eruption rates and to lower gravity. One of the reasons volcanoes of such magnitude were able to form on Mars is because the hot volcanic regions in the mantle remained fixed relative to the surface for hundreds of millions of years. On Earth, the tectonic flow of the crust across the hot volcanic regions prevent large volcanoes from forming. The Hawaiian islands were created as the Pacific plate moved northwest. These volcanoes have a relatively short life time. As the plate moves new volcanoes form and the old ones become silent.

Not all Martian volcanoes are classified as shields with effusive eruption styles.

North of the Tharsis region lies Alba Patera. This volcano is comparable to Olympus Mons in its horizontal extent but not in height. Its base diameter is 1,500 kilometers (930 miles) but is less than 7 kilometers (4.3 miles) high. Ceraunius Tholus is one of the smaller volcanoes. It is about the size of the Big Island of Hawaii. It exhibits explosive eruption characteristics and probably consists of ash deposits. Tyrrhena Patera and Hadriaca Patera both have deeply eroded features which indicate explosive ash eruptions. Mt. Saint Helens is an example of a terrestrial ash eruption.

CURRENT CLACK

Asrtofest 99

It is not too early to plan for Astrofest. An information sheet came in the mail the other day. You will see details in upcoming issues of Spectrum.

Welcome New Members !!

Steve Graf from Port Washington.
Keith Crist from Brown Deer.

Members Nights ?

We are still looking for volunteers for members nights. If you are interested in hosting one, please let Kevin Bert know at your earliest convenience. We would like to let the membership know about it as soon as possible.

Astronomy 101

By Kevin Bert

The June 101 topic will be "Mars" by Bill Fisher. Bill will take the class in a slightly new direction with slide series that covers a variety of topics.

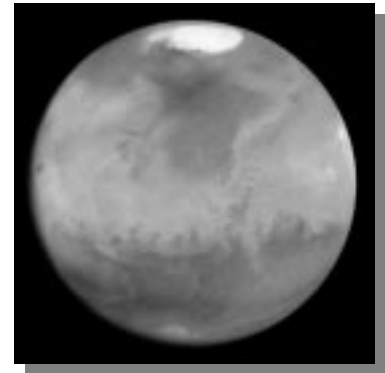
The first series of 101 classes concentrated on how to use a telescope and what could be seen with it. Bill will give a more in depth view of topics from what was learned by space probes and professional astronomers.

I will intermix some of the original classes at times to add variety and

cover things that Bill's slides will not cover. There are a number of new members that will want to see some of the original classes.

There are still a number of constellations that we did not cover during the first run. We will work on and present some of the interesting ones.

The highlighted constellation for June will be Serpens.



From The Editor

By Kevin Bert

National Astronomy Day has come and gone. For those that attended it was a lot of fun. It was nice to have clear skies for a change.

The lead article is about the volcanoes on Mars. It is taken from an interesting site that also has the information on last months class on comets. This information will supplement Bill Fisher's slides presentation on Mars for the 101 class.



Member Brad Plaumann will present the main program for June. His talk will be on astronomical spectroscopy. Brad has a working spectroscope that resolves a lot of detail on the sun. He recently finished a tracking device that will keep the sun focused into the spectroscope.

You won't want to miss this one.

From the Astronomical League, Terry Mann is running unopposed for the office of Secretary. We will need to make that official at the June meeting.

This is a nice time of the year to get the telescope out and get into the viewing mode if you haven't already. Warmer weather is finally here and evenings are still cool enough to help keep the mosquitoes from biting. Mars is still in good position and Venus is high in the sky at sunset displaying a quarter phase. Clear skies to all.

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slide presentations. This was next to an elevated stage where the kitchen comet was assembled.

A number of telescopes and accessories were on display over the entire room. The owners were eager to answer questions.

The lunar geography display was set up near the center of the room so people could look into a telescope instead of simply at it. It was a perfect match for the first quarter moon in the evening.

Other scopes to look through were outside viewing the sun, along with the impact crater demonstration and Brad Plaumann's impressive spectro-scope.

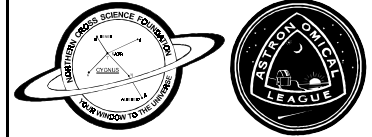
I am still puzzled why only a small number of people from the public turned out for the event. I hate to feel like the effort was a waste of time. The club is open for suggestions on other things we can do to publicize this event for next year.



**Check out our great site
On the World Wide Web
<http://www.gxsc.com/ncsf>**

SPECTRUM

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