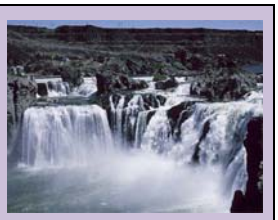
Snake River Skies

The Monthly Newsletter of the Magic Valley Astronomical Society

June 2012



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In this Issue

Membership Meeting

Saturday, June 9th 2012
7:00 p.m. at the
Herrett Center for Arts and Science CSI Main Campus

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Membership Message

June is becoming a very busy month and there are several things happening.

First is the partial Lunar Eclipse on the fourth, see details on the club announcements page. On the 5th will be the transit of Venus a truly once in a lifetime event that has been well publicized. We will need available members to assist at the Herrett Center as we are anticipating a rather large crowd.

On the 8th and 9h we will have a star party for the Girl Scouts of the Silver Sage Council at the Filer Fairgrounds. They anticipate 300 + girls over the two nights. Some of you have already volunteered, but as always we can use more help.

We have been contacted by the Winecup Ranch in Nevada to host a star party at the Ranch on Monday, the 11th.

Craters of the Moon Star Party will be June 22nd and 23rd at Craters of the Moon Caves Parking lot.

The Boise Astronomical Society has opened the registration for the Idaho Star Party for the month of September. Most of the Eagle Cove loop campgrounds have been already reserved, however; there are several left at the Bruneau Dunes State Park. If you plan on attending you will need to register with the Boise Astronomical Society (form enclosed) and reserve a camping spot at ISP through the Idaho State Parks.
http://parksandrecreation.idaho.gov/parks/bruneaudunesstatepark.aspx

Finally, the Summer Solar Sessions have returned at the Centennial Observatory. Lately there has been some interesting solar activity. Observatory Manager Chris Anderson will welcome anyone who wants to assist during these observing sessions. The times are from 1:30 pm – 3:30 pm. Contact Chris Anderson if you wish to help.

Welcome to the society and hello. We hope you have a good time, enjoy the hobby and bring good skies with you.

We hold indoor meetings each month at the Herrett Center for Arts & Science College of Southern Idaho campus in Twin Falls, ID, USA. Our meetings start at 7:00 pm on the second Saturday of the month. There will always be a very interesting program, class or presentation at these meetings, as well as good fellowship. There is always something new to learn.

Following our meetings we have a star party (weather permitting) at the Centennial Observatory, also at the Herrett Center.

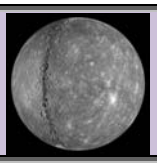
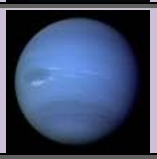
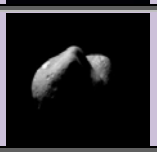
Our star parties are free and you don't have to bring your own telescope. Telescopes are also set up outside on the stargazer's deck. Star Parties are held year round, so please dress accordingly as the Observatory is not heated, nor air conditioned.

Wishing you dark skies and clear nights! MVAS Board

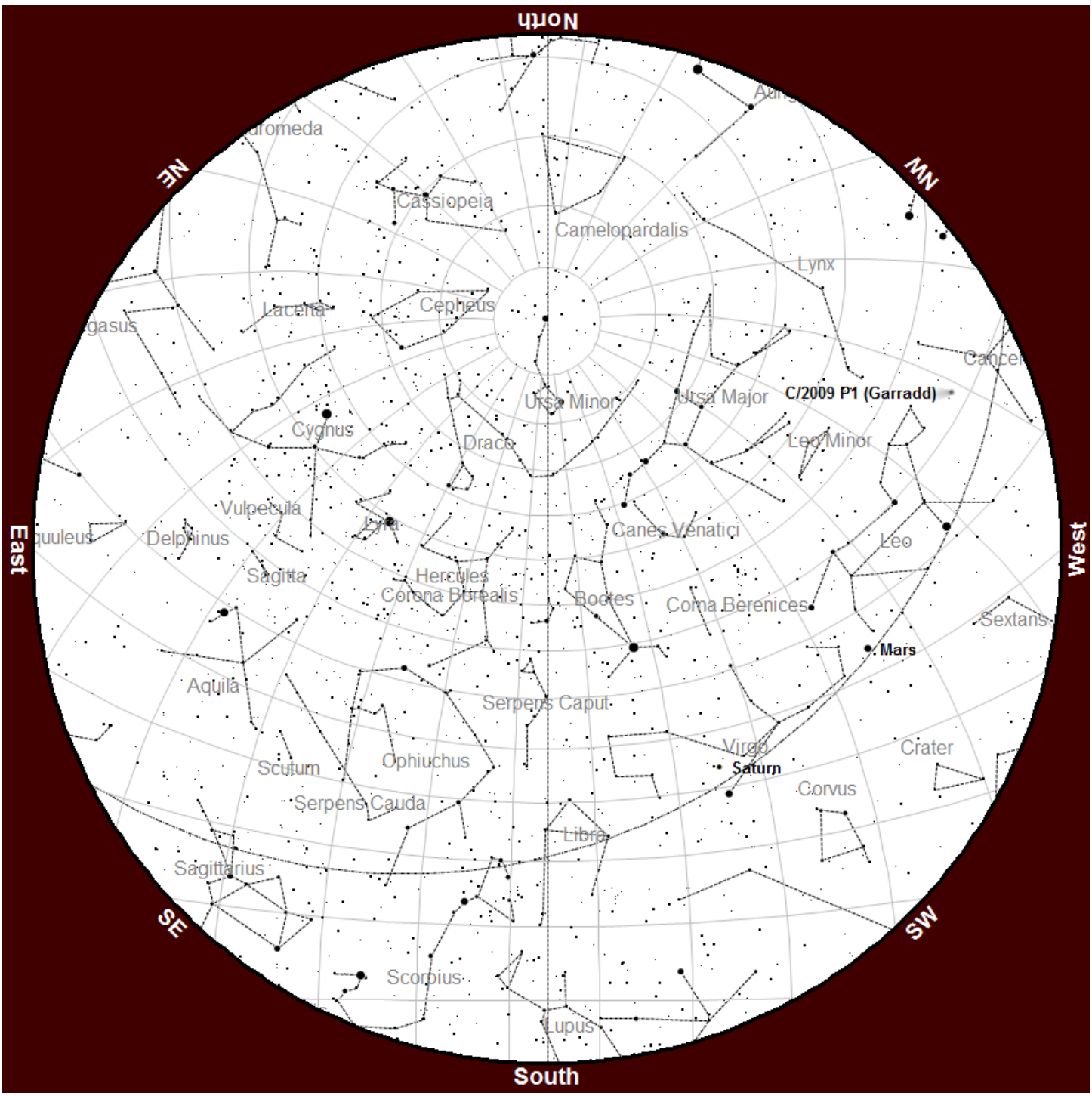
Calendar for June

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3 Moon is at perigee 	4 Moon at Greatest S. Declination -21.7° Full Moon 	5 Transit of Venus Centennial Observatory *4:00pm- 9:15pm* Venus will cross the Sun's face for the last time until 2117 AD!	6	7	8 Girl Scout Jubilation Star Party Filer Fairgrounds June 8th & 9th	9 Membership Meeting at the Herrett Center 7:00 pm Monthly free star party at 8:45p at the Centennial Observatory
10	11 Last Quarter Moon 	12	13	14 Flag Day 	15 Moon is at apogee 	16
17 Father's Day 	18 Moon at Greatest N. Declination +21.7° 	19 New Moon 	20	21 Summer Solstice Northern Most Point at 17:08 local time 	22 Craters of the Moon Star Party 	23 Craters of the Moon Star Party 
24	25	26	27 First Quarter Moon 	28	29	30

Solar System

	**Mercury** puts on a fine display starting the second week of the month. On June 7 it shines at magnitude -1 and stands about 10° above the western horizon, half an hour after sunset. The planet lies in Gemini, but only the brightest stars of that constellation will be visible against the bright skyhttp://www.reddit.com/r/starparty - date-month
	**Venus** At magnitude -4 Venus is the brightest morning "star", but it is not high above the horizon. Look for it blazing low in the east right around the first light of dawn. To get a steady view of the 10-percent-lit planet in a telescope, try following it until sunrise or even later.
	**Mars** can be found after sunset in the southwestern sky, far lower right of Saturn along the ecliptic. It begins June in southern Leo, but its eastward motion carries it into western Virgo by the end of the month; it then sets around 2 A.M. local daylight time. The planet shines at magnitude +0.5 and its 7"-diameter disk reveals practically no detail through a telescope.
	**Jupiter** Dawn is the hour when Jupiter is highest in the east. It pokes over the horizon by 5 A.M. local daylight time June 1 and is 20° high by this time at month's end. The gas giant spends June in the constellation Taurus the Bull and shining at magnitude -2 it dominates this region of sky.
	**Saturn** The ringed planet reached opposition and peak visibility in April, but remains a stunning sight through any telescope during June. It shines high in the south, among the stars of Virgo the Maiden and close to brilliant Spica, about one hour after sundown.
	**Uranus** stands about 25° above the eastern horizon before dawn. Glowing at magnitude +5.9, the planet pops into view in binoculars, even from moderately light-polluted sites. Look for it in Cetus the Sea Monster, 1.5° northeast of 6th-magnitude 44 Piscium.
	**Neptune** Uranus' gas-giant cousin, Neptune, resides one constellation farther west, in Aquarius the Water- Bearer. To find it, grab 7x50 binoculars and center Sigma Aquarii in the field. Neptune lies in the same binocular field, about 2.5° west of the star. The outermost planet glows at magnitude +7.9 and its small disk, just 2.5" in diameter, looks distinctively non-stellar at modest magnification.
	**Pluto** rifts among the stars of the constellation Sagittarius and can be attempted with a fairly large telescope in the early morning hours. A 12-inch instrument should catch the dwarf planet's one arcsecond disk, shining at magnitude +14. Because Pluto looks just like millions of similarly faint stars, identifying it is an exercise in precision map work at the telescope.
	**Asteroid 18 Melpomene**, The space rock is one hundred miles in diameter and on average it orbits the Sun at a distance of 213 million miles. Its name comes from the mythological Melpomene, the Muse of tragedy in Greek lore. The asteroid shines at magnitude +9.5 and crosses from Scutum, the Shield into Serpens the Serpent this month.
	**Comets: C/2009 P1 Garradd** has been observable in northern skies for over a year. However, it is now fading rapidly, and June might be your last chance to spot this visitor from deep space. **C/2011 UF305 LINEAR** is visible high in the evening sky, in the large but faint constellation Camelopardalis. It glows dimly at 11th magnitude, but should be in the reach of a 6-inch telescope.
	**Meteors:** The best meteor shower of June, in terms of both sky position and meteor activity, is the **June Bootid** stream. This well-known annual shower usually produces just a few visible meteors per hour, yet fourteen years ago, on June 27, 1998, northern sky watchers were surprised when dozens of bright meteors suddenly began to stream out of the constellation Bootes the Herdsman.

Planisphere for June



This Planisphere should be used as a guide for the month of June. June, mid-month, end of evening twilight (10:00 PM)

Planisphere is provided as a courtesy from
Chris Anderson, Coordinator
Centennial Observatory
Herrett Center for Arts & Science
College of Southern Idaho

Club Announcements

Partial lunar eclipse will take place on June 4, 2012 at 2:45 to 6:15. The Moon will be about one third covered by the Earth's umbral shadow at maximum eclipse. The portion of the moon within the penumbral shadow will be significantly dimmed. The portion of the moon inside the umbral shadow will only be illuminated by sunlight refracted through the Earth's atmosphere, thus much dimmer, and having a reddish hue. The observatory will be open.

Transit of Venus: Venus will appear as a silhouette on the Sun's face from 4:09 PM until sunset (9:11 PM), an event which will not repeat until 2117 AD. Special solar filtered telescopes will be provided, and inexpensive solar glasses will be available for purchase. Weather permitting; free admission.

Girl Scout Jubilee Star Party June 8th - 10th Filer Fairgrounds: Jubilation is a tri-annual, volunteer-driven, council-sponsored, troop/group event. It is the largest girl event in Silver Sage Council, where girls and adults camp together and enjoy a weekend of exciting programs, ceremonies, and fun! For their evening activity, the girls have picked star gazing and have asked the Magic Valley Astronomical Society to assist in a star party. Several of you have already made the commitment, but we will need several volunteers. Please contact a board member if you can assist.

Craters of the Moon Star Party: Come enjoy some of the darkest skies in the nation at the Craters of the Moon National Monument. The Star Party is two nights at the caves parking lot area. Bring a telescope and get free admission to the park. Friday, 6/22 - Saturday, 6/23/2012 7:00 PM Craters of the Moon National Monument, Arco, ID.

Idaho Star Party™: The dates of the Star Party will be September 14th and 15. The absolute final pre-registration deadline will be August 10th, 2012. Please write these dates on your calendars now.

The Boise Astronomical Society has secured Don Machholz, comet hunter and founder of the Messier Marathons, to be our guest speaker! To date, Mr. Machholz has 11 comets that officially bear his name. His presentations are sure to be interesting, informative, and impressive.

Campsite Reservations:

All the BAS reserved campsites have been spoken for but if you wish to be on the waiting list in case a campsite comes open, please let a BAS officer or Planning Committee member know. Assuming they are permitted that time of year, if you wish to have bonfires at your campsite, please reserve your own campsite with the Idaho Parks Department in the B loop of the Eagle Cove campground, or you can also reserve at the Broken Wheel campground.

Registration:

ISP Registration is NOT included with the campsite reservation. You must be registered to attend the ISP. Each person in your family must have an ISP badge to show you are registered and attend any event, so please be sure that everyone attending is listed on the form. One Registration is good for all members of your family living at the same address. One door prize number for one registration. If you want more chances at door prizes, you are allowed to register each person individually, if paid separately. Note that there is a separate individual drawing for children's door prizes. You must be present to win a door prize at either drawing.

The ISP registration forms are now available. You will get HALF OFF of your family registration fee if we have your registration forms with payment in our hands by the August 10th membership meeting. You also get a $2 per person discount for the world famous Star-B-Que dinner if you order early on your form before 8-10-12. BAS is not a rich club and we can not afford to purchase extra shirts or hats to be sold at the event. Your ONLY opportunity to get an ISP shirt or hat will be on your pre-registration form.

It is very important that everyone pre-registers for the Idaho Star Party™ so that we can plan for the amount of Star-B-Que food and get the shirt/hat orders to the printers in time to be made. No late registration forms will be accepted after 8-10-12 until you are at the actual event in September.

Registration form may be found at this link: http://isp.boiseastro.org/ISP_Registration2012.pdf

If you have any questions, ideas, or other concerns, please ask any BAS officer or Planning Committee member.

Thank Goodness for Magnetism

By Dr. Tony Phillips

Only 93 million miles from Earth, a certain G-type star is beginning to act up.

Every 11 years or so, the solar cycle brings a period of high solar activity. Giant islands of magnetism—"sunspots"—break through the stellar surface in increasing numbers. Sometimes they erupt like a billion atomic bombs going off at once, producing intense flares of X-rays and UV radiation, and hurling massive clouds of plasma toward Earth.

This is happening right now. Only a few years ago the Sun was in a state of deep quiet, but as 2012 unfolds, the pendulum is swinging. Strong flares are becoming commonplace as sunspots once again pepper the solar disk. Fortunately, Earth is defended from solar storms by a strong, global magnetic field.

In March 2012, those defenses were tested. At the very beginning of the month, a remarkable sunspot appeared on the Sun's eastern limb. AR1429, as experts called it, was an angry-looking region almost as wide as the planet Jupiter. Almost as soon as it appeared, it began to erupt. During the period March 2nd to 15th, it rotated across the solar disk and fired off more than 50 flares. Three of those eruptions were X-class flares, the most powerful kind.

As the eruptions continued almost non-stop, Earth's magnetic field was buffeted by coronal mass ejections or "CMEs." One of those clouds hit Earth's magnetosphere so hard, our planet's magnetic field was sharply compressed, leaving geosynchronous satellites on the outside looking in. For a while, the spacecraft were directly exposed to solar wind plasma.

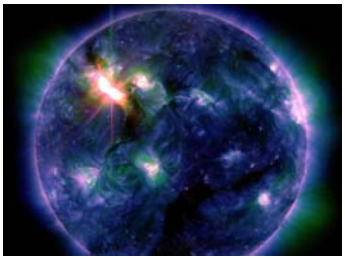
Charged particles propelled by the blasts swirled around Earth, producing the strongest radiation storm in almost 10 years. When those particles rained down on the upper atmosphere, they dumped enough energy in three days alone (March 7-10) to power every residence in New York City for two years. Bright auroras circled both poles, and Northern Lights spilled across the Canadian border into the lower 48 states. Luminous sheets of red and green were sighted as far south as Nebraska. When all was said and done, the defenses held—no harm done.

This wasn't the strongest solar storm in recorded history—not by a long shot. That distinction goes to the Carrington Event of September 1859 when geomagnetic activity set telegraph offices on fire and sparked auroras over Mexico, Florida, and Tahiti. Even with that in mind, however, March 2012 was remarkable. It makes you wonder, what if? What if Earth didn't have a magnetic field to fend off CMEs and deflect the most energetic particles from the Sun?

The answer might lie on Mars. The red planet has no global magnetic field and as a result its atmosphere has been stripped away over time by CMEs and other gusts of solar wind. At least that's what many researchers believe. Today, Mars is a desiccated and apparently lifeless wasteland.

Only 93 million miles from Earth, a G-type star is acting up. Thank goodness for magnetism. With your inner and outer children, read, watch, and listen in to "Super Star Meets the Plucky Planet," a rhyming and animated conversation between the Sun and Earth, at http://spaceplace.nasa.gov/story-superstar.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



Multiple-wavelength view of X5.4 solar flare on March 6, captured by the Solar Dynamics Observatory (SDO) in multiple wavelengths (94, 193, 335 angstroms). Credit: NASA/SDO/AIA

Do You Know – Trivia Time

Astronomers study the spectrum of the Sun to determine its chemical composition. In the visible region alone, from 4000 to 7000 angstroms (10^{-10} Meters), there are thousands of absorption lines in the solar spectrum. These lines have been cataloged, and tell us that there are 67 chemical elements identified in the Sun. There are probably even more elements in the Sun that are present in such a small amount that our instruments can't detect them. Here is a table of the 10 most common elements in the Sun:

In the table below put the following elements in the order of abundance listed: Carbon, Helium, Hydrogen, Iron, Magnesium, Oxygen, Neon, Nitrogen, Silicon, and Sulfur.

Element	Abundance
	91.2
	8.7
	0.078
	0.043
	0.0088
	0.0045
	0.0038
	0.0035
	0.030
	0.015

Correct answers will found on the bottom of page 9.

Photo of the May Partial Solar Eclipse as viewed from the Centennial Observatory
Credit: Jim Hoggatt

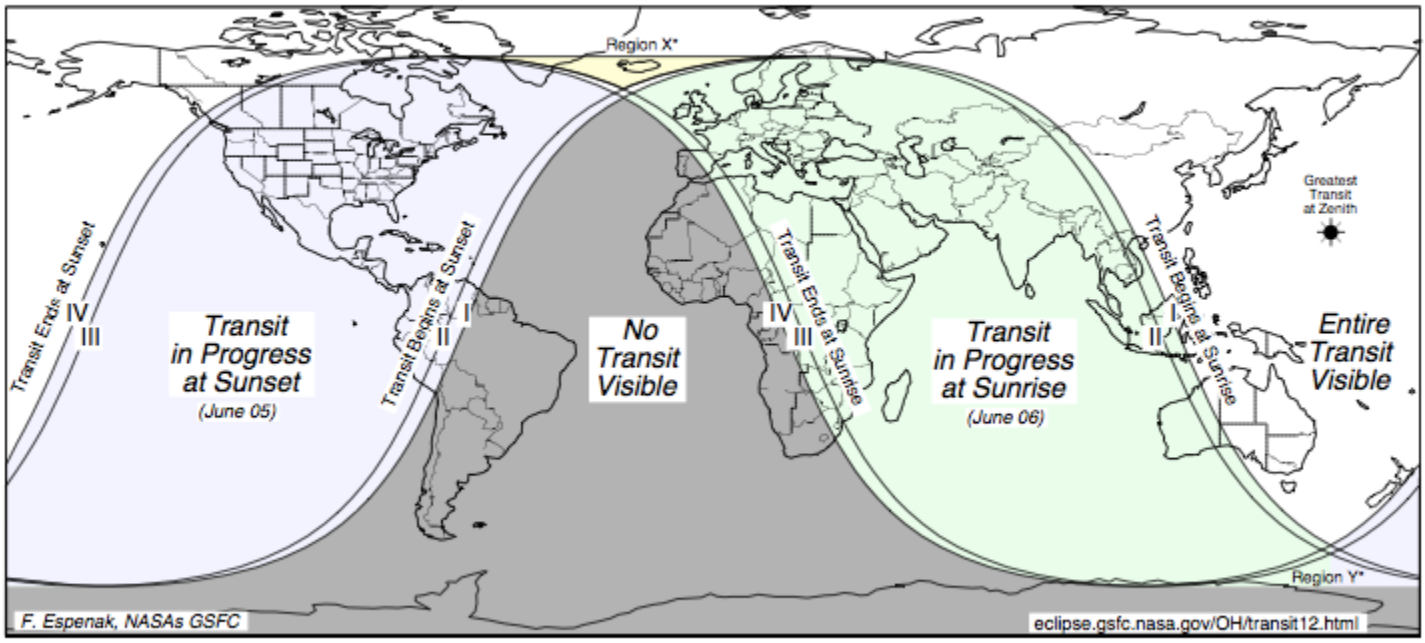
Looking into the Eyepiece – Transit of Venus

The transit or passage of a planet across the face of the Sun is a relatively rare occurrence. As seen from Earth, only transits of Mercury and Venus are possible. On average, there are 13 transits of Mercury each century. In contrast, transits of Venus occur in pairs with more than a century separating each pair.

The last Venus transit was in 2004 so the second event of the pair will occur on Wednesday, June 6 (Tuesday, June 5 from the Western Hemisphere). The entire event will be widely visible from the western Pacific, eastern Asia and eastern Australia as shown in Figure 1. Most of North and Central America, and northern South America will witness the beginning of the transit (on June 5) but the Sun will set before the event ends. Similarly, observers in Europe, western and central Asia, Eastern Africa and Western Australia will see the end of the event since the transit will already be in progress at sunrise from those locations.

FIGURE 1

Global Visibility of the Transit of Venus of 2012 June 05/06



* Region X - Beginning and end of Transit are visible, but the Sun sets for a short period around maximum transit.
* Region Y - Beginning and end of Transit are NOT visible, but the Sun rises for a short period around maximum transit.

For Northern Hemisphere locations above latitude ~67° north, all of the transit is visible regardless of the longitude. Northern Canada and all of Alaska will also see the entire event. Residents of Iceland are in a unique wedge-shaped part of the path (Region X in Figure 1). They will see both the start and end of the transit but the Sun will set for a short period around greatest transit. A similarly shaped region exists south of Australia (Region Y in Figure 1), but here, the Sun rises after the transit begins and sets before the event ends.

The principal events occurring during a transit are conveniently characterized by contacts, analogous to the contacts of an annular solar eclipse. The transit begins with contact I, the instant the planet's disk is externally tangent to the Sun. Shortly after contact I, the planet can be seen as a small notch along the solar limb. The entire disk of the planet is first seen at contact II when the planet is internally tangent to the Sun. Over the course of several hours, the silhouetted planet slowly traverses the solar disk. At contact III, the planet reaches the opposite limb and once again is internally tangent to the Sun. Finally, the transit ends at contact IV when the planet's limb is externally tangent to the Sun. Contacts I and II define the phase called ingress while contacts III and IV are known as egress. Position angles for Venus at each contact are measured counterclockwise from the north point on the Sun's disk.
Table 1 gives the geocentric times of major events during the transit. Greatest transit is the instant when Venus passes closest to the Sun's center (i.e. - minimum separation).

During the 2012 transit, Venus's minimum separation from the Sun is 554 arc-seconds (During the 2004 transit, the minimum separation was 627 arc-seconds). The position angle is defined as the direction of Venus with respect to the center of the Sun's disk, measured counterclockwise from the celestial north point on the Sun. Figure 2 shows the path of Venus across the Sun's disk and the scale gives the Universal Time of Venus's position at any point during the transit.

The celestial coordinates of the Sun and Venus are provided at greatest transit as well as the times of the major contacts. Note that these times are for an observer at Earth's center. The actual contact times for any given observer may differ by up to Â±7 minutes. This is due to effects of parallax since Venus's 58 arc-second diameter disk may be shifted up to 30 arc-seconds from its geocentric coordinates depending on the observer's exact position on Earth. Table 2 and Table 3 list predicted contact times and corresponding altitudes of the Sun for locations throughout Canada and the United States, respectively.

Table 1

Geocentric Phases of the 2012 Transit of Venus

Event	Universal Time	Position Angle
Contact I	22:09:38	41°
Contact II	22:27:34	38°
Greatest	01:29:36	345°
Contact III	04:31:39	293°
Contact IV	04:49:35	290°

Observing the Transit: Since the apparent diameter of Venus is nearly 1 arc-minute, it is just possible to see without optical magnification (but using solar filter protection) as it crosses the Sun. Nevertheless, the planet appears to be only 1/32 of the Sun's apparent diameter so a pair of binoculars or a small telescope at modest power will offer a much more satisfying view. All binoculars and telescopes must be suitably equipped with adequate filtration to ensure safe solar viewing. The visual and photographic requirements for observing a transit are identical to those for solar viewing.

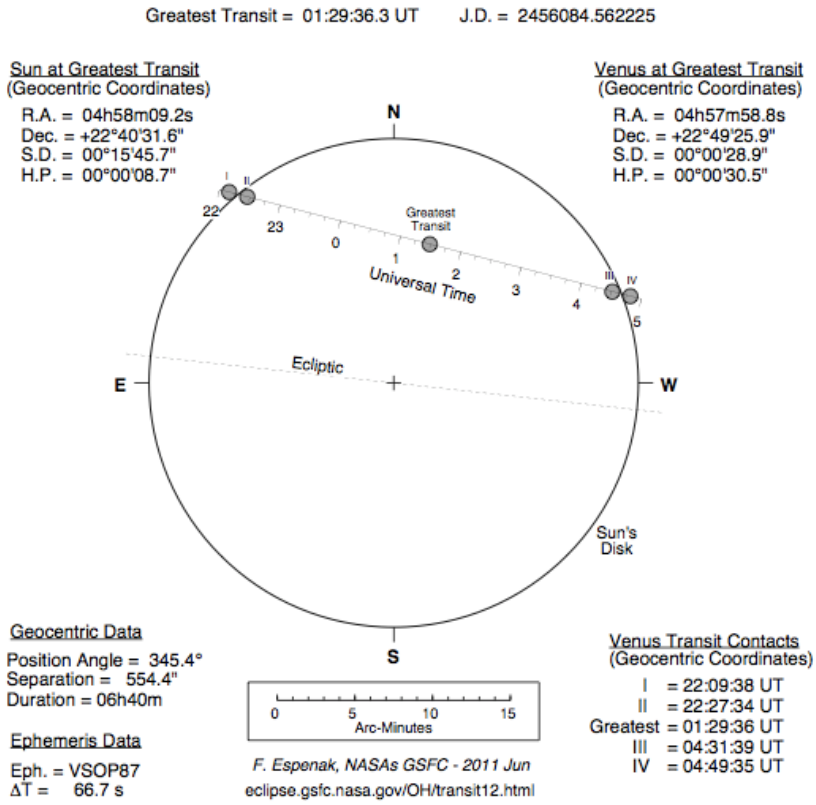
Amateurs can make a scientific contribution by timing the four contacts at ingress and egress. Observing techniques and equipment are similar to those used for lunar occultations. Poor seeing often increases the uncertainty in contact timings, so an estimate of the possible error associated with each timing should be included. Transit timings and geographic coordinates of the observing site (measured with a topographic map or GPS receiver) should be sent to: ALPO Transit Section, c/o Dr. John E Westfall, P.O. Box 2447, Antioch, CA 94531-2447, USA.

White light observations of contacts I and IV are not technically possible since Venus is only visible after contact I and before contact IV. However, if Hydrogen-alpha filtration is available, the planet will be visible against either prominences or the chromosphere before and after contacts I and IV, respectively. Observations of contacts II and III also require amplification. They are defined as the two instants when the planet appears internally tangent to the Sun. However, just before contact II, the so-called black drop effect is seen. At that time, the transiting planet seems to be attached to the Sun's limb by a thin column or thread. When the thread breaks and the planet is completely surrounded by sunlight, this marks the true instant of contact II. Contact III occurs in exactly the reverse order. Atmospheric seeing often makes it difficult to measure contact timings with a precision better than several seconds (see "black drop" effect below).

Trivia Answers in the Correct Order: Hydrogen Helium Oxygen Carbon Nitrogen Silicon Magnesium Neon Iron Sulfur

FIGURE 2

Transit of Venus of 2012 June 05/06



Eye Safety: Watching the profile of Venus as it passes across the Sun during a transit is a wonderful demonstration of the way the solar system works. Over the course of several hours, Venus traces a path across the disk of the Sun, then leaves, in what can be thought of as an extreme example of an annular eclipse of the Sun.

As with the eclipse last month eye safety is very important when observing either a Solar Eclipse or the Transit of Venus. To observe the transit of Venus directly you must protect your eyes at all times with proper solar filters. However, do not let the requisite warnings scare you away from witnessing this rare spectacle. You *can* experience the transit of Venus safely, *provided you use proper eye protection*.

Observing the Sun, however, can be dangerous if the proper precautions are not taken. The solar radiation that reaches the surface of Earth ranges from ultraviolet (UV) radiation at wavelengths longer than 290 nm, to radio waves in the metre range. The tissues in the eye transmit a substantial part of the radiation between 380–400 nm to the light-sensitive retina at the back of the eye. While environmental exposure to UV radiation is known to contribute to the accelerated aging of the outer layers of the eye and the development of cataracts, the primary concern over improper viewing of the Sun during the transit is the development of “solar retinopathy” or retinal burns.

The use of **eclipse shades** or of **#14 shade welding glass** will permit a large number of people who do not have specialized equipment to observe this event. However, as the planet approaches the limb of the sun, subtleties like the "black drop" effect will not be discernible. At one minute of arc in size, Venus is near the visual limit of most people's eyes. It's tiny compared to the sun, which is about 32 arcminutes in diameter. Eclipse Shades or Solar Shades appear similar to sunglasses, but they have a special filter that permits safe viewing if the filter is in new condition.

Do not be lulled into thinking that you can look safely at the sun while wearing sunglasses, for sunglasses do not protect your eyes sufficiently. So don't try it!

Pinhole projectors are a safe, indirect viewing technique for observing an image of the sun. While popular for viewing solar eclipses, pinhole projectors suffer from the same shortcomings as unmagnified views when Venus approaches the edges of the sun. Small features like the 'black drop' effect will not be discernible.

Pinhole view of the Transit of Venus

Using a Telescope The transit of Venus is perhaps best viewed *directly when magnified*, which demands an appropriate solar filter over the large end of the telescope. Often made of glass or Mylar, these “white light” filters block about 99.99% of the incoming sunlight, which allows the eyepiece then to magnify the image. A filtered, magnified view will show the sun (either blue or orange), the planet Venus, the ‘black drop’ effect, and sunspots.

Note #1: The sun’s immense energy must be drastically reduced before it enters the telescope. Do not use small filters that fit over the eyepiece (as found in some older, cheaper telescopes), for the concentrated sunlight can shatter them.

Note #2: Remove unfiltered finder scopes so they are not inadvertently accessed. Do not rely on a lens cap – even if it is taped on – to keep the eyes of a prying person at bay.Special telescopes with built-in hydrogen-alpha filters show additional solar features, such as the sun’s surface granulation and prominences extending outward into space.

Club Members viewing the Solar Eclipse during the month of May by using this type of solar filters will allow for easy views of the Transit of Venus on June 5th. Pictured left Paul McClain’s son Sean and at right: Right: MVAS Club member Dr. Chris Sutton, PhD is viewing the eclipse along side the road in rural Nevada. Members of the Magic Valley Astronomical Society traveled to Nevada (some traveled to southern Utah) to view the eclipse. Credit: Mrs. Deb Hartwell. Photo below: Member Gary Leavitt took this photo of the group of people that had gathered near Karranaville, UT

Centennial Observatory and Faulkner Planetarium Events

Centennial Observatory Events

Event	Place	Date	Time	Admission
Summer Solar Session #1	Centennial Observatory	Wednesday, May 30th, 2012	1:30 to 3:30 PM	FREE
Partial Lunar Eclipse	Centennial Observatory	Monday, June 4th, 2012	2:45 to 6:15 AM	FREE
Transit of Venus	Centennial Observatory	Tuesday, June 5th, 2012	4:00 to 9:15 PM	FREE
Summer Solar Session #2	Centennial Observatory	Wednesday, June 6th, 2012	1:30 to 3:30 PM	FREE
Monthly Free Star Party	Centennial Observatory	Saturday, June 9th, 2012	9:45 PM to midnight	FREE
Summer Solar Session #3	Centennial Observatory	Wednesday, June 13th, 2012	1:30 to 3:30 PM	FREE
Summer Solar Session #4	Centennial Observatory	Wednesday, June 20th, 2012	1:30 to 3:30 PM	FREE
Summer Solar Session #5	Centennial Observatory	Wednesday, June 27th, 2012	1:30 to 3:30 PM	FREE

Planetarium Show Schedule June 1st – 30th, 2012

Day	Time	Show
Friday, June 1st	2:00	When Venus Transits the Sun
	3:30	When Venus Transits the Sun
	7:00	When Venus Transits the Sun
	8:15	Altrageous Rock!
Saturday, June 2nd	2:00	When Venus Transits the Sun
	3:00	When Venus Transits the Sun
	4:00	When Venus Transits the Sun
	7:00	When Venus Transits the Sun
	8:15	Pink Floyd: The Wall
Tuesday, June 5th	2:00	When Venus Transits the Sun
	3:30	When Venus Transits the Sun
	7:00	When Venus Transits the Sun
	8:15	Space Jammin'

Show Schedule Changes June 6th after the Transit of Venus

Tuesdays	2:00	Lifestyles of the Stars/Live Sky Tour
	3:30	The Dinosaur Chronicles
	7:00	Lifestyles of the Stars/Live Sky Tour
	8:15	Space Jammin'
Wednesdays	2:00	Lifestyles of the Stars/Live Sky Tour
	3:30	WSKY: Radio Station of the Stars w/Live Sky Tour
Thursdays	2:00	Lifestyles of the Stars/Live Sky Tour
	3:30	The Dinosaur Chronicles
Fridays	2:00	Lifestyles of the Stars/Live Sky Tour
	3:30	WSKY: Radio Station of the Stars w/Live Sky Tour
	7:00	Lifestyles of the Stars/Live Sky Tour
	8:15	Altrageous Rock!
Saturdays	2:00	Lifestyles of the Stars/Live Sky Tour
	4:00	The Dinosaur Chronicles
	7:00	Lifestyles of the Stars/Live Sky Tour
	8:15	Pink Floyd: The Wall

Membership Information

The Magic Valley Astronomical Society (MVAS) was founded in 1976. The Society is a non-profit [501(c) 3] educational and scientific organization dedicated to bringing together people with an interest in astronomy.

In partnership with the Centennial Observatory, Herrett Center, College of Southern Idaho - Twin Falls; we hold regularly scheduled monthly meetings and observation sessions, at which we share information on current astronomical events, tools and techniques for observation, astrophotography, astronomical computer software, and other topics concerning general astronomy. Members enthusiastically share their telescopes and knowledge of the night sky with all who are interested. In addition to our monthly public star parties we hold members only star parties at various locations throughout the Magic Valley.

MVAS promotes the education of astronomy and the exploration of the night sky along with safe solar observing through our public outreach programs. We provide two types of outreach; public star parties and events open to anyone interested in astronomy, and outreach programs for individual groups and organizations (e.g. schools, churches, scout troops, company events, etc.), setting up at your location. All of our outreach programs are provided by MVAS volunteers at no cost. However, MVAS will gladly accept donations. Donations enable us to continue and improve our public outreach programs.

Membership is not just about personal benefits. Your membership dues support the work that the Magic Valley Astronomical Society does in the community to promote the enjoyment and science of astronomy.

Speakers, public star parties, classes and support for astronomy in schoolrooms, and outreach programs just to name a few of the programs that your membership dues support.

Annual Membership dues will be
$20.00 for individuals, families,
$10.00 for students.

Contact Treasurer Jim Tubbs for dues information via e-mail: jtubbs015@msn.com or home telephone: 736-1989 or mail directly to the treasurer at his home address. 550 Sparks Twin Falls, ID 83301

Donations to our club are always welcome and are even tax deductible. Please contact a board member for details.

M-51 viewed in this newsletter was imaged with the Shotwell Camera and the Herrett Telescope at the Centennial Observatory by club members Rick Widmer & Ken Thomason. Unless otherwise stated all photos appear in the public domain and are courtesy of NASA.

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"Telescopes are an individual thing and not practical for public use. However, everyone should have the experience of a good look at the moon for at least 5 minutes in their life time. It is a dimension and feeling that is unexplainable. Pictures or TV can't give this feeling, awareness, or experience of true dimension. A person will not forget seeing our closest neighbor, the moon. Norman Herrett in a letter to Dr. J. L. Taylor, president of the College of Southern Idaho, Twin Falls, ID, USA circa 1980.

Membership Benefits

Sky and Telescope group rates. Subscriptions to this excellent periodical are available through the MVAS at a reduced price of $32.95.

Astronomy Magazine group rates. Subscriptions to this excellent periodical are available through the MVAS at a reduced price of $34.00

Receive 10% discounts on other selected Astronomy Publications.

For periodical info. and subscriptions Contact Jim Tubbs, Treasurer

Lending Library: Contact, the current board for information.

Lending Telescopes: The society currently has two telescopes for loan and would gladly accept others. Contact Rick Widmer, Secretary for more information.