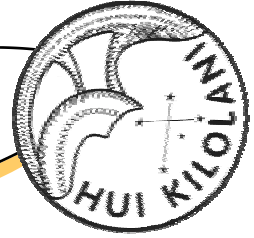


The Astronews



Volume 52, Issue 7

www.hawastsoc.org

July 2004

Transit of Venus

Editor

Even though we were one of the few places on earth without no possible view whatsoever of this rare astronomical event, I thought it inappropriate that it should go without mention, especially since we were represented on the East Coast by at least two HAS members, John Gallagher and Stephanie Choquette. John shared several images which he had taken at the June star party and Stephanie sent several via e-mail, one of which appears below.

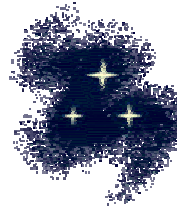


Upcoming Star Parties

Public Party	July 10	Dillingham
Club Party	July 17	Dillingham
Public Party	July 24	Kahala/Waialeale
Public Party	Aug 7	Dillingham
Club Party	Aug 14	Dillingham
Public Party	Aug 21	Kahala/Waialeale

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Upcoming Events:

- The next meeting (including a swap meet) is at 7:30 p.m. on Tue. July 6th at the Bishop Museum.
- **Sam Rhoads** next planetarium show is on Monday, July 5th.

President's Message

Over the years, the Hawaiian Astronomical Society has viewed the sky from many locations on Oahu. As the population has grown and former agricultural land has been built up, it has become harder and harder to find dark sky observing sites. We have used Dillingham Air Field for a number of years because it is about as far from Honolulu and its light pollution as we can get on Oahu, and its skies are relatively dark. While we anticipate continuing to use Dillingham for the foreseeable future, we are guests there and could lose our observing privileges with little notice. Military forces use the area for night training, and in these days of heightened attention to security it is increasingly likely that we could be displaced. So it's always a good idea to be on the lookout for alternative sites.

With this in mind, Clare and Mel Levin recently contacted a friend at the Nature Conservancy and inquired about possible observing sites. They were told about a location off Kunia road adjacent to the Head Start facility. A few days ago **the Levins, Gretchen West, Barry Peckham, Paul Lawler** and I went out to assess its value as an observing site.

The area seems to hold promise as an additional semi-dark sky location. There are a few houses located nearby, but their lights were fairly unobtrusive. The area is large, relatively flat, with a surface of hard packed soil and the occasional patch of grass. On the night we were there, the seeing was quite good. The only drawback was a large number of flying insects. While not as dark as Dillingham, this location is more conveniently located for most people, and there are no fences and locks to worry about. We will continue to investigate the potential of this site and report

(Continued on page 10)

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The Astronews is the monthly newsletter of the Hawaiian Astronomical Society. Some of the contents may be copyrighted. We request that authors and artists be given credit for their work. Contributions are welcome. Send them to the Editor via e-mail. The deadline is the 15th of each month. We are not responsible for unsolicited artwork.

Planets Close to the Moon

Times are Hawaii Standard Time

- July 4, 07h, M 5.0° SSE of Neptune
(148° from sun in morning sky)
- July 5, 20h, M 3.7° SSE of Uranus
(128° from sun in morning sky)
- July 13, 11h, M 7.5° NNW of Venus
(39° from sun in morning sky)
- July 18, 18h, M 3.8° NNE of Mars
(19° from sun in evening sky)
- July 19, 09h, M 4.5° NNE of Mercury
(26° from sun in evening sky)
- July 21, 06h, M 2.8° NNE of Jupiter
(47° from sun in evening sky)













Saturn is closer than 15° from the sun when near the moon in Dec.

Other Events of Interest

Times are Hawaii Standard Time

- July 1, 13h, Moon at perigee 12.2 hours from full moon. Very high tides expected.
- July 2, 01:09h, Full Moon
- July 4, 211h, Earth at aphelion, farthest from sun
- July 8, 06h, Saturn at conjunction with sun
(Passes into morning sky.)
- July 8, 16h, Asteroid 3 Juno at opposition
- July 10, 14h, Mercury 0.16° NNE of Mars
(22° from sun in evening sky)
- July 12, 20h, Venus Brightest, Magnitude -4.5
- July 17, 01:24h, New Moon
- July 24, 20h, Mercury 1.3° SSW of Regulus
(27° from sun in evening sky)
- July 26, 17h, Mercury at Greatest Elongation
(27.1° East of the sun in evening sky).
- July 31, 08:05h, Full Moon, 2nd full moon of month

The Planets in July

 Mercury Mercury is visible in the evening sky most of the month, low in the west just after sunset.	 Venus Venus dominates the morning sky, reaching its brightest on July 12 at Mag. -4.5.	 Mars Mars is low in the west after sunset, very close to Mercury on July 10. Mag 1.8.		
 Jupiter Jupiter shines brightly in the western sky after sunset.	 Saturn Saturn is at conjunction with the sun this month and cannot be viewed.	 Uranus Uranus rises before midnight and can be viewed in the early morning hours.		
<table border="1"> <tbody> <tr> <td data-bbox="234 1201 500 1406">  Neptune Neptune is near Uranus and can be viewed after midnight. </td> <td data-bbox="500 1201 760 1406">  Pluto Pluto is in the sky most of the night and is best viewed late in the evening. </td> </tr> </tbody> </table>		 Neptune Neptune is near Uranus and can be viewed after midnight.	 Pluto Pluto is in the sky most of the night and is best viewed late in the evening.	
 Neptune Neptune is near Uranus and can be viewed after midnight.	 Pluto Pluto is in the sky most of the night and is best viewed late in the evening.			

The general membership meeting was called to order at 7:35 p.m. by President Chris Peterson. Twenty-five members and three visitors were present.

Old Business:

Chris spoke briefly about several current issues.

Cassini Mission—Chris Peterson updated the club on June 15th close fly-by of Phoebe by Cassini Mission. Discussion touched on Phoebe's retrograde orbit, the fact that it is not tidally locked, and that it is probably a captured object.

Hubble Telescope Fix—Chris updated the members on the recent discussion for servicing the aging telescope and its degrading orbit. Public outcry has forced NASA to discuss manned versus robotic missions to the Hubble scope before 2008.

Swap Meet 2004—Next month's scheduled swap meet will be part of our July meeting. Ground Rules: All transactions are strictly between buyer and seller. We suggest that all participants make a short list of sale items with brief explanations. Participants will briefly describe their items to attendees. The regular meeting will take place with actual sale to occur later in the meeting.

New Business:

Lacey Veach Day--October 30, 2004, Punahou School. Chris Peterson will accept an invitation for club participation. This is an opportunity for any interested club member(s) to come up with a short workshop (@ 40 minutes) to help inform and better prepare inexperienced elementary or secondary teachers understand and

teach about astronomy more effectively.

School Star Parties—Forrest Luke reported that the numerous school star parties held during the month of May were successful.

A question was asked regarding the appropriateness of the term **Hui Kilolani** in the club logo. Native Hawaiian speakers consulted have indicated that Kilolani is more associated with astrology than astronomy, and a better choice would be **Kilo Hōkū**. If you have any further information on these words, please contact a board member.

Donation—The donation of a “dept. store” refractor will be used as a

teaching tool to share with educators. **Green Laser Policy**—Due to liability concerns, the HAS Board of Directors is formulating a policy for the use of laser equipment at club gatherings. A draft of the policy will be published in the Astronews and on our website.

Further discussion and voting by meeting attendees will take place at the July 6, 2004 meeting.

Further Adventures Down Under—VP Barry Peckham spoke briefly about the evolution and development of an club in Australia and how an endowment helped them to buy land and grow into more involved group.

Comet Sightings—Barry also spoke about viewing the NEAT and LINEAR comets last month and the prospects of viewing during the upcoming month.

Dillingham Site—The yearly contract for renewal for Dillingham site comes up July 31, 2004. Jim MacDonald will be sending a letter to renew.

(Continued on page 11)

Minor showers and early Perseid activity spice up July.

Tuesday the 9th, the **Pegasids**. Radiant 22h40m +15 deg.
This is generally a dirzzle with about 3 meteors an hour and the last quarter moon will mess it up.

Tuesday the 13th, the **July Phoenicids**. Radiant 02h08m -43 deg.
Another dirzzle with rates to about 8 per hour. Again the Moon is a problem.

Tuesday the 27th, the **Piscis Austrinids**. Radiant 22h44m -30 deg.
The Moon again spoils this shower.

Tuesday the 27th the **southern Delta Aquarids**. Radiant 22h36m -16 deg.
This is the stronger branch of the delta Aquarids but bright moonlight messes it up too.

Thursday the 29th, the **Alpha Capricornids**. Radiant 20h28m -10 deg.
This drizzle generally has less the 4 meteors an hour. Even the typically slow, bright, sometimes fireball-class meteors fail to miss the full Moon this year.

If you are interested in observing meteors
contact Tom Giguere on Oahu at 672-6677 or write to:
Mike Morrow, P.O. Box 6692, Ocean View, Hawaii 96737

Peace on Earth

William Carlos Williams, (1913)

The Archer is waken!
The Swan is flying!
Gold against blue
An Arrow is lying,
There is hunting in heaven—
Sleep safe till to-morrow.

The Bears are abroad!
The Eagle is screaming!
Gold against blue
Their eyes are gleaming!
Sleep!
Sleep safe till to-morrow.

The Sisters lie
With their arms intertwining;
Gold against blue
Their hair is shining!
The Serpent writhes!
Orion is listening!
Gold against blue
His sword is glistening!
Sleep!
There is hunting in heaven—
Sleep safe till to-morrow.

Radiation storms, 250 mile-per-second winds, charged particles raining down from magnetic tempests overhead ... it sounds like the extreme weather of some alien world. But this bizarre weather happens right here at Earth.

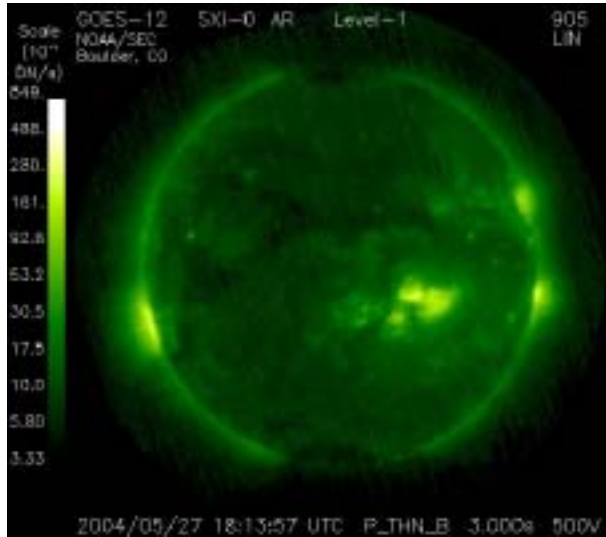
Scientists call it “space weather.” It occurs mostly within the gradual boundary between our atmosphere and interplanetary space, where the blast of particles and radiation streaming from the Sun plows into the protective bubble of Earth’s magnetic field. But space weather can also descend to Earth’s surface. Because the Earth’s magnetic field envelops all of us, vibrations in this springy field caused by space weather reverberate in the room around you and within your body as much as at the edge of space far overhead.

In fact, one way to see these “geomagnetic storms”

is to suspend a magnetized needle from a thin thread inside of a bottle. When solar storms buffet Earth’s magnetic field, you’ll see the needle move and swing. If you live at higher latitudes, you can see a more spectacular effect: the aurora borealis and the aurora australis. These colorful light

shows happen when charged particles trapped in the outer bands of Earth’s magnetic field get “shaken loose” and rain down on Earth’s atmosphere.

And because a vibrating magnetic field will induce an electric current in a conductor, geomagnetic storms can have a less enjoyable effect: widespread power blackouts. Such a black-



This image shows the outer solar atmosphere, or corona, as viewed by the GOES 12 Solar X-ray Imager (SXI). It shows the plasma at 4.0 MK (million degrees Kelvin). Bright areas are associated with sunspots seen in white light images and may produce explosive events known as flares. Dark regions are coronal holes where the fastest solar wind originates.

out happened in 1989 in Quebec, Canada, during a particularly strong geomagnetic storm. These storms can also induce currents in the metallic bodies of orbiting satellites, knocking the satellite out temporarily, and sometimes permanently.

(Continued on page 7)

Your Ad Here

Don't wait for the HAS swap meet. Advertise your Astronomy related items right here in the Astronews at no charge. You can e-mail details to paul@kilolani.net before the 15th of the month for inclusion in the following month's Astronews.

For more information call 395-8121 or e-mail ads@kilolani.net



A rare "double" transit of Venus and M-767

Space Weather (Continued from page 6)

Partly because of these adverse effects, scientists keep close tabs on the space weather forecast. The best way to do this is to watch the Sun. The NASA/ESA SOHO satellite and NOAA's fleet of GOES satellites keep a constant watch on the Sun's activity. If a "coronal hole"--where high-speed solar wind streams out from the Sun's surface--comes into view, it could mean that a strong gust of solar wind is on its way, along with the geomagnetic storms it will trigger. And an explosive ejection of hot plasma toward the Earth--called a "coronal mass ejection"--could mean danger for as-

tronauts in orbit. The advancing front of ejected matter, moving much faster than the solar wind, will accelerate particles in its path to near the speed of light, spawning a radiation storm that can threaten astronauts' health.

Look for coming articles for more about space weather and about NOAA's efforts to forecast these celestial storms. Meanwhile, read today's space weather forecast at <http://www.sec.noaa.gov/>. Kids can learn about the geostationary and orbits of the GOES satellites at http://spaceplace.nasa.gov/en/kids/goes/goes_poes_orbits.shtml

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

**Hawaiian Astronomical Society
Membership Application/Renewal
2004**

Name: _____

Street or P.O. Box: _____

City: _____ State: ____ Zip: _____

Phone: _____ e-mail: _____

Family Members: _____

Dues \$15.00 _____

Student Dues \$8.00 _____

Family members: each \$2.00 _____

Sky & Telescope subscription **\$32.95*** _____

Astronomy subscription \$29.00 _____

Donation _____

Total: _____

Fill out this form and send with your check payable to:
Hawaiian Astronomical Society
P.O. Box 17671
Honolulu, HI 96817-0671

Check here if you do not want information included in the Club Roster.

* New price

School Star Parties

by Forrest Luke

School and Group Star Parties are being coordinated by Forrest Luke. If you are contacted for a school star party, please have the school contact Forrest directly by phone at 623-9830 or via e-mail at <lukef003@hawaii.rr.com>.

As a reminder, upcoming scheduled school star parties are:

14 Jun 2004 IFA Workshop at Kapiolani Park

07 July 2004 Bellows AFB (church group)

28 Aug 2004 Girl Scout Camp (Dave Verrett)

26 Apr 2005 Ala Wai Elementary

If you signed up and need help finding the school, or if you didn't sign up, but still want to participate, please contact Forrest.



Standing with me at the June Public Star party is Katie Olsen, a girl who used to attend star parties many years ago as a little kid, and was a card carrying member back then. Now she is a senior in college in Chemistry and back in Hawaii on a chemistry fellowship at UH. The message might be that WE do make differences in many of the kids that visit our public star parties or those we meet at schools... we interest them or introduce them to science and perhaps influence the rest of their lives... and they sometimes even return to thank us.

— Gary Ward

Ed. Note: They didn't make chemistry majors like that when I was in college!

HAS Financial Report as of June 15, 2004

Initial Balance: \$5,811.53

Receipts:

Astronomy Payment..... 29.00

Dues Received 127.00

Total Income: **\$156.00**

Expenses:

Astronews 150.75

Magazine Subscriptions 317.65

Postage..... 13.17

Telescope Repair..... 192.00

Speaker's Dinner..... 8.35

Total Expenses: **\$673.57**

Final Balance **\$5,293.96**

We had three new members join the club this month. They are **Christopher** and **Malia Harwood** and **Nancy Wilimek**. Many thanks to those renewing their membership. Clear skies to all!

President's Message (Continued from page 2)
our findings to the membership. Many thanks to Clare and Mel for pursuing this!

The Cassini show has begun. The spacecraft recently flew by Saturn's moon Phoebe, which is probably a captured body from the Kuiper belt,

and returned spectacular images. By the time we meet in July, Cassini should have entered orbit around Saturn for a scheduled four-year mission. The excitement is just beginning. It should be quite a ride.

Chris

Minutes (Continued from page 4)

Summer Tourist Viewing—Mel Levin is looking for individuals who would be interested in participating in star shows for Japanese tourists from July 20th through August, for nominal monetary remuneration. A telescope is required to participate.

Barry spoke briefly about a recent Steve O'Meara article in the June *Sky and Tel*. Steve O'Meara wrote about how to become a more effective astronomer by educating his eyes to do a better job observing. Each of us can use similar training to improve our own abilities.

Spectroscopy—Ron Paul Smith offered a short history and additional information about practical astronomical spectroscopy for the amateur. Ron shared his knowledge of the field. And in an effort to better acquaint us, Ron brought several pieces of equipment, during this and last month's meetings. Ron urged us all to become more involved in amateur star spectroscopy, as it is one real way that the amateur astronomer can contribute useful data to the professional astronomers.

Beginner Topics: Surface Brightness—Without using long words, unpronounceable vocabulary and upper level physics, Paul Lawler spoke about and demonstrated differ-

ences in integral and surface brightness of stellar objects.

We want to help newcomers interested in astronomy but how do we keep them coming back to meetings. Barry Peckham spoke about the need for the club to come up with a series of reinforcements and incentives that will enable us to help newcomers more effectively. Barry urged members to visit geocaching.com for ideas.

Asterism Contest—As entrees for the asterism contest are no longer visible in the night sky, the Asterism Contest will be continued until Fall 04.

Gate Issues—Steve Huffman inquired whether a member with a cell phone might be willing to give out his/her number to help members caught outside (or inside) the locked or messed up Dillingham gate during club star parties. There were no immediate volunteers.

“Hawaii Star Party”—Some have inquired why HAS does not sponsor a large Star convention like those at Stellafane, Grand Canyon, etc. Price and workload are considerations. The meeting adjourned at 9:17 p.m. and refreshments were served. A short planetarium show was given by Joanne Bogan.

Respectfully Submitted,
Gretchen West, HAS Secretary

“And as far as hypotheses go, let no one expect anything in the way of certainty from astronomy, since astronomy can offer us nothing certain, lest, if anyone take as true that which has been constructed for another use, he go away from this discipline a bigger fool than when he came to it.”

— *Nicholas Copernicus (1473-1543)*

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