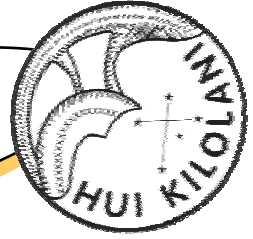


The Astronews



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December 2004

Hawaii Observes Lunar Eclipse

by Jim MacDonald

Dateline: Kailua Intermediate School

The cafeteria was a buzz with students, parents and teachers. Tables were set up with everything from microscopes to plants with participants eagerly involved in the various hands-on displays. There was even a table for assembling small refractor telescopes which eventually made it outside for a view of the moon.

Outside, the moon was visible through some clouds, but it was missing a large chunk. The earth's shadow was still blocking about half of the light and the moon appeared as a crescent. I pointed it out to the kids, but they were not to be impressed even when I told

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Upcoming Star Parties

Public Party	Dec 4	Dillingham
Club Party	Dec 11	Dillingham
Public Party	Dec 18	Kahala/Waikele
Public Party	Jan 1	Dillingham
Club Party	Jan 8	Dillingham
Public Party	Jan 15	Kahala/Waikele

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Upcoming Events:

- The next meeting is at 7:30 p.m. on Tuesday, Dec. 7th at the Bishop Museum.
- **Sam Rhoads** next planetarium show is on Monday, Dec. 6th.

President's Message

It's election time again. The club will elect its officers for 2005 at the December meeting. There will probably be no controversy or recounts for us, because we'll be lucky to get any contested elections. This may not be a terribly bad thing, because it may indicate that nobody is very displeased with the way things are going.

On the other hand, it might mean that no one cares which direction the club is headed. Mostly, though, I think it just means that nobody wants to take on extra responsibilities if they don't have to. As one who avoided serving the club in this way for many years, I can tell you that the rewards balance out the responsibilities. Please consider running for an office. It's rather easy to gain a position that will assure you a place in (club) history!

The club has a lot to be proud of as we look back over 2004. We have continued as one of the most active clubs anywhere with our one club-only and three public star parties every month plus numerous star parties we put on for schools throughout the year. Astronomy Day, Lacy Veach Day, events at the Bishop Museum, and much more—the list of activities to which the HAS contributed last year makes me proud to be a member. Most recently, we have joined the Night Sky Network, and that will provide opportunities for more educational outreach activities.

As meeting attendees know, I am Data Manager of the Pacific Regional Planetary Data Center on the Manoa campus of the University of Hawaii, and I distribute flyers at meetings to let members know of interesting astronomy-related talks that are coming up. Our next talk will be on Thursday, December 2nd, a few days before our December meeting, so I'll announce it

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Planets Close To the Moon

Times are Hawaii Standard Time

- Dec 7, 01h, M 0.36° N of Jupiter
(61° from sun in morning sky)
 - Dec 9, 13h, M 2.0° SSW of Mars
(29° from sun in morning sky)
 - Dec 9, 17h, M 3.3° SSW of Venus
(27° from sun in morning sky)
 - Dec 15, 04h, M 4.9° SSE of Neptune
(49° from sun in evening sky)
 - Dec 16, 14h, M 3.5° SSE of Uranus
(68° from sun in evening sky)
 - Dec 27, 21h, M 5.0° N of Saturn
(161° from sun in morning sky)
- Mercury is closer than 15° from the sun when near the moon in December.

Other Events of Interest

Times are Hawaii Standard Time

- Dec 5, 13h, Venus 1.2° NNE of Mars
(28° from sun in morning sky)
- Dec 9, 07h, Moon, Venus and Mars are close together in morning sky
- Dec 9, 22h, Mercury at inferior conj. With the sun (Passes into morning sky)
- Dec 11, 15:28h, New Moon
- Dec 13, Geminid Meteors
- Dec 13, 05h, Pluto at conjunction with sun
(Passes into morning sky)
- Dec 21, 02:40 UT, Winter Solstice
- Dec 26, 05:06h, Full Moon
- Dec 29, 10h, Mercury at greatest elongation
(22.4° W of the sun in morning sky)
- Dec 30, 20h, Mercury 1.1° NNW of Venus
(22° from sun in morning sky)

The Planets in December

<p>#</p>	<p>Mercury</p> <p>Will be visible low in the SE just before sunrise in the last two weeks of Dec.</p>	<p>\$</p>	<p>Venus</p> <p>very brightly in the morning sky. Close to Mercury on Dec 30. Mag, -4.0</p>	<p>%</p>	<p>Mars</p> <p>Near Venus before sunrise in eastern sky. Mag - +1.7</p>
<p>&</p>	<p>Jupiter</p> <p>Rises about 1:00 am. Can be viewed in the early morning hours.</p>	<p>'</p>	<p>Saturn</p> <p>Rises in early evening and is high enough for good views after 9:00 pm.</p>	<p>(</p>	<p>Uranus</p> <p>Visible in the SW after sunset. Mag. +5.8.</p>
		<p>)</p>	<p>Neptune</p> <p>Near Uranus, is best viewed early in the evening. Mag, +7.9.</p>	<p>+</p>	<p>Pluto</p> <p>Reaches opposition this month. To close to the sun to view.</p>

The November 2, 2004 meeting was called to order by President Chris Peterson at 7:35 p.m in the Atherton Halau, Bishop Museum with twenty-seven members and four visitors in attendance.

Planetary Data Center - Chris invited all interested individuals to attend a lecture: "The Continuing Adventures of the Mars Exploration Rovers," on the evening of November 16th. The talk will be held in room 504 of the POST Building on the UH Manoa Campus.

Chris greeted the membership and inquired of our visitors what their interests were.

We are holding a star party for the Hawaii Nature Conservancy and the Del Monte Company at the Kunia Site on the evening of November 18th. Sign-ups for those interested in helping out was available.

Recent Eclipses: The recent partial solar eclipse and lunar eclipse of October 13 and 27 were discussed.

Upcoming Elections: Club elections will be held at the December 2004 General Membership Meeting. Joanne Bogan is chairing the elections committee. Those running for office (i.e., being pressed into service) for the year 2005 are as follows.

- PresidentChris Peterson
- Vice President.....Barry Peckham
- Secretary Gretchen West
- Treasurer.....Jim MacDonald
- Astronews EditorPaul Lawler
- At-Large Rep.John Gallagher
- Steve Huffman

Anyone interested in adding their name to the list of nominees is asked to contact Joanne.

Lacy Veach Day: Gretchen West reported that the club participated in the Third Annual Lacy Veach Day of Discovery which took place on October 30, 2004 at the Punahou School, Case Science Center. Approximately 250 students, parents and educators enjoyed workshops, displays and hands-on activities.

Bishop Museum Telescope: Jim MacDonald reports that a new gear has been installed and the telescope is operational. An additional gear was purchased as back-up, totaling \$50. Museum volunteer Jeff Childs has purchased a timer to be installed to make sure that all electrical associated with telescope will be on timer to go off a certain time. Carolyn Kaichi has requested listing of \$\$ owed by Bishop Museum to HAS:

- Recoating the mirror..... \$142.00
- 2" diagonal and
- 2 steel gears \$224.00
- Total \$366.00
- Telrad and base (donated by J. MacDonald) Eyepiece adapter (donated by P. Lawler

Jim MacDonald explained to the membership that the cost for all repairs was initially undertaken at our expense and we are in a privileged position with Bishop Museum. Bishop Museum allows us to use Atherton Halau and the Planetarium for free. The general membership voted unanimously that HAS should absorb the cost of all repairs and send a letter to Bishop Museum, thanking them for their patronage. In addition, the letter will list items donated, procured and purchased for the refurbishment of the

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The Moon spoils only two shower this month. Sporadic rates remain good.

Wednesday the 1st, the **Chi Orionids**. Radiant 05h28m +23 deg.
The Moon is in the way for this drizzle. Only 1 to 3 slow faint meteors are to be expected.

Monday the 6th, the **Phoenicids**. Radiant 01h12m -53 deg.
This shower may produce from a few to near 100 meteors and hour. Even though it is more of a southern hemisphere shower we have observed nice rates a few times from Hawaii. Slow, moderately bright meteors are likely.

Monday the 13th, the **Geminids**. Radiant 07h28m +33 deg.
This shower may near 80 meteors an hour (more or less) the Moon is new and so it is a good time to observe this shower. The bad thing for us in Hawaii is the maximum is about 20 minutes past Noon and the greatest number of meteors will be within about 2 hours of that time. Oh well, give it a try anyway.

Wednesday the 22nd, the **Ursids**. Radiant 14h28m +76 deg.
Rates are variable and run from about 10 to 50+ per hour. There are a few hours of darkness before the Moon rises.

Other minor drizzles of this month produce only one or two meteors an hour so we will not worry about them

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

President (Continued from page 2)

here. The talk will be called **The Chaning Surface of Mars** and will be given by Norbert Schorghofer, an Assistant Astronomer and Postdoctoral Fellow at UH. He will be show-

ing and discussing images from the spacecraft that are currently orbiting Mars and documenting the details of changes on its surface. For more information, see: www.higp.hawaii.edu/prpdc.

Chris

Galactic Surprise

by Patrick Barry and Tony Phillips

Open an old astronomy textbook. The basic sketch you'll find there of galaxy formation is fairly simple: a vast cloud of diffuse hydrogen and helium gas condenses under gravity, and dense spots in the cloud collapse to form stars. Voila! A galaxy.

But real galaxies are much more

leads to the galaxies we see today. No wonder it's such a hard problem to solve!

Just over one year into its three-year mission, GALEX is already shedding some new light on the problem.

"Some of the discoveries GALEX has made will change our understand-



M81 is 10 million light years away. The image on the left was made from GALEX data and shows UV light from hot, new stars. These star-forming regions are not detectable in the visible light image on the right (McGraw-Hill Observatory, Kitt Peak, Arizona, Greg Bothum, Univ. of Oregon.)

complex than that. A galaxy is a swirling "soup" of billions of stars and roaming black holes, scattered clouds of gas and dust, random flashes of star birth and exploding supernovas, and an unseen and mysterious substance called "dark matter." Over time, all these ingredients mix and interact—pulling and compressing and colliding—and somehow that interplay

ing of how galaxies develop and when, where, and why stars form in galaxies," says Peter Friedman, a researcher at Caltech and Project Scientist for GALEX.

This small space telescope, called the Galaxy Evolution Explorer (GALEX for short), makes its discoveries by taking pictures of millions of

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galaxies scattered over the whole sky. Some of these galaxies are close by (at least by astronomical standards of “close”), while others are as much as 10 billion light-years away. Because light takes time to travel through space, we see these distant galaxies as they appeared billions of years ago. Comparing young galaxies from the distant past with older, modern galaxies will teach scientists about how galaxies change over time.

Looking at these pictures, scientists were surprised to find many new-born stars in the outer parts of old, mature galaxies. Scientists had assumed that as a galaxy ages, the clouds of gas needed to form new stars in these outer reaches either got used

up or blown away. Finding so many new stars in these regions of old galaxies (such as Centaurus A, Messier 101, and Messier 81) shows that, apparently, they were wrong.

Friedman says that astronomers don't know yet how to explain these new findings. Rethinking and improving theories to explain unexpected discoveries has always been the way science makes progress—and GALEX is certainly making progress.

One thing is certain: It's time to re-write some old textbooks.

For more information, see <http://www.galex.caltech.edu/>. Kids can do a galaxy art project and learn more about galaxies and GALEX at <http://spaceplace.nasa.gov/en/kids/galex/art.shtml>

Minutes (Continued from page 4)

scope. An accounting of the number of man-hours donated for repair and refurbishment will be listed as well.

Moving On: HAS member Kevin Polk (author of the popular “2sky” Palm planetarium software) will be moving to Texas early next month. He will keep us posted on activities in Texas. Sorry to see you go, Kevin! Good Luck and Keep in touch.

HAS Picture Album: We are in the process of putting together a book of pictures for show at meetings and for use on the web page. Gretchen West requests that anyone with pictures of members at star parties, school get-togethers, or CCD work be sent to her as JPEG images to document our HAS activities and outreach.

Telescope Auction: The 80 mm Celestron and tripod mount was auctioned off to Kevin O'Brien for \$52.00

Night Sky Network: John Gallagher has ordered 175 copies of the S&T "Night Sky" magazine from the Night Sky Network, free of charge, to be handed out as incentives to newcomers and returnees and stimulus to members who come to help out.

There is a Deep Field Hubble Site teleconference on-line on Tues. Nov. 9, at 4:00 pm. available at hubble-site.org/newscenter/newsdesk/archive/releases/2004/07

John Gallagher presented a rather lengthy Night Sky Network Training video.

The meeting adjourned at 8:57 pm. for refreshments, after which a short Planetarium Sky-Tonight program, guided by Joanne Bogan, ran for 25 minutes and was attended by seven enthusiasts

Up until this point in my favorite pastime, I could count Stellafane, The Riverside Telescope Maker's Convention and the Grand Canyon Star Party on a list of large and extended amateur astronomy events I'd sampled. With the addition of 2 more: The Mid-Atlantic Star Party (North Carolina) and the Chiefland Star Party (Florida), some general characteristics of mainland amateur astronomers have become more clear.

It is not my intent to create a stereotype but rather to remark on how our expression of this hobby has diverged from the way it is expressed in the contiguous 48. True, the major star party junkie is a subspecies of the average amateur astronomer, but in theory these party people can be held up as model hobbyists in that they represent the most active, most devoted and most knowledgeable of our breed. So they merit special scrutiny.

Very well then, picture this: The crowd at big star parties is very much tied in with the RV (recreational vehicle) crowd, which moves in a unique social climate at their own unique pace. My guess is that 30% or more of a star party crowd shows up in some form of recreational vehicle or with some kind of towable accommodations. Mobile Americans play by their own rules and guard their temporary territory while they hold it. Another 40% of star party attendees follow the lead of the RV crowd, because the big mobile homes are royalty on the field. Among the remaining 30% are the curious and the clueless along with the mavericks and renegades.

Renegades have crazy gear and do nutty things with it. The clueless

set up their tiny scopes so that daddy can show the moon to his 5 year old daughter... on a moonless early evening. Spanning all these groups are the population of gear-heads and tech-weenies. Of the total crowd, I'd put their percentage at about 40. There seems to be more when you are in their midst, because their gear spreads out all over the field. I'm talking about 200 square feet per telescope. The big Dobsonian scopes so famous at big star parties are now being crowded out by laptop driven SCTs running without eyepieces. In a field of 80 to 100 telescopes, you would be lucky to get looks in 3 or 4 eyepieces. Of course, the great majority of scopes with eyepieces are either not aimed at anything or else completely neglected. A walk around a big star party field in the dark will reveal that 70% or more of all scopes stand unattended.

An illustrative anecdote from the Mid-Atlantic Star Party: Weather was dicey on my first afternoon. As there was no reason to set up my scope in the middle of the day, I left it in the car. Neighbors either set up during the early afternoon (taking many hours and many hands) or chose not to expose their equipment to the moody elements. At 4:00PM the sky cleared. At 5:00 PM storm clouds swept in. From 5:30 to 6:00 a violent thunderstorm swept over the field, with lots of rain and close lightening strikes. Then the sky cleared in time for sunset. I set up my scope and then noticed that all other equipment was remaining under cover. Mine was one of about 3 scopes that made use of this cloudless evening. Event attendees regretted the

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rain but not the fact that they had squandered the night. There would only be 2 other clear nights, out of 7.

The cautionary news from these large events is that very few amateurs know the sky anymore. Go-To is God for these folks and the preference is to trade familiarity with the sky for familiarity with the latest software. The result is that evenings are spent looking down rather than looking up. It may make a pretty picture on their laptop, but pretty pictures can be downloaded from the internet at noon. Call me old-fashioned, but I was thrilling lines of lookers with celestial sights while many other scope owners were fretting over a bad wire, dead battery or crashed hard drive. Others had made long range plans to be at this event and were determined to enjoy themselves, even if it meant neglecting their equipment.

A related problem I faced when showing off my product (LITEBOX) was that potential buyers want to see

bells and whistles. The fact that my scope was compact, portable and stable, with smooth motions...did not address their interests!

And I'll note lastly that refractors are very much in vogue for those who still believe in visual observing. I'd guess that 30% of all scopes on the field were refractors in the 3" to 4" range. It may or may not surprise you that these scopes got very little use during the night. Few objects look compelling in a small refractor, few refractor owners knew the sky well enough to aim at more than 6 things, and few refractor mounts are easily aimable. A woman near me was showing "Uranus" to a line of people when I noticed that her aim was at least 30 degrees off. I put the planet in my scope to show that it looked different than a star. Folks enjoyed the views in both scopes.

Next Month: Anecdotes from the Chiefland Star Party.

Lunar Eclipse (Continued from page 1)
them that it was a full moon coming out of an eclipse. Perhaps seeing a crescent moon was not anything new to them.

A teacher had set up a 10" Celestron SCT on an equatorial mount. He appeared to not have much experience using one and I tried to help. The polar axis was pointed west, the drives were not connected to anything, there were not enough counter weights to balance the scope and finally in my opinion, the mirror had come loose from the focusing knob and could not be focused. He decided to put the scope away and in transporting it on a cart, it fell a little over

three feet and landed on the edge of a sidewalk, denting the tube rather severely. I am glad I was not involved with him at that point.

I set up a 6" club scope I had brought. From that point on, I had a steady stream of viewers. Because the moon was still partially within the penumbra, it was not too bright. However that soon changed, but it did not dampen any interest.

It appears that a good time was had by all with lots of excited kids doing things of interest to them.

Kay Fullerton, Leon and Heidi from the museum staff did a great job and I'll bet it won't be long before they are asked to return.

HAS Financial Report as of November 15, 2004

Initial Balance:..... **\$5,405.36**

Receipts:

Astronomy Payment.....	29.00
Donations	94.05
Dues Received.....	124.00
S&T Payments.....	65.90
Telescope Fee.....	20.00

Total Income: **\$332.95**

Expenses:

Astronews.....	137.44
Magazine Subscriptions	152.63
Refreshments	6.96

Total Expenses: **\$297.03**

Final Balance **\$5,441.28**

The club welcomes two new members this month. They are **Gena Stuchbery** and **Leland Gallup**. Many thanks to those renewing their membership and to **Leland Gallup**, **Walter Tokushige** and **Robert Humphreys** for their generous donations. Included in this category is Kevin O'Brien for his purchase of the 80mm scope donated to the club. Clear skies to all!

Who's Got the Key?

One of the benefits of Dillingham Airfield is that we are securely locked in while viewing. However, this can also be a problem. Getting locked in that is. Before it gets dark, members are advised to check to make sure that at least one board member is present and that the key to the front gate is, or will be available. If you find yourself alone, go out the front gate and wait to see if someone with the key comes along. Don't get locked in!

If the weather looks dicey and you are wondering about the status of the star party you can try calling the mobile phones of Paul Lawler at 292-2523 or Jim MacDonald at 371-8759.

2005 Meeting & Star Party Dates

Club Meeting	Dillingham Public	Dillingham Club Only	Kahala/Waikele
Jan 4	Jan 29	Jan 8	Jan 15
Feb 1	Feb 12	Feb 5	Feb 19
Mar 1	Mar 12	Mar 5	Mar 19
Apr 5	Apr 9	Apr 2	Apr 16*
May 3	Apr 30	May 7	May 14
Jun 7	May 28	Jun 4	Jun 11
Jul 5	Jun 25	Jul 2	Jul 9
Aug 2	Aug 6	Jul 30	Aug 13
Sep 6	Aug 27	Sep 3	Sep 10
Oct 4	Sep 24	Oct 1	Oct 8
Nov 1	Oct 22	Oct 29	Nov 5
Dec 6	Dec 3	Nov 26	Dec 10
Jan 3 '06	Jan 21 '06	Jan 28 '06	Jan 7 '06

* Astronomy Day

I wonder whether the stars are set alight in heaven so that one day each one of us may find his own again.

—Antoine de Saint Exupéry

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Large Astro Physics refractors are guaranteed cloud magnets.