The Astronews

HUI KILOLANI

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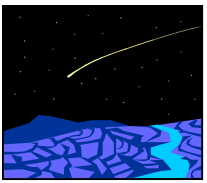
Fragment X: Untold Tales of Shoemaker-Levy 9

At the February meeting our guest speaker will be Mr. Peter Jedicke.

When SL9 slammed into Jupiter in the summer of 1994, it created a sensation in the world of astronomy. As the excitement mounted in the months after the discovery, scientists scrambled to make predictions and to plan observations.

Peter Jedicke's talk goes behind the scenes with the discoverers through this thrilling time, as he and his wife Dianne were invited to follow the events with David Levy and Gene & Carolyn Shoemaker from Palomar Mountain, where the discovery took place, to Washington, D.C. during impact week. It was a rare opportunity to see science become celebrity.

Inside this issue:



Upcoming Star Parties

Club Party	**Feb 5**	**Dillingham**
Public Party	**Feb 12**	**Dillingham**
Public Party	**Feb 19**	**Kahala/Waikele**
Club Party	**Mar 5**	**Dillingham**
Public Party	**Mar 12**	**Dillingham**
Public Party	**Mar 19**	**Kahala/Waikele**

Upcoming Events:

- The next meeting is at 7:30 p.m. on Tuesday, January 1st at the Bishop Museum.
- **Bishop Museum's** next planetarium show is on Monday, January 8dh.

President's Message

The Deep Impact mission launched successfully on January 12th for its July encounter with Comet Tempel 1. HAS members will gather at Bishop Museum on the night of July 3rd to participate in the Museum's program to educate the public about the mission and to show them the flash of light as the mission's impactor collides with the comet at 23,000 miles per hour.

On the 14th, the Huygens probe, released in December from the Cassini spacecraft, successfully landed on the surface of Titan, giving us our first good look at the surface of the solar system's only moon with a substantial atmosphere. Although the probe landing is in many ways the highlight of the mission, Cassini is really just beginning its exploration of Saturn and its satellites. Much more will be revealed in the years ahead.

Some celestial events are best viewed with human eyes from Earth, however. Ever since I learned that Antares ("not Mars" or "rival of Mars") was named to distinguish it from Mars, I have looked forward to seeing Mars as it passes Antares.

On the previous occasion, two years ago, this occurred on the morning of February 4th, when they rose a few minutes before 3:00 a.m. Mars was magnitude 1.24 compared to 1.1 for Antares, so the two appeared very similar in color and brightness. This year the conjunction came earlier in the year. After being joined by a waning crescent Moon, three days from new, on January 7th, Mars passed Antares on January 10th. At magnitude 1.54, Mars was noticeably dimmer than Antares. They rose about 4:30 a.m.

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Hawaiian Astronomical Society
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Observer's Notebook— February 2005 by Jay Wrathall

Planets Close To the Moon

Times are Hawaii Standard Time

Feb 5, 015h, M 4.2° S of Mars
(48° from sun in morning sky)
Feb 9, 14h, M 3.1° SSE of Uranus
(15° from sun in evening sky)
Feb 20, 02h, M 5.0° N of Saturn
(139° from sun in evening sky)
Feb 26, 23h, M 1.0° SSW of Jupiter
(141° from sun in morning sky)

Venus, Mercury, and Neptune are all closer than 15° from the sun when near the moon in February.

Other Events of Interest

Times are Hawaii Standard Time

Feb 3, 10h, Neptune at conjunction with sun (Passes into morning sky)

Feb 6, 12:29h, New Moon

Feb 14, 01h, Mercury at superior conj. with sun (Passes into evening sky)

Feb 23, 18:54h, Full Moon

Feb 3, 10h, Uranus at conjunction with sun (Passes into morning sky)

Planets in February

# Mercury Mercury will be too close to the sun to observe in February.	**$ Venus** Rises just before the sun in the morning sky	**% Mars** Rises about 4:00 a.m.. Still quite dim - Mag - +1.3.
& Jupiter Rises in mid-evening. Well placed for viewing after midnight.	**' Saturn** Reached opposition last month and is in the sky most of the night.	**(Uranus** Reaches conjunction with sun this month – too close to the sun to view.
) Neptune Also reaches conjunction this month—too close to the sun to view.	**+ Pluto** Rises about 3:00 a.m. Still too close to the sun to view easily.	

Meeting Minutes

H.A.S. Secretary

Meeting was called to order at 7:34 p.m. by Chris Peterson, There were 31 members and 4 visitors present.

Chris briefly reviewed various ongoing planetary missions of NASA and the ESA: Mercury Messenger, Mars Global Explorers, the Cassini Mission and the Huygens probe.

School Star Parties Forrest Luke reports that there are two school star parties for January, scheduled for Jan. 7, 2005 - Le Jardin (Kailua) Science Night. at the Old Windward Drive-In site, which will need 4 scopes. Another small home school group will be taking advantage of the the Saturday Kahala Star Party January 15.

Comets Visible - Machholz moving through the Pleiedes.

Mike Morrow - Big Island member of long standing, Mike shared his experiences of photographing the transit of Venus in Florida, reminding us that the next visible transit in 2012 will be visible in Hawaii. Mike also wanted to remember the late Sue Reed. Hers was the first 6" telescope to travel to the top of Mauna Kea, before any of the construction had begun up at the summit.

Upcoming Speakers - Chris Peterson announced that Karen Meech of IFA will be speaking in February or March about her new project in Astrobiology as well as updating the club on Project "Deep Impact- Comet Temple I." Notification of dates will appear in the Astronews.

Planetary Data Center Talks - There will be a lecture at the U.H. POST building, room 504 on January 15, 2005. The speaker will be Tony Owen.

Green Laser Advisory - Chris P. and the HAS Board advises all members with green lasers to use them with discretion. We would remind everyone that it is a federal crime to aim a laser light at any moving aircraft. Federal authorities are being very serious about prosecuting perpetrators.

Beginner¹s Topic - Barry gave a short talk about the preparation and use of ³Observer¹s Lists.² Prepare a list of viewable object available for upcoming nights. There is a great satisfaction to be had in checking off items you have found and mastered. It is a tool to help learn the night sky through out the year. Make the lists flexible and to list items that cover the night sky, so that if there are clouds in one section of the sky you can view in other places. You don¹t necessarily have to prepare your own. You can find prepared lists such as the Messier List, the Herschel 400, the Caldwell List, lists of double stars, and binocular lists. Each of
which you can find in books and online.

Be sure to get yourself a Hawaiian Tide Calendar. It is helpful in making you aware of the night skies as well.

PST Purchase - The general membership discussed, voted, and authorized the purchase of a Coronado solar viewing scope for approximately $530. The PST will be used as a rental, at the same rate as other scopes. Renters of this scope will sign a liability waiver and will need to receive basic instruction on its use from the Club. To help finance the purchase of the scope, the club will sell at auction, during the next general membership meeting, the red 8" Colter scope which has been one of the club¹s rental

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Meteor Log—January 2005

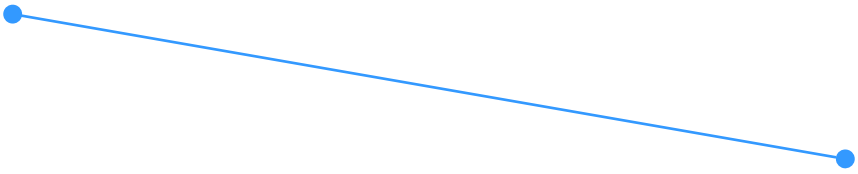
by Mike Morrow

The Bad News:
February is a month of normally weak showers and has the years lowest sporadic rates.

The Good News:
Fireballs are good during February.

That is about it for this month.

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



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scopes. Beginning price is to be $175.00.
Asterism Contest - At the next clear viewing night, HAS Board members will view and vote on entries already logged.
Field Trips - Barry P. proposes a Neighbor Island star viewing trip for early May 2005. For more information see the article on page 8 of this month's Astronews.
Greater Participation requested - The club is asking that more members with scopes join us at the Public Star Parties at Kahala Regional Park and Waikele Regional Park. Come and share in the satisfaction of sharing the night sky with others. Join in the fun and reap the self satisfaction of allowing others to enjoy the night sky.

Things You Might Want With You - Astronomy Magazine made a list of items the together sidewalk astronomer might like to have with them on an evenings viewing.

- Parracor-Coma corrector
- Telrad
- Dew Removers for Schmidt-Cassegrains
- Herald-Bobroff sky chart
- observing chair
- OIII filter

The January 4, 2005 general membership meeting adjourned at 9:18 p.m. Refreshments were served. Paul Lawler conducted the Planetarium show for members and visitors.

Respectfully Submitted,
Gretchen West

NASA's Space Place

Stardust Up Close

by Patrick Barry and Dr. Tony Phillips

Like discarded lumber and broken bricks around a construction site, comets scattered at the edge of our solar system are left-over bits from the "construction" of our solar system.

Studying comets, then, can help scientists understand how our solar system formed, and how it gave rise to a life-bearing planet like Earth.

The Stardust spacecraft used a grid holding aerogel to capture dust particles from comet Wild 2. In this test, high velocity dust particles are stopped unharmed at the end of cone shaped tracks in a sample of aerogel.

But comets have long been frustratingly out of reach—until recently. In January 2004 NASA's Stardust probe made a fly-by of the comet Wild 2 (pronounced "vilt"). This fly-by captured some of the best images and data on comets yet ... and the most surprising.

Scientists had thought that comets were basically "rubble piles" of ice and dust—leftover "construction materials" held together by the comet's feeble gravity. But that's not what Stardust found. Photos of Wild 2 reveal a bizarre landscape of odd-shaped craters, tall cliffs, and overhangs. The comet looks like an alien world in miniature, not construction debris. To support these shapes against the pull of gravity, the comet must have a different consistency than scientists thought:

"Now we think the comet's surface might have a texture like freeze-dried ice cream, so-called 'astronaut ice cream': It's solid and can assume odd, gravity-defying shapes, but it's basically soft and crumbles easily," says Donald Brownlee of the University of Washington, principal investigator for Stardust.

Scientists are currently assembling a 3-D computer model of this surface from the photos that Stardust took. Those photos show the sunlit side of the comet from many angles, so its 3-dimensional shape can be inferred by analyzing the images. The result will be a "virtual comet" that scientists can examine from any angle. They can even perform a virtual fly-by. Using this 3-D model to study the comet's shape in detail, the scientists will learn a lot about the material from which the comet is made: how strong or dense or brittle it is, for example.

Soon, the Stardust team will get

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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:

17 Feb 2005	**Ka`ala Elementary, Wahiawa**
11 Mar 2005	**Niu Valley Intermediate**
01 Apr 2005	**Kamehameha Schools**
15 Apr 2005	**Pearl Harbor Elementary**
26 Apr 2005	**Ala Wai Elementary**
29 Apr 2005	**Iroquois Point Elementary (alt. May 6)**
13 May 2005	**Lanakila Elementary**

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their hands on some of that material. In January 2006, a capsule from Stardust will parachute down to Earth carrying samples of comet dust captured during the flyby. Once scientists get these tiny grains under their microscopes, they'll get their first glimpse at the primordial makings of the solar system.

It's heading our way: ancient, hard-won, possibly surprising and definitely precious dust from the construction zone.

Find out more about the Stardust mission at stardust.jpl.nasa.gov. Kids can read about comets, play the "Tails of Wonder" game about comets, and hear a rhyming story about aerogel at http://spaceplace.nasa.gov/en/kids/stardust/.

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

Machholz Meets the Pleiades
Credit & Copyright: Stefan Seip

Moloka'i in May

by Barry Peckham

If you haven't been there, then you cannot fully appreciate that Oahu is located right next to the Northern Hemisphere's premier site for amateur astronomy. I invite you to discover this truth for yourself, at a group rate far cheaper than a ride in the space shuttle (or a visit to any other off-island dark sky site with telescopes and accommodations).

Here's the deal: if we can fill 10 "units" at Molokai Ranch Beach Village for the nights of May 7th and 8th (Friday and Saturday nights), then we get a per-unit rate of $129 per night.

Some terms defined:

The Beach Village is a well-watered, nicely landscaped cluster of 80 fancy tents connected to 40 decks, plus a beach front dining pavilion all located on Molokai's West End, 8 miles down a gravel road from the hilltop town of Maunaloa. It was built as an eco-resort in '97, but wasn't marketed that way. Think of it as a 4 star camping experience in an oasis along a deserted shoreline on a desert isle.

A "unit" consists of 2 luxury bedroom tents sharing a large elevated deck and bathroom with solar-hot water shower and flush toilet. The word "tentalow" is used to describe these units. They can sleep up to 4, which means a couple plus 2 individuals who are willing to share a tent. Luxury beds and bedding are provided as well as housekeeping service, including towels/shampoo/flashlight/candles. There are no electrical outlets but solar powered lighting is installed. Each tentalow has an ice chest with ice changed daily.

The quoted group rate is exclusive of food but seems to include shuttle service to and from Maunaloa town. Expect about $25 in taxes and extra charges to be added to this basic rate. Transportation to and from the airport is not included. You can go to: http://www.molokairanch.com for

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Club Telescope Auction

At the February meeting our club's 8", f/4.5 Coulter scope will be auctioned off. Starting bid is $175. This scope has been improved in several ways by club members, with weight-reducing cut-outs in the base, altitude tensioning springs, real teflon bearings and even decal decoration. If you cannot attend the meeting, you can email serious bids to Barry : barry@litebox-telescopes.com

Moloka`i *(Continued from page 8)*
pictures of the facilities and for the regular rates charged at the Beach Village.

What makes our field trip special is that there will be a bunch of like-minded people together under very dark skies with telescopes and only a 2 minute walk to bed. I cannot guarantee cloudless conditions but remind you that the dry West End has 80% clear nights during the good months, and that May is one of the best months
for good weather. May also favors the southernmost swath of the Milky Way, including Eta Carinae and the Southern Cross which Oahu's Leeward
lighting prevents us from enjoying over here.

About telescopes: some of us own a travel scope for a reason, and others have their reasons for not owning one. Since all will want to share the aperture brought to this idyllic place, I ask that folks with less than 90mm of aperture please contribute $30 to a pot that will be passed on to the scope wranglers on a per-square-inch-of-aperture basis. Think about this before you gripe. It is not complex and it is more than fair. This is how you can show up without a scope and expect to share in the beautiful views.

Let me know your interest by email ASAP and we'll need to collect deposit money by March. This is a great opportunity, cheaper than a trip to Mauna Kea and with much better comfort included. Club families are invited to come along. It's a great place in the daytime too.

President *(Continued from page 2)*

As I write this, Mars has slipped further down the ecliptic. The head of Scorpius, along with Antares and Mars, now looks a little like a giant head of Taurus as rendered by Picasso—with two red eyes on the same side of the head! By the time of our meeting on February 1st, Mars will be heading from Ophiuchus into Sagittarius, so catch a glimpse of the two while you can..

Chris

Treasurer's Report

by Jim MacDonald

HAS Financial Report as of January 15, 2005

Initial Balance:	**$5,626.40**
Receipts:	
Astronomy Payment	58.00
Donations	29.10
Dues Received	304.00
S&T Payments	131.80
Total Income:	**$522.90**
Expenses:	
Liability Insurance	989.78
Magazine Subscriptions	116.00
Postage	3.85
Refreshments	7.23
Total Expenses:	**$1,116.86**
Ending Balance:	**$5,032.44**

The club welcomes nine new members this month. They are **Andre, Daunna**, and **Andrew Yanoviak**; **Francesca Pantohan**, **Joshua, Jayson** and **Janae Hayworth**; **Ron Dennis**; and **Tim Patrick**. Many thanks to those renewing their membership and to **Gary Ward**, **Andre Yanoviak**, **Susan Girard** and **Yoshiyuki Inoue** for their donations. Clear skies to all!

With every passing hour our solar system comes forty-three thousand miles closer to globular cluster M-13 in the constellation Hercules, and still there are some misfits who continue to insist that there is no such thing as progress. *—Ransom K. Ferm*

Telescope for Sale

Don't settle for a mass market import. Lovingly hand made 6", f/8 Dobsonian scope with automotive finishes, rotating tube, metal focuser and Telrad® finder (eyepiece options available but not included). $400 Call Barry: 524-2450

Hawaiian Astronomical Society
Membership Application/Renewal
2004-2005

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:		_____

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