The Astronews

HUI KILOLANI

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www.hawastsoc.org

President's Message

by Chris Peterson

As usual (or so it seems), a rare celestial event was mostly ruined by the weather in Honolulu. I went out a few times on the night of November 16/17 to look for Leonids. There was supposed to be a peak around 11 p.m. Hawaii time, followed by another about 12 hours later. Neither was ideal for Hawaii. I checked the sky at about 11:00 p.m. Surprisingly, there was a good patch of clear sky overhead, but the radiant hadn't risen, and I saw no meteors.

The weather soon became less favorable, with heavy overcast and passing showers. However, things improved a bit, and about 3 or 4 a.m. I did manage to see two Leonids. Both were bright and fast moving giving the appearance of a streak several degrees long. The chilly wind, clouds, and rain forced me inside for good after only a few minutes, but it looked like it might have been a fine display under better conditions. The next two nights had similar conditions, so I saw no more. What did you see?

☆

Even though we saw no impact plume from the LCROSS mission, NASA did get good data from the shepherding satellite and finally released the results many had been hoping for – water on the Moon! Not just trace amounts, either, but an estimated 25 gallons + from the small crater that resulted from the impact. Further investigations are now certainly a higher priority. One sample is only enough to generate lots of interest. Plans for actually harvesting and using the water will have to wait until we have a better idea of the extent of the

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Inside this issue:

Upcoming Events:

☆The next meeting is 7:30PM on **Tues., Dec. 1** at the Bishop Museum Planetarium.

☆Bishop Museum's next planetarium show with **Barry Peckham** is Friday, **Dec. 4 & 18** at 8:00 p.m.

www.bishopmuseum.org/calendar

☆The next Board Meeting is Sunday, **Nov. 29** at 3:30 p.m. at the POST building at UH.

NIGHT SKY NETWORK NEWS

by John Gallagher

SPECIAL UPDATE for NSN CLUBS:

The Night Sky Network website is being expanded effective December 1, 2009 to make it more useful for clubs to manage their events and for keeping club records. Be sure to attend this months meeting (Dec 1st) to learn more about the new features and help decide what directions the club should take. A short video will be shown on some of the ways the club can use the new NSN website. Here are some of the highlights available:

1. An event calendar that can be linked into our existing web page;
2. Find Astronomy Clubs around the country (nice if you plan to visit);
3. Look for Astronomy events taking place in other locations;
4. Club members can log on and manage their accounts and post hours and mileage to events for which they participate as volunteers;
5. Club members can volunteer for special events such as public and school star parties or other events sponsored by the club (usually this only happens at club meetings thus if you miss the meeting you can still sign up);
6. Special form that anyone (even public) can request club support such as school star parties.;
7. Club newsletter links;
8. Quick means of alerting members if an event is cancelled;
9. Provide an archive for club records.

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The Astronews is a 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 email. The deadline is the 16th of each month. We are not responsible for unsolicited artwork.

Meeting Minutes

by Gretchen West

President ***Chris Peterson*** called the November 3, 2009 meeting of the Hawaiian Astronomical Society to order at 7:35 p.m. The meeting was held at the Planetarium on the grounds of the Bishop Museum. There were thirty members and four visitors in attendance.

Hawaii Space Lecture Series –On November 17th, there will be a presentation of results of the Mars Phoenix Mission titled "Ice, Not Rocks." Lectures take place in the NASA Pacific Regional Planetary Data Center, room 544, P.O.S.T. Bldg, on the grounds of the University of the Hawaii, Manoa. Free lectures usually begin at 7:30 p.m. Should you be interested in any upcoming lectures or for information you can contact NASA PRPDC at 808-056-3132 or on the Web go to http://www.higp.hawaii.edu/prpdc.

Aerospace in Hawaii Week- Information about the activities of the Hawaiian Astronomical Society was available to legislators at an H.A.S. display table during Aerospace Week at the State Capitol Building for. ***Gretchen West*** provided the display.

Dillingham Airfield – The new policy for locking the gate at Dillingham Airfield is now being enforced. As of now, the KeyMaster needs to contact the security officer on site by phone and arrange to meet him at the gate so that our lock can be interlocked (daisy-chained) with the airfield lock. Upon leaving the airfield, the KeyMaster must again contact the security officer and have him meet us at the gate and disengage our lock and the airfield lock so that it can be secured for the night.

REMINDER: Hand-held lasers are to be used sparingly to point out object in the night sky. Pointing lasers at earthbound object or at people is expressly forbidden! LCROSS - The LCROSS impactor crashed into Crater Cabeus on the moon's southern limb at 1:31:30 a.m. early October 9th, throwing up an amount of material. Four minutes later the shepherding spacecraft also impacted nearby. Earthbound telescopes like Keck, on the Big Island of Hawaii as well as telescopes like the Hubble Space Telescope watched, waiting to examine the impact plume. Little was seen at the time. H.A.S. President ***Chris Peterson*** explained that results would be forthcoming. While the early simulations computed probable results calculated with a spherical impactor in mind, rather that the empty cylindrical object that was the actual impactor.

FYI - H.A.S. President ***Chris Peterson*** spoke briefly regarding the Messenger Mission to Mercury. The third fly-by will occur in the very near future. The orbiter got a gravity assist in order to slow down so that it may be ready to settle into an orbit in early 2011.

Astronaut Lacy Veach Day- HAS participated again in a celebration of science for students, parents and educators in this year's Astronaut Lacy Veach Day of Discovery took place at the Mamiya Science Center on the grounds of Punahou School on October 24th. H.A.S. members ***Susan Girard, John Gallagher, Jim MacDonald, Gretchen West, Travis Le, Harry Zisko*** and ***Forrest Luke*** were our ambassadors of astronomy to students and parents alike.

School Star Parties – H.A.S. Star Party coordinator ***Forrest Luke*** reports that October is a full schedule.

Nov. 14 – Girls Scout Camp at Pupukea
Nov. 18 – Camp Erdmann
Nov. 18 – Honowai Elementary School in Waipahu
Nov. 20 – Waihiku Elementary in Waianae

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NASA's Space Place

A Cosmic Crash

Two small planets hurtle toward each other at 22,000 miles per hour. They're on a collision course. With unimaginable force, they smash into each other in a flash of light, blasting streams of molten rock far out into space.

This cataclysmic scene has happened countless times in countless solar systems. In fact, scientists think that such collisions could have created Earth's moon, tilted Uranus on its side, set Venus spinning backward, and sheared the crust off Mercury.

But witnessing such a short-lived collision while pointing your telescope in just the right direction would be a tremendous stroke of luck. Well, astronomers using NASA's Spitzer space telescope recently got lucky.

"It's unusual to catch such a collision in the act, that's for sure," said Geoffrey Bryden, a cosmic Crashspitzer and astronomer specializing in extrasolar planet formation at NASA's Jet Propulsion Laboratory and a member of the science team that made the discovery.

When Bryden and his colleagues pointed Spitzer at a star 100 light-years away called HD 172555, they noticed something strange. Patterns in the spectrum of light com-

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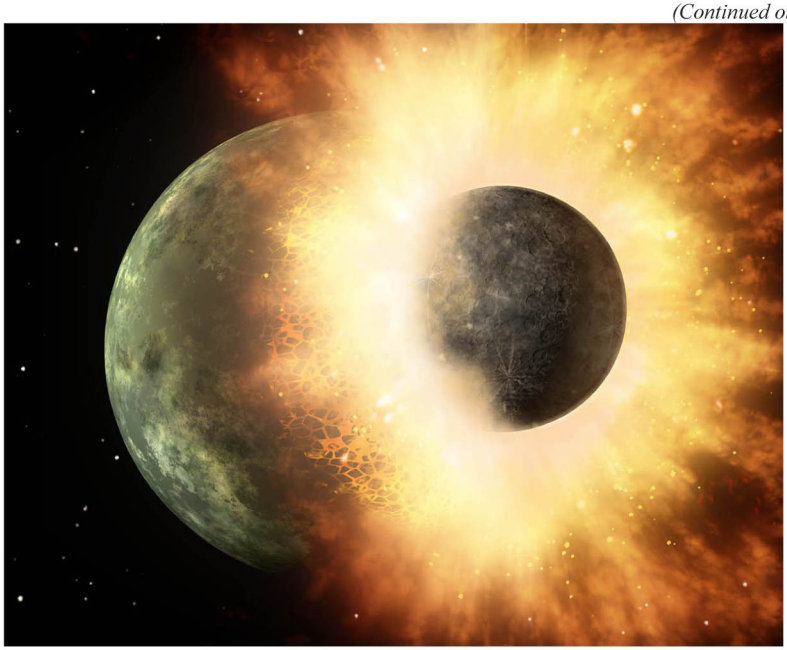

Artist's rendering of cosmic collision involving two objects whose combined mass was at least twice that of our Moon. Discovered using the Spitzer Space Telescope in the planetary system of a star called HD 172555 100 light-years away.

Winter Sparkle — by Barry Peckham

I came home late the other night and paused on my way indoors to survey the Eastern Sky. For many of us, the bright stars and faint-but-fabulous Milky Way of winter greet us like the return of an old friend: so many memories over so many years. Autumn is a subtle season for stargazers. We savor last looks at the summer sky and anticipate winter previews on the eastern horizon. Cassiopeia comes back into play during autumn and the Great Square pulls Andromeda high into the heavens. Celestial beauties drain from the southern sky but intensify in the north, and then 7 sisters lead the parade of winter sparkle.

December is perhaps the best month to enjoy the light show that is Sirius, low in the SE at a convenient hour and flashing a kaleidoscope of color. Early in December Capella can give you a nice show, until Sirius rises to steal your attention. Spotting an oversized, lyin' Orion on the horizon, scope wranglers often jump the gun and catch the Orion nebula still skewered by tree branches. It is a better time to grab a chart and spend some time in Cetus and Eridanus, Taurus and Aries. Sculptor and Fornax flirt with the meridian in December's early evenings: galaxies galore! Perseus rises high enough now. Check out the Alpha Persei association in binoculars, before or after you play with the Pleiades.

And please remember that the year's best, most reliably numerous meteor shower falls in mid-December. The Geminids shoot across our sky earlier in the evening than most showers, because Gemini rises well before midnight. The moon will stay out of

(Continued on page 11)

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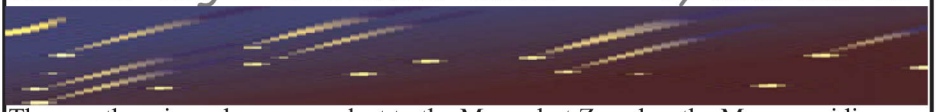
Meteor Log - December 2009 — by Mike Morrow



The months minor showers are lost to the Moon, but Zena has the Moon avoiding the Geminids and the Ursids. Sporadic rates remain good.

Monday the 14th, the Geminids.

Radiant 07h28m +33 deg. Rates may be near 100 an hour, but the maximum is forecast for 5hr UT or 7PM local time. T radiant is just north of the star Castor. So the radiant should be visible most of the night. The maximum should be within about 2h20m either side of the 7PM forecast time. Slightly less rates may for several hours either time from the maximum forecast time above.

Tuesday the 22nd, the Ursids.

Radiant 14h28m +76 deg. Rates are mainly about 10 and hour, but may get as high as about 50 an hour. The cresent Moon will set in the late evening giving plenty of observing time. The circumpolar radiant is near Kochab (Beta Ursae Minoris) and is highest near dawn. The peak of the shower may fall between 3 and 5 AM on the 22nd, however some people thint the peak may occur about 9:15Pm our local time with rates less than 15 an hour.

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

Planets Close To the Moon

Times are Hawaii Standard Time

Dec 6, 13h, M 5.1° SSW of Mars (116° from sun in morning sky)

Dec 9, 19h, M 7.1° SSW of Saturn (75° from sun in morning sky)

Dec 17, 21h, M 1.4° NNW of Mercury (20° from sun in evening sky)

Dec 21, 02h, M 3.8° NNW of Jupiter (54° from sun in evening sky)

Dec 21, 02h, M 3.3° NNW of Neptune (54° from sun in evening sky)

Dec 23, 11h, M 5.4° NNW of Uranus (81° from sun in evening sky)

Venus is closer than 15° from the sun when near the moon in December.

Other Events of Interest

Times are Hawaii Standard Time

Dec 1, 21:31h, Moon Full

Dec 14 Geminid Meteors
(Favorable year for this major shower)

Dec 16, 02:02h, Moon New

Dec 18, 07h, Mercury at greatest elongation (20.3° East of the sun in evening sky)

Dec 21, 00h, Jupiter 0.53° SSE of Neptune (55° from the sun in evening sky)

Dec 21, 02:47h, Winter Solstice

Dec 31, 09:13, Moon Full
(2nd full moon of the month, sometimes called a blue moon.)

Mercury Fairly good evening apparition in December, reaching greatest elongation of n Dec. 18.	**Venus** Venus is too close to the sun to be viewed in December.	**Mars** Brightens to magnitude -0.8 and grows to 12.7" by months end as it approaches opposition.
Jupiter Jupiter is still bright and well-placed for viewing in the evening sky. Passes very close to Neptune on Dec 21.	**Saturn** Rises about midnight and can be viewed in the hours before dawn. The rings continue to open.	**Uranus** East of Jupiter in the evening sky in the constellation of Aquarius.
Neptune Near Jupiter and can be viewed in the evening hours.	Dwarf Planet **Pluto** Reaches conjunction with the sun on Dec. 24 and passes into the morning sky. Too close to the sun to view.	Asteroid **4 Vesta** Visible in Leo after midnight as it approaches opposition in Feb, 2010. Magnitude in Dec. is about 7.5.

(Minutes continued from page 3)

Forrest passed around a sign-up sheet for astronomers.

Star Parties - Weekend star parties are always fun. October star parties were often overshadowed by cloudiness. The October 24th star party at Kahala was very cloudy. Yet, ***Sue Girard*** and ***Mike Linolt*** set up their scopes and shared what was available of the night sky with young visitors who wanted to try to take pictures of the moon through the eyepiece with their cell phones. About 50 visitors associated with a Boy Scout troop visited the Waikele star party. ***Forrest Luke*** reports that he has received information that the Waikele location may have a new installation of lighting. We hope it will not interfere too much with viewing.

Upcoming Election – ***Joanne Bogan*** will be taking the names of any club members interested in running for a seat on the H.A.S. Board of Directors. The current Board members are still willing to serve. Elections will take place at the December general membership meeting.

Visitors – We had three visitors this month, ***Bill Mosa, Ted Bois*** and ***Jenna Carlson***. Each is interested in joining us at weekend star parties.

Night Sky Network – At-Large member ***John Gallagher*** reported on the recent November teleconference. Teleconferences take place between 3:00 pm and 4:00 pm HST. Should you be interested in these very interesting teleconferences, please feel free to contact John.

The membership viewed a short video "Sharing the Night Sky" from the Night Sky Network and the Astronomical Society of the Pacific. This little video pointed out how all club members can participate in public outreach in astronomy.

Sky & Tel 2010 Calendars – ***Jim MacDonald*** has 2010 Sky & Tel calendars for sale for $6.50 for club members.

Lessons with Barry – Vice President ***Barry Peckham*** spoke about a list of things to look at for the upcoming months of November and December. Barry shared some insights from a mainland astronomy club, the Delaware Valley Amateur Astronomy club.

Leonid Meteor Showers – On the morning of November 17 members can go outside to view this year's Leonid Meteor Showers, weather permitting. The shower should be quite good this year with a dark sky and late sunrise.

Barry urged members to come out to club activities here or enjoy the night skies on other islands and to generally get involved in this interesting hobby we all enjoy.

As there was no further business, the meeting was adjourned at 9:07 p.m.
Refreshments were served.

Respectfully Submitted,
Gretchen West
H.A.S. Secretary

December 2009

Printable View

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Week 49	29	30	1 7:30p HAS Meeting	2 Full Moon	3	4	5
Week 50	6	7	8	9	10	11	12 6:30p Dillingham Club Star Party
Week 51	13	14	15	16 New Moon	17	18	19 6:30p Dillingham Public Star Party
Week 52	20	21	22 Comet 118P/Shoemaker-Levy 4 Closest Approach To Earth (1.019 AU) M 12.12	23	24	25 For more events look here. 12p Charge your battery packs	26 6:30p Kahala & Waikele Public Star Party
Week 1	27	28	29	30	31 Full Moon	1	2

☆ Upcoming Star Parties ☆

Club Party-Dillingham	**Dec. 12**
Public Party- Dillingham	**Dec. 19**
Kahala/Waikele Party	**Dec. 26**

HAS Yahoo Group

http://tech.groups.yahoo.com/group/HawaiianAstronomicalSociety/

(Lightning continued from page 4)

ing from nearby the star showed distinctive signs of silicon monoxide gas — huge amounts of it — as well as a kind of volcanic rock called tektite.

It was like discovering the wreckage from a cosmic car crash. The silicon monoxide was produced as the high-speed collision literally vaporized huge volumes of rock, which is made largely of silicon and oxygen. The impact also blasted molten lava far out into space, where it later cooled to form chunks of tektite.

Based on the amount of silicon monoxide and tektites, Bryden's team calculated that the colliding planetary bodies must have had a combined mass more than twice that of Earth's moon. The collision probably happened between 1,000 and 100,000 years ago — a blink of an eye in cosmic terms.

The scientists used the Spitzer space telescope because, unlike normal telescopes, Spitzer detects light at invisible, infrared wavelengths.

"Spitzer wavelengths are the best wavelengths to identify types of rock," Bryden says. "You can pin down which type of rock, dust, or gas you're looking at."

Bryden says the discovery provides further evidence that planet-altering collisions are more common in other star systems than people once thought. The "crash-bang" processes at work in our own solar system may indeed be universal. If so, Spitzer has a front row seat on a truly smashing show.

See Spitzer Space Telescope's brand new Web site at http://spitzer.caltech.edu/. Kids can learn about infrared light and see beautiful Spitzer images by playing the new Spitzer Concentration game at http://spaceplace.jpl.nasa.gov/en/kids/spitzer/concentration.

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

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See related story on pg. 2

HAS Financial Report for the month ending as of Nov. 15, 2009

Initial Balance:	**$4,406.57**
Receipts:	
Dues Received	246.00
Calendar Sales	13.00
Donations	10.05
Magazine Payments	65.90
Total Income:	**$334.95**
Expenses:	
Astronews	134.80
Mailing Supplies	37.11
Postage	2.41
Total Expenses:	**$174.32**
Final Balance	**$4,567.20**

We gained eight new members this month. They are *Jen Kim*; *Dan Bent*; *Kate Thomas*; *Michael McMahon*; *Jenna Carlson* and *Travis Totz*; *David Plaskett* and *Beth Grainger*. A special thanks to *Elton Chambers* and *David Plaskett* for their donations. Thanks and clear skies to all renewing their membership this month. **Don't forget that most members have December as their renewal anniversary date.**

Upcoming School Star Parties 2009

No School Programs Until 2011!
HAVE A NICE VACATION!

(President continued from page 1)

deposits. Fortunately, we have enough data to make estimates that can be tested with further experiments in the future.

As you may know, I will be out of town for our December meeting when we will hold our annual elections. I will be happy to serve as President for another year if you re-elect me, but I encourage everyone to consider serving as an officer of the club. The Hawaiian Astronomical Society is only what we make it. There is great satisfaction to be derived from continuing a tradition of service to other club members and the general public. Don't miss out!

Chris

(Winter continued from page 5)

the way until the wee hours, so all we need is a fairly rare clear December night. Get away from city lights on Sunday night, the 13th, or just come out to Dillingham on the 12th and catch a few stray Geminids as you study the Silver Dollar galaxy in Sculptor. El Nino just might give us stargazers a chance this December. Get your gear ready for action!

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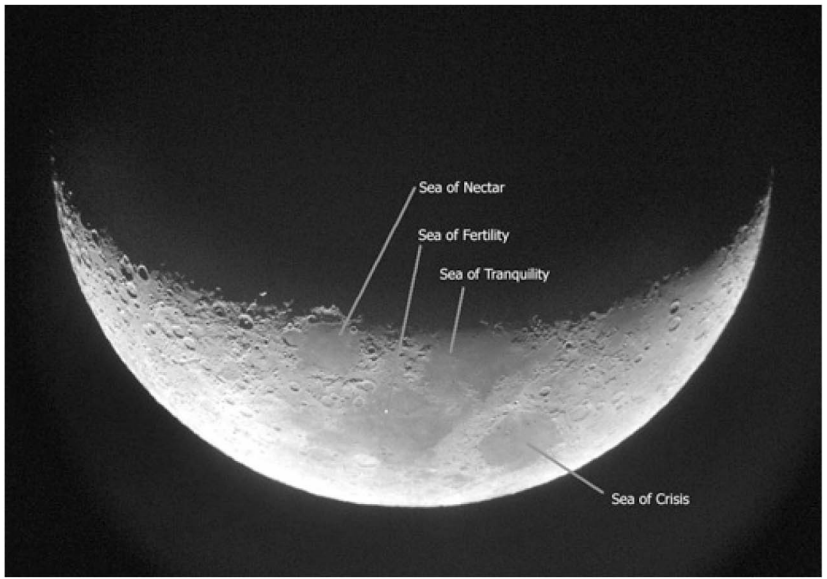

KAHALA MOON SHINES THROUGH ON SATURDAY, NOV. 21. Photo taken by Barry Peckham through his Canon camera through the eyepiece of his telescope.