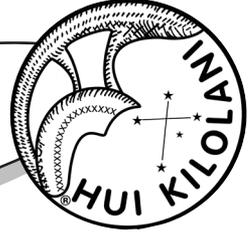


The Astronews



Volume 58, Issue 11

NOVEMBER 2010

www.hawastsoc.org

President's Message

by *Chris Peterson*

When Galileo started observing the night sky 400 years ago, he had the field of telescopic astronomy pretty much to himself. On the other hand, his optics were extremely poor by today's standards. Nevertheless, he managed to make some important discoveries and get the ball rolling in a new field of science.

Today we have a very large and still growing number of observers, both professional and amateur, and telescopes that keep growing in size, sophistication, and favorability of location (high mountains and even in space). While this makes it harder for an individual to chance on a new discovery, it means that more eyes are constantly on the sky, and infrequent events that were seldom if ever seen are now being noticed.

One recent example is Asteroid P/2010 A2. It was discovered on January 6th of this year in images produced by the LINEAR observatory, which searches for Near Earth Objects. The image was unusual (it looked like a comet but moved like an asteroid), so follow-up observations were conducted by the Rosetta spacecraft and by the Hubble Space Telescope. It now appears that this asteroid is

(Continued on page 11)

☆ Upcoming Star Parties ☆

Club Party-Dillingham	Nov. 6
Kahala/Waikele Party	Nov. 13
Public Party-Dillingham	Nov. 27

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Upcoming Events:

- ☆ The next meeting is 7:30PM on **Tues., Nov 2** at the Bishop Museum Planetarium.
- ☆ Bishop Museum's next planetarium shows with **Barry Peckham** are Friday, **Nov. 5 & 19** at 8:00 p.m. www.bishopmuseum.org/calendar
- ☆ The next Board Meeting is **Sun., Oct. 31** at 3:30 p.m. at the POST building at UH.

Closer Look...



NOVEMBER CLUB MEETING UPDATE:

As some of you may recall, there has been rumors of an HAS club meeting at the Imaginarium--the planetarium at Windward Community College--sometime in the fall. The facility just completed a software upgrade on their digital projection equipment and installed a new show, "Tales of the Maya Skies".

Unfortunately, there are still some glitches in the system and Dr. Joseph Ciotti, Director for the Imaginarium and the Center for Aerospace Education, would like to postpone our meeting there until those issues are fully corrected.

Stay tuned for more information in the coming months, but for now the new program is running and available to the public. (If you don't want to wait!) ☆



MAUNA KEA ASTRONOMY TOUR UPDATE:

We have received a lot of positive response on the proposed HAS "field trip" to the Big Island in the summer of 2011 to visit the Gemini Observatory and possibly do some observing with the local astronomy club at the 9,000 ft. level Visitor Center facility.

While we don't have a definite date set yet, we will be in touch once we determine the number of members and their guests we need to accommodate.

Club members *John Sandor* and *Joanne Bogan* will coordinate the tour but you may also contact any of the board members and we will forward your inquiries to them. Now that it appears there is enough interest to generate a tour, we will move forward with plans.

More information will follow as the year progresses!

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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.

President Chris Peterson called the October 5, 2010 meeting of the Hawaiian Astronomical Society to order at 7:31 p.m. The meeting was held at the Planetarium on the grounds of the Bishop Museum. There were 25 members and three visitors in attendance.

Associated Lectures: Chris Peterson reports that the next Hawaii Space Lecture Series talk will take place at 7:30 pm, on Tuesday, October 26th. Dr. Gary Huss will give this month's lecture. The subject of this month's talk will "The Genesis Mission: New Results from a Challenging Mission." The talk will discuss the study of particles of the solar wind that have been collected during the mission. Contact NASA PRPDC at 808-956-3132 or on the Web go to <http://www.higp.hawaii.edu/prpdc> for more information.

The Deep Impact spacecraft has been reassigned to chase Comet Hartley II, which will be closest to us on October 20. The spacecraft is scheduled to make a flyby of the comet around November 4th and image it. Comet Hartley II is moving quickly through the sky and should be visible to those with binoculars and telescopes.

School Star Party Report: **John Gallagher** reported that club astronomers entertained Niu Valley Middle School during September. During the month of October, Hawaiian Astronomical Society will visit Mililani Ike and Mililani Uka.

We had three visitors to the club's general membership meeting. The visitors indicated that courses in astronomy and lifelong interests in astronomy were the impetus for them seeking us out.

FYI – As observers of the nighttime sky, many of us have noticed the fading of Jupiter's southern band.

Lacy Veach Day – For the fifth year, the H.A.S. will participate in the Astronaut Lacy Veach Day of Discovery. The event takes place Saturday, Oct. 16 at Punahou School's Mamiya Science Building. Our club will show students, parents and educators images of the Sun and promote our star gazing events.

PST Update – The club's personal solar telescope (PST) has been repaired and is available for rent. If interested, please contact Vice President **Barry Peckham**.

Starlight Reserve Committee – At-Large member **Harry Zisko** attended the next Starlight Reserve recommendation committee meeting on September 23rd. The committee received a report from Kauai regarding impact of lighting on nesting seabirds. The next meeting has yet to be scheduled.

To Purchase – **Jim MacDonald** reports that club members have the opportunity to make a group purchase of the update of Sky Tools, Sky Tools III, at a reduced group price of \$135.00 for a group of 2 to 9, or \$108.00 for a group of 10 or more. Jim also reports that Sky & Tel is offering a special on their 2011 calendars. Regularly \$12, members can order copies for \$6.50 each. If you are interested in either purchase, please contact Jim MacDonald.

Upcoming Elections – The yearly election of board members will take place at the December general membership meeting. **Harry Zisko** is not running for re-election as At-Large member for next year, he has consented to be the elections chairman. The Hawaiian Astronomical Society will open formal nominations at the November general membership meeting. Should you wish to put your name or the name of a fellow member into nomination, please contact Harry.

Big Island Trip – H.A.S. has received an invitation for club members to tour the Gemini telescopes on the Big Island. No exact date has been set but consensus of members at the October meeting favored a date for mid summer 2011. **Joanne Bogan** and **John Sandor** have volunteered to collect names of interested club members, to look into hotel reservations and transportation.

Time with Barry – Vice President **Barry Peckham** warns those who view the night sky, to get all the viewing they can now because late October is notorious for deteriorating conditions.

(Continued on page 7)

Close Encounters with Jupiter

By Dr. Tony Phillips

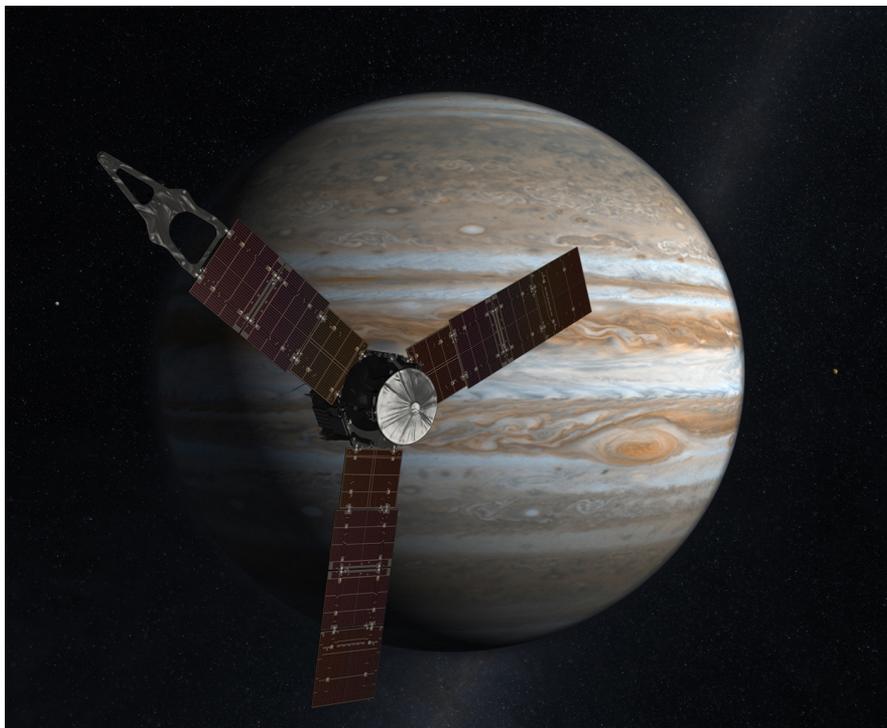
Jupiter and Earth just had a close encounter—and it was a good one. In late September 2010, the two worlds were 31 million km (about 19 million miles) closer than at any time in the past 11 years. Soaring high in the midnight sky, Jupiter shone six times brighter than Sirius and looked absolutely dynamite through a backyard telescope.

Planetary scientist Scott Bolton of the Southwest Research Institute isn't satisfied. "I'd like to get even closer," he says.

Bolton will get his wish in July 2016. That's when a NASA spacecraft named "Juno" arrives at Jupiter for a truly close-up look at the giant planet. Swooping as low as 5,000 km (about 3,000 miles) above the cloud tops, Juno will spend a full year orbiting nearer to Jupiter than any previous spacecraft.

The goal of the mission is to learn what lies inside the planet.

(Continued on page 9)



The Juno mission, arriving at Jupiter in July 2016, will help to solve the mystery of what's inside the giant planet's core.

Night Sky Network

Astronomy Clubs bringing the wonders of the universe to the public

NSN Telecon:

Thursday, Nov 18th Dr. Alan Harris, theorist of orbital dynamics at the Space Science Institute in Boulder, Colorado, will present a talk titled, "Cosmic Disasters, Real and Imagined". Click on the event on the NSN Calendar for details. http://nightsky.jpl.nasa.gov/event-calendar.cfm?Club_ID=453. (note the underline between Club_ID=453) This is a prelude to the new Space Rocks Toolkit coming soon. The toolkit focuses on asteroids, meteorites, and the impacts they have for us here on Earth.

SCHOOL STAR PARTY SUPPORTERS & VOLUNTEERS:

As the club's School Star Party Coordinator, I encourage all School Star Party Supporters to join the Night Sky Network (NSN). Joining the NSN opens the door to many features of particular importance concerning school star parties. The monthly calendar published in the ASTRONEWS is taken from the Special HAS Calendar on the NSN. Accessing this calendar on the NSN web allows you to view additional information of the event. The information you can view on the NSN web calendar depends whether you are or are not a member of the NSN. Public events can be accessed without being a member of the NSN (such as Public star parties at Kahala, Waialeale, Dillingham, Club meeting). Other events not open to the public can only be accessed if you are a member (such as School star parties, Club at Dillingham Night). If you are a School Star Party Supporter, the following information on the NSN web can be useful:

- a. Driving instructions from your location (uses Google) to the school plus includes your mileage. Enter your primary location (home) once and future instructions will use this as your starting point.
- b. You can RSVP to support the event in case you missed the sign up at the club meeting.
- c. Additional info such as start time; overall time of event; set up time; expected number of attendees; age group; sunset time; moon status.
- d. Track your volunteer hours and mileage. You can claim your mileage at tax time for volunteer work (i.e. Public and School Star Parties). When entering volunteer hours include your travel time.
- e. NSN will be providing yearly awards based on recorded volunteer hours.
- f. After an event you must enter your mileage and volunteer hours. The data is saved in Excel format which you can access at any time or downloaded. (Note: You may need the actual Excel program when you download the file. I have not been able to get the Excel Viewer to work).
- g. Based on your preferences selected after you become a members you can receive e-mail notification of changes, cancellations, etc. You can communicate with other members by e-mail.

(Continued on page 11)

Planets Close To the Moon

Times are Hawaii Standard Time

Nov 3, 15h, M 7.3° SSW of Saturn
(30° from sun in morning sky)

Nov 7, 13h, M 3.4° SSE of Mars
(22° from sun in evening sky)

Nov 13, 15h, M 4.6° NNW of Neptune
(94° from sun in evening sky)

Nov 15, 23h, M 6.6° NNW of Jupiter
(119° from sun in evening sky)

Nov 08, 00h, M 5.9° NNW of Uranus
(123° from sun in evening sky)

Mercury and Venus are closer than 15° from the sun when near the moon in November.

Other Events of Interest

Times are Hawaii Standard Time

Nov 1, 14h, Moon 0.62° NNE of asteroid 3 Juno
(57° from sun in morning sky)

Nov 5, 18:51h, Moon New

Nov 7, Change from Daylight Savings time to Standard time in United States

Nov 17, Leonid meteor
Favorable year for this strong shower

Nov 20, 06h, Mercury 1.7° S of Mars
(19° from sun in evening sky)

Nov 21, 07:25h, Moon Full

Oct 28, 15h, Venus at Inferior Conj. with sun (Passes into morning sky)

 <p>Mercury</p> <p>Very low in the evening sky after sunset the last half of the month. Close to Mars on Nov 20.</p>	 <p>Venus</p> <p>Starts the month too close to the sun but leaps high into the dawn sky by month's end.</p>	 <p>Mars</p> <p>Very low in the west after sunset and is hard to find in the evening twilight.</p>
 <p>Jupiter</p> <p>Jupiter is well placed for viewing near the zenith in the evening sky.</p>	 <p>Saturn</p> <p>Appears low in the east before dawn, but will be better viewed later in the year.</p>	 <p>Uranus</p> <p>Close to Jupiter in the evening sky.</p>
 <p>Neptune</p> <p>Well placed for viewing west of Jupiter in the evening sky.</p>	 <p>Dwarf Planet Pluto</p> <p>Too close to the sun to view in November.</p>	 <p>Asteroid 6 Hebe</p> <p>Reached opposition on Sep 20 at mag +7.1 and is still well placed for viewing in the evening sky.</p>

(Minutes continued from page 3)

rating viewing conditions.

Images from the Kauai Educational Association for Science & Astronomy were shown. KEASA member Tom Hall sent along images of Comet Hartley II, showing its position in the nighttime sky. Digital imaging of a different sort can take place at your own telescope or just a considered a “point-and-shoot” technique using a handheld digital camera. Barry has been actively trying both with some success. He shared his images of two areas of the autumn sky: the Summer Triangle and Sagittarius.

Barry has been back East in Rhode Island and participated in a star party there. He was pleasantly surprised by the skies despite the trials and tribulations of temperature and weather.

A short discussion of the term “Blue Moon” ensued. While most of us understood the term to mean the second moon in a single month, Barry clarified the term to be the “third full moon in a season with four full moons. Other moon terms discussed were “wet” moon; where the horns of the moon point up as if to hold water, and “dry” moon; where the horns appear tipped sideways letting the liquor to pour away. A “Black” moon refers to the second new moon in a calendar month or the third new moon of a season. So don’t “moon about,” get out and observe the moon.

Barry finished his discussion this month by sharing information about Alpheratz, the alpha star in Andromeda, according to Wikipedia, “is the brightest mercury-manganese star but, unusually for stars in this category, lacks a detectable magnetic field. It is also a spectroscopic binary with a period of 96.7 days. The dimmer companion seems to be about one tenth as bright as the primary.”

To the delight of all, Planetarium guide and longtime member *Joanne Bogan* led us through the current nighttime skies over Hawaii, showing us which planets are visible and other interesting objects.

As there was no further business, the meeting was adjourned at 9:23 p.m. Halloween refreshments were served.

Respectfully Submitted,
Gretchen West
HAS Secretary



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Hawaiian Astronomical Society

Event Calendar

< November 2010 >									
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday			
31	1	7:30 PM Club Meeting	2	3	4	5	5:30 PM Club Star Party (D)	6	
						Sunset: 5:54 PM			
7	8	9	10	Veterans Day	11	5:30 PM Leihoku Elementary SP	12	5:30 PM Public Star Party(K) 5:30 PM Public Star Party(W)	13
						Sunset: 5:52 PM			
14	15	16	17	4:00 PM NSN Telecon	18	19	20	Sunset: 5:50 PM	
21	22	23	24	Thansksgiving Day	25	26	5:30 PM Public Star Party(D)	27	
						Sunset: 5:50 PM			
28	29	30	1	2	3	4			
									



Upcoming School Star Parties



Fri.	11/12	Leihoku Elementary, Waianae
Wed.- Fri.	11/17 -11/19	Mililani Uka Elementary at Camp Erdman (on call)
Fri.	12/10	Kamehameha Schools (Pending)

If you are interested in helping out at a School Star Party, sign up at the HAS meeting or contact the Star Party Coordinator: **John Gallagher** at 683-0118 (leave message) or e-mail at gallaghej002@hawaii.rr.com. If you are contacted for a School Star Party please have the school submit a request at http://nightsky.jpl.nasa.gov/club-eventrequest.cfm?Club_ID=453 (note underline between Club_ID).

(Space Place continued from page 4)

Astronomers have been studying Jupiter since the invention of the telescope 400 years ago, but in all that time the planet's vast interior has remained hidden from view. Even the Galileo probe, which dived into the clouds in 1995, penetrated no more than about 0.1% of Jupiter's radius.

"Our knowledge of Jupiter is truly skin deep," says Bolton, Juno's principal investigator. "There are many basic things we just don't know—like how far down does the Great Red Spot go? And does Jupiter have a heavy core?"

Juno will improve the situation without actually diving into the clouds. Bolton explains how. "Juno will spend a full year in close polar orbit around Jupiter, flying over all latitudes and longitudes. We will thus be able to fully map Jupiter's gravitational field and figure out how the interior is structured."

But that's not all. Researchers have good reason to believe that much of Jupiter's interior is filled with liquid metallic hydrogen, an exotic metal that could form only in the high-pressure, hydrogen-rich core of a giant planet. Jupiter's powerful magnetic field almost certainly springs from dynamo action inside this vast realm of electrically conducting metal.

"Juno's magnetometers will precisely map Jupiter's magnetic field," says Bolton. "This map will tell us a great deal about planet's inner magnetic dynamo—what it's made of and how it works."

Finally, Juno will probe Jupiter's atmosphere using a set of microwave radiometers. "Our sensors can measure the temperature 50 times deeper than ever before," says Bolton. Researchers will use that information to figure out how much water is underneath Jupiter's clouds. "Microwave measurements of Jupiter's water content are particularly exciting because they will help discriminate among competing theories of the planet's origin."

Now that's a close encounter. Stay tuned for Juno.

Find out more about the Juno mission at http://www.nasa.gov/mission_pages/juno. Play the new Solar System Explorer super game, which includes the Juno Recall mini-game at <http://spaceplace.nasa.gov/en/kids/solar-system>. It's not just for kids!

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

Meteor Log

by Mike Morrow

Sporadic rates are still good and the Moon is out of the way for the **Leonids**. The months other showers have very few meteors.

Wednesday the 17th, the Leonids. Radiant 10h08m, +22 deg. Leonids may be seen from the 10th through the 23rd. Meteor rates will be about 15 per hour possibly up to 20 an hour. The radiant will be visible after about 11 PM local time. The Moon will set between 2 and 3 AM. This will eild a few hours of dark sky. The meteors approach the Earth about head-on so they are very swift, often bright with more than 50% leaving persistent trains.

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

Treasurer's Report

by Jim MacDonald

HAS Financial Report for the month ending as of Oct. 15, 2010

Initial Balance:	\$4,362.95
<i>Receipts:</i>	
Other Income	5.00
Dues Received	42.00
Total Income:	\$47.00
<i>Expenses:</i>	
Astronews	157.76
Postage	30.77
Mailing Envelopes	31.36
Magazine Subscription	34.00
Total Expenses:	\$253.89
Final Balance	\$4,156.06

Our membership remained at the same level this month. Thanks and clear skies to all renewing their membership on time. **Remember, your anniversary date is listed in the upper left hand corner of the Astronews address label.**



2011 Astronomy Calendars

Astronomy Magazine is offering its calendar to HAS club members for \$6.50 apiece. The calendar retails for \$12.95 and they will ship our order without charge. This is a terrific deal for those interested in astronomy. These calendars make a nice gift for friends and family. Contact **Jim MacDonald** via e-mail or at the upcoming membership meeting. Our order needs to be submitted soon.



(President continued from page 1)

a member of the Flora family (a group of asteroids that share similar orbital parameters and probably derive from the collisional break-up of a larger precursor asteroid) and that it collided with a smaller object in February of 2009, perhaps a smaller member of the same family.

While the asteroid collision was observed by professionals, an impact on Jupiter was spotted by amateurs. Two observers in Australia and the Philippines both happened to be taking video of Jupiter on June 3rd when a small two-second flare of light appeared. A single observation would have been difficult to verify, but two simultaneous observations from different locations made the case much stronger. A small object probably impacted Jupiter, but a Hubble image from four days later showed no trace of the kind of “scar” left by the pieces of Shoemaker-Levy 9 in 1994.

Not many of us will make a big discovery, but one thing’s for sure: you won’t find anything if you never look. So get out there and observe. Who knows what you’ll see?

Chris 

.....

(Night Sky Network continued from page 5)



Ready to sign up?

*Go to the HAS web page <http://www.hawastsoc.org> and on the main page “A Short – Who We Are” look for the “blue” Night Sky Network”.

*Click on this link and it will take to our club’s main page on the NSN available to the public.

*At the left column near the bottom click on “Become a Night Sky Network Participant” . Complete the form except for the bottom section “For Club Members Only.”

*Notification will be sent to a Club Coordinator to verify your status. Once approved, you will receive a password from NSN which you can change later.

*When logging into the NSN for the first time you use your name and password. Make sure to use the “underline” between sections of your name: John_T_Doe. Once you become a member you can go to “My Profile and Preference” under “My Member Information” and set the various parameters and change your password if desired. Check the “Member Help File” to get an explanation of your preferences.

Membership on the NSN is open to all club members. If you are interested, just follow the above instructions under “Ready to Sign Up?”

 Clear Nights,
John G.

Hawaiian Astronomical Society
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Honolulu, HI 96817-0671



ISS025E006281

Typical autumn weather in the Hawaiian Islands. Photo taken on October 10, 2010 on board the International Space Station by crewmember from Expedition 25. In the foreground is the Russian supply vehicle Progress attached to the ISS (most likely attached to the Zvezda Service Module).

Image credit: NASA

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