

The Astronews



Volume 58, Issue 3

March 2009

www.hawastsoc.org

President's Message

by Chris Peterson

Special Guest at March Meeting

BRIAN DAY,

Education and Public Outreach lead for the LCROSS mission, will talk to us about opportunities for amateurs to support the mission and observe the LCROSS impact.

Have you ever wished that you could contribute more to the field of astronomy? More than just enjoying views of the sky and sharing those with others? Well, if you're an imager, now's your chance.

NASA's LCROSS mission is scheduled to travel to the Moon this year. It is planned to impact near one of the poles in the hope of hitting some of the water ice believed to be trapped in permanently shaded craters. There is a role for amateurs to play in preparation for observing the impact and, it is hoped, the resulting plume of ejecta.

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Upcoming Star Parties

Public Party- Dillingham	Mar. 14
Club Party-Dillingham	Mar. 21
Kahala/Waikele Party	Mar. 28

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Upcoming Events:

☆ The next meeting is at 7:30 p.m. on **Tuesday, Mar. 3** at the Bishop Museum.

☆ Bishop Museum's next planetarium show with **Barry Peckham** is Friday, **Mar. 6 & 20** at 7:00 p.m.

www.bishopmuseum.org/calendar

☆ The next Board Meeting is Sunday, **Mar. 1** at 3:30 p.m. at the POST building at UH.



NASA wants your opinion in naming the International Space Station's Node 3 – a connecting module and its cupola – before the two segments travel to space and are installed on the orbiting laboratory. The name should reflect the spirit of exploration and cooperation embodied by the space station, and follow in the tradition set by Node 1- Unity- and Node 2- Harmony.

Space shuttle Endeavour will deliver the Node 3 components during the STS-130 mission targeted for December 2009. Once the cupola is attached to one of the module's six ports, it will offer astronauts a spectacular view of both their home planet and their home in space. The cupola's six rectangular windows and one circular window overhead will show a panoramic view that will be unrivaled by any other spacecraft ever flown. Aside from providing a perfect location to observe and photograph the Earth, the cupola also will contain a robotics workstation, where astronauts will be able to control the station's giant robotic arm.

NASA and its station partners traditionally have named each habitable part of the station, including its three laboratories (the U.S. lab- Destiny, the European lab- Columbus, and the Japanese lab- Kibo or Hope), two airlocks (Quest and Pirs or Pier), and two Russian-built modules (Zvezda or Star, and Zarya or Dawn).

Voting will be open until March 20th, 2009. NASA will announce the winning name in April 2009.

For more information, to submit a name and to view pictures of the node and cupola, visit:

<http://www.nasa.gov/namenode3>

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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 February 3, 2009 meeting of the Hawaiian Astronomical Society to order at 7:44 p.m. The meeting was held at the Atherton Halau on the grounds of the Bishop Museum. There were twenty-eight members and three visitors in attendance.

Hawaii Space Lecture Series: Hawaii Space Lecture Series: President Chris Peterson reports that on Tuesday, January 24th, Nick Moskovitz, a graduate student at the Institute for Astronomy of the University of Hawaii, Manoa, will speak on basaltic asteroids in our solar system. Mr. Moskovitz will talk about new information about the geology and molecular makeup of the rocky asteroids. This particular lecture for the Series is scheduled to take place at 7:30 pm, in the room 544, on the fifth floor of the Pacific Ocean Science and Technology Building, at the University of Hawaii at Manoa. For further information you can contact NASA PRPDC at 808-056-3132 or on the Web go to <http://www.higp.hawaii.edu/prpdc> <<http://www.higp.hawaii.edu/prpdc>>

Visitors: We had three visitors at the meeting this month. Joe Witherspoon, Outreach Director of the Tacoma Astronomical Society was in attendance.

Reminders: 2009 is the International Year of Astronomy and clubs and interested groups around the world are geared up. February activities include moon activities and discussions of the solar system. Getting newcomers started in astronomy is a focus. Teaching the use of Finder charts and star charts starts out the year's activities. The Hawaiian Astronomical Society will participate in the National Observe the Moon night later in the year, August 1st. This will be an active year and we hope many of our members come out and help celebrate with us on the North Shore of Oahu at our monthly Star Parties at Dillingham Airfield near Mokuleia. Should members not wish to venture so far, we offer monthly suburban star viewing usually during the first quarter moon phase, at Kahala Community Park and Waikale Regional Park.

FYI: Author Walker Vanning has contacted HAS regarding his new book, "Pluto- Propaedeutic Paradigms." Contact President Chris Peterson if you are interested in delving into the realms of the dwarf planet Pluto.

Permit Renewals: HAS is in the process of obtaining this year's permit renewals for the use of Kahala Community Park for the year 2009. We are awaiting the permit, by mail.

School Star Party Report: Forrest Luke reported that there will be a star party at Iolani School Science Night on February 27th, and requested sign-ups for astronomers to help out. Sign-ups for the upcoming star parties for Punahou School were also sent around. Coming in March we have star parties slated for Niu Valley Middle School.

Night Sky Network: John Gallagher spoke briefly about updating the H.A.S. listing on the Night Sky Network webpage. A monthly teleconference took place on January 15 and another will take place on the afternoon of February 19th. The topic for the February teleconference will cover light pollution and will feature Dr. Connie Walker. Anyone interested in these should contact At-Large member John Gallagher

Science Cafe: Carolyn Kaichi announced another Science Café, Tuesday, February 24th. This month's talk will be presented by Dr. John Learned, Dept. of Physics, UH Manoa. The topic is titled: ET, So Where Is He? Time: 6-8 PM.

Dillingham Airfield Concern: We would like to remind all members, who frequent our monthly public star parties out at Dillingham Airfield, to take care in closing the gate when entering and leaving the airfield. We interlock or "daisy-chain"

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WHERE DID ALL THESE GADGETS COME FROM?!

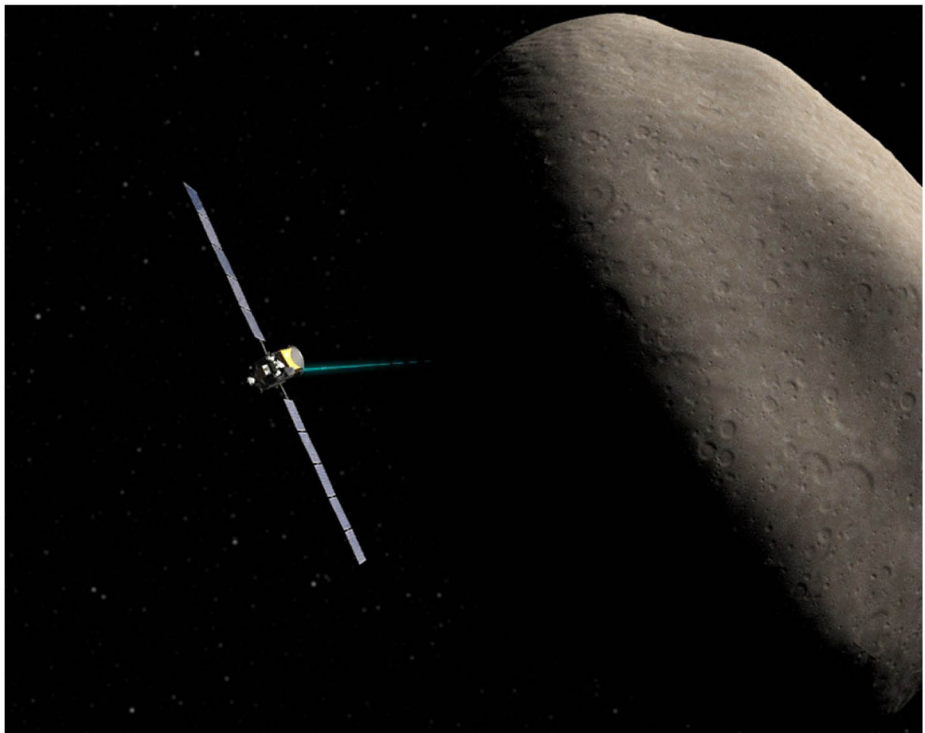
by Dr. Tony Phillips

Ion propulsion. Artificial intelligence. Hyper-spectral imagers. It sounds like science fiction, but all these technologies are now flying around the solar system on real-life NASA missions.

How did they get there? Answer: the New Millennium Program (NMP). NMP is a special NASA program that flight tests wild and far-out technologies. And if they pass the test, they can be used on real space missions.

The list of probes that have benefited from technologies incubated by NMP reads like the Who's Who of cutting-edge space exploration: Spirit and Opportunity (the phenomenally successful rovers exploring Mars), the Spitzer Space Telescope, the New Horizons mission to Pluto, the Dawn asteroid-exploration mission, the comet-smashing probe Deep Impact, and others. Some missions were merely enhanced by NMP technologies; others would have been impossible without them.

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Dawn's mission to orbit two objects separately would not be possible without the ion engine validated by the Deep Space 1 mission.

The Hawaii State Legislature (Senate) has introduced a bill this session that is long overdue. This bill SB 536 known as "Starlight Reserve, Statewide Lighting Law" targets light pollution to preserve the quality of the night sky and its associated cultural, scientific, astronomical, natural, and landscape-related values. The bill as submitted appears to be complete; however, a Temporary Advisory Group will be established to review the bill and make recommended changes no later than the next legislative session in 2010. The sad part is that it does not appear that an amateur astronomer is included in the Advisory Group. A key element that is of prime interest to astronomers is that the reserve will consist of:

(a) a core zone which is virtually unlit and devoid of any element that may cause light and air pollution, fly overs are restricted and radio frequencies are regulated. If lighting is necessary the level shall be that of a full moon and limited to light only the area needed.

(b) a buffer zone has an upper light ratio of zero, avoids over-illumination and excessive luminance of reflective surface, use outdoor lighting only during hours necessary (i.e. business lights), and controlled road lighting.

(c) a external zone which shall be responsibly lit, i.e with no more than 2% uplight.

Dark sites in core area can be linked to Hawaiian legends, myths and navigational practices, making it an educational facility. This is directed toward tourism. The reserve will protect wildlife who become disoriented by artificial light. There is also a strong energy efficiency component (saves money) attractive to legislatures. The core area is targeted to preserve the quality of astronomical observations and wild life conservation. Club members are encouraged to follow this bill and submit their comments to the appropriate committee. During the next legislative session in 2010 the bill should be finalized and will probably go through various committees once again and hopefully voted on by the full Senate after which it will pass to the House for action. To get a copy of this bill follow this sequence:

- a. Go to <http://www.capitol.hawaii.gov/site1/docs/docs.asp>
- b. You're at Bill Status and Documents - Enter SB536 (no spaces) in the box
- c. Click on "status"
- d. On this recap page at the top left there is a "download link"
- e. Click on the middle icon (I.E.) or the left icon (pdf) to download the bill.

(Note: If you are interested to obtains update notification you can click on the right icon (looks like a sound box). You can then sign up for an automatic feed link)

ON A RELATED NOTE:

Reminder - Globe at Night takes place from March 16th to 28th, 2009. All club members are encourage to participate and to notify their neighbors and friends of this worthy event to measure the light pollution around the world. Send it to your e-mail lists. The more the merrier. It is fun and educational for all members of the family. Go to <http://www.globe.gov/GaN/index.html> for more information and instructions.



Planets Close To the Moon

Times are Hawaii Standard Time

Mar 10, 12h, M 5.5° SSW of Saturn
(176° from sun in midnight sky)

Mar 22, 11h, M 1.4° NNW of Jupiter
(45° from sun in morning sky)

Mar 23, 02h, M 1.4° NNW of Neptune
(25° from sun in morning sky)

Mar 24, 00h, M 3.7° NNW of Mars
(27° from sun in morning sky)

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

Other Events of Interest

Times are Hawaii Standard Time

Mar 1, 14h, Mercury 0.59° SSE of Mars
(22° from sun in morning sky)

Mar 4, 22h, Mercury 1.6° SSE of Neptune
(20° from sun in morning sky)

Mar 5, Mercury, Mars, and Neptune within a circle of diameter (21° from sun in morning sky)

Mar 8, Change to Daylight Savings Time on mainland

Mar 8, 03h, Mars 0.76° SSE of Neptune
(23° from sun in morning sky)

Mar 8, 10h, Saturn at opposition

Mar 10, 16:37h, Moon Full










Mar 12, 16h, Uranus at conjunction with sun (Passes into morning sky)

Mar 20, 01:45h, Vernal (Spring Equinox)

Mar 26, 06:07h, Moon New

Mar 27, 09h, Venus at inferior conj. with the sun (Passes into morning sky)

Mar 27, 09h, Venus at superior conj. with the sun (Passes into evening sky)

 Mercury Visible in East just before dawn early in March near Mars and Neptune	 Venus Moves rapidly toward the sun in March, reaching inferior conj. on Mar 27 when it passes into the morning sky.	 Mars Near Mercury and Neptune low in the east at dawn, but is very difficult to find since it is so dim.
 Jupiter Moving higher in the eastern sky before dawn.	 Saturn Reaches opposition on Mar 8 and is in the sky all night - near the zenith at midnight.	 Uranus At conjunction with the sun on March 12 and cannot be viewed in March.
 Neptune Very low in the eastern sky before dawn near Mercury and Mars.	 Dwarf Planet Pluto Visible low in the eastern sky before dawn, but will be easier to view in summer and fall.	 Dwarf Planet Ceres Reached opposition on Feb 25 and is in the sky most of the night this month.

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the hasps of our gate lock with that of the airfield to allow both groups easy access to the area. During the January 24th public star party someone, using bolt cutters, cut the hasp of our lock off the gate. A report was made to airport security.

Areas of Interest: President Chris Peterson led a short discussion of the return of Saturn into the nighttime sky. Discussion centered on how much of Saturn rings we would can hope to see in the upcoming months. Chris also mentioned the LCROSS Mission, which is hoping to enlist the help of amateur astronomers and imagers in observing the southern Polar Regions. LCROSS is urging amateur imagers to participate in building an imaging database of lunar Polar Regions so that when the Lunar Crater Observation and Sensing Satellite lunar reconnaissance orbiter and impactor hopefully make their mark on the southern polar regions of the lunar surface, changes may be more easily seen and understood. Hawaii astronomers will have an almost perfect view of the lunar impact when the LCROSS mission is accomplished. We are hoping to have a speaker at the March meeting to give us further details.

More – Much, Much More: Vice President Barry Peckham spoke for a short time about his latest visit to Kauai and activities with the Kauai group of astronomers. They have been very accommodating and helpful when our members have visited their island.

Barry reminded all of our participating astronomers that star parties like ours are the perfect place to foster a greater interest in astronomy and science in general. Our get-togethers allow us to talk freely with those around our telescopes. When the lines have thinned out a bit, quiet times give us the opportunity to hand over the gentle operation of our telescopes to those of the public we feel will use the opportunity well. Allowing a child or an adult to handle the telescope, to aim and find an object by themselves is an empowering experience. Fostering astronomy in this way opens the universe to a newcomer.

Tee shirts: Jim MacDonald is taking orders for club tee shirts and reminds members to renew their memberships on time.

As there was no further business, the meeting was adjourned at 8:58 p.m. Refreshments were served.

Respectfully Submitted,
Gretchen West



Meteor Log- March 2009

by Mike Morrow

Low sporadic rates characterize March north of the equator. There are a few very minor showers with zenith hourly rates of about 3 meteors an hour. Well stay inside and watch TV.

Friday the 13th, the **Gamma Normids**, radiant 15h56m -50 deg. The shower is an under-observed minor southern hemisphere shower. The maximum is short-lived. Rates are at best under 4 meteors per hour. The peak may actually fall between March 10-17. The radiant is best seen after midnight, but this year the full to waning Moon is during this period.

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

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Week 10	1	2 7:30p Punahou High School	3 7:30p HAS Meeting	4	5	6	7
Week 11	8	9	10	11 Full Moon	12	13	14 6:30p Dillingham Public Star Party
Week 12	15	16 Globe at Night	17 Globe at Night	18 Globe at Night	19 Globe at Night	20 Globe at Night 6:30p Niu Valley Middle School Star Party	21 Globe at Night 6:30p Dillingham Club Star Party
Week 13	22 Globe at Night	23 Globe at Night	24 Globe at Night	25 For more events look here. Globe at Night	26 New Moon Globe at Night 4p Teleconference 400 Years of the Telescope & 100 Hours of Astronomy	27 KMCAS for Hawaii Hikers Globe at Night	28 Globe at Night 6:30p Kahala & Waialele Public Star Party 8:30p Earth Hour 2009
Week 14	29	30	31	1	2 100 Hours of Astronomy	3 100 Hours of Astronomy	4 100 Hours of Astronomy 7p Windward Community College

HAS Yahoo Group

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

"In order to assess the impact of NMP technologies, NASA has developed a scorecard to keep track of all the places our technologies are being used," says New Millennium Program manager Christopher Stevens of the Jet Propulsion Laboratory.

For example, ion propulsion technology flight-tested on the NMP mission Deep Space 1, launched in October 1998, is now flying aboard the Dawn mission. Dawn will be the first probe to orbit an asteroid (Vesta) and then travel to and orbit a dwarf planet (Ceres). The highly efficient ion engine is vital to the success of the 3 billion mile, 8 year journey. The mission could not have been flown using conventional chemical propulsion; launching the enormous amount of fuel required would have broken the project's budget. "Ion propulsion was the only practical way," says Stevens.

In total, 10 technologies tested by Deep Space 1 have been adopted by more than 20 robotic probes. One, the Small Deep Space Transponder, has become the standard system for Earth communications for all deep-space missions.

And Deep Space 1 is just one of NMP's missions. About a half-dozen others have flown or will fly, and their advanced technologies are only beginning to be adopted. That's because it takes years to design probes that use these technologies, but Stevens says experience shows that "if you validate experimental technologies in space, and reduce the risk of using them, missions will pick them up."

Stevens knew many of these technologies when they were just a glimmer in an engineer's eye. Now they're "all grown up" and flying around the solar system. It's enough to make a program manager proud!

The results of all NMP's technology validations are online and the list is impressive: nmp.nasa.gov/TECHNOLOGY/scorecard/scorecard_results.cfm. For kids, the rhyming storybook, "Professor Starr's Dream Trip: Or, How a Little Technology Goes a Long Way" at spaceplace.nasa.gov/en/kids/nmp/starr gives a scientist's perspective on the technology that makes possible the Dawn mission.

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



Upcoming School Star Parties 2009

Mon.	3/2	Punahou High School (approx. 30) 7:30PM
Fri.	3/27	KMCAS for Hawaii Hikers
Sat.	4/4	WCC IYA Event 7-9 PM
Fri.	4/17	Hanahauoli School (Makiki) approx. 100
Fri.	4/24	Pearl Harbor Elementary
Wed.	4/29	Lanakila Elementary
Thurs.	4/30	Ala Wai Elementary

If you are interested in helping out at a school star party, sign up at the HAS meeting or contact the star party coordinator, FORREST LUKE at 623-9830 or lukef003@hawaii.

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

Initial Balance:	\$5,102.23
<i>Receipts:</i>	
Dues Received	138.00
Donations	7.05
Magazine Payment	65.90
T-Shirt Sales	85.00
Total Income:	\$295.95
<i>Expenses:</i>	
Astronews	157.85
Magazine Subscription	198.75
Postage	9.87
Refreshments	14.23
T-Shirt Supply	195.81
Total Expenses:	\$576.51
Final Balance	\$4,821.67

No new members this month! A special thanks to **Robert Humphreys** for his donation. Thanks also and clear skies to all renewing their membership.

NOTICE:

HAS will publish a complete listing of Club members in the April 2009 issue of the Astro-news. This publication is required by Club by-laws, Article III, Section 2 Para C(e) and Article VIII, Section 1B. Unless notified otherwise, this list will include all member's names, addresses, and phone numbers. If you wish to have some or all of your data excluded, please notify the Club Treasurer, Jim MacDonald before 15 March 2009 by sending him an e-mail at jim.macd@HawaiiAntel.net or by written notice to the Club's post office box listed on the back page of this newsletter. Please be advised that this listing is intended for Club members' personal use only in contacting one another. It is not to be used for any commercial or solicitation purposes. With the exception of membership in the Astronomical League, HAS does make this list available to, nor do we sell its contents to anyone for any purpose.

Please respect our members' rights to privacy!



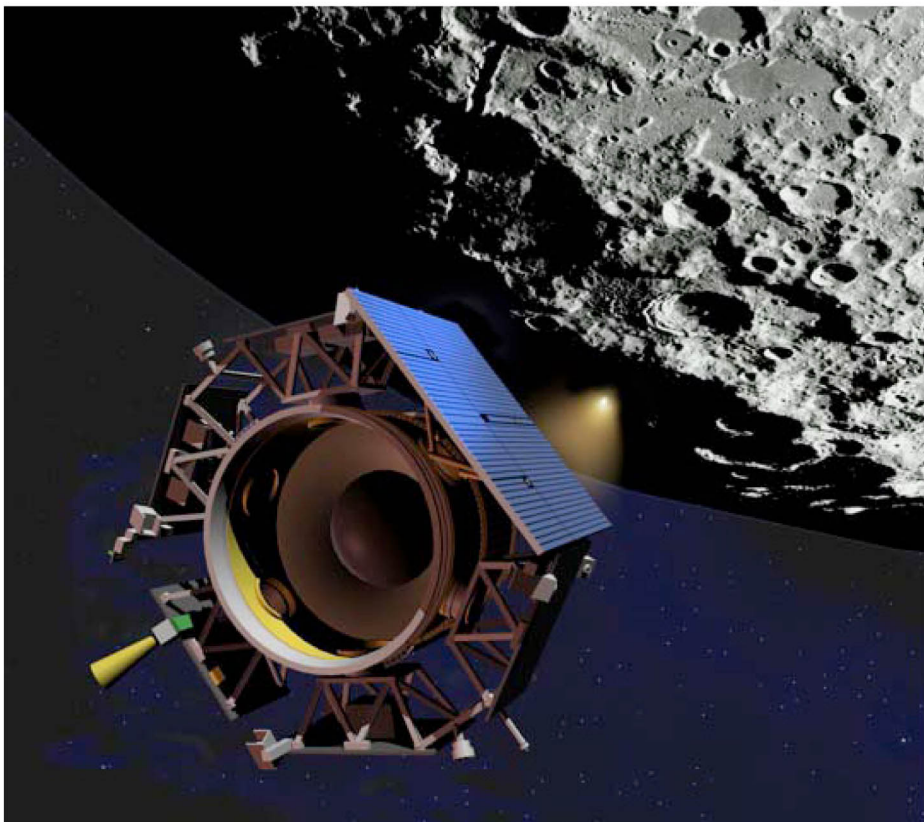
(President continued from page 1)

The Moon is seldom observed from large professional telescopes. It is so bright and large that large apertures are unnecessary. Few professional astronomers have any experience observing the Moon, and large telescopes even have trouble aiming at and following the Moon through the sky since it moves at a significant clip relative to the background stars.

For these reasons and others, the mission leaders are asking amateurs to image both poles of the Moon at different phases until the impact. Until the mission is launched (currently scheduled for April) it will not be decided when and where the probe will be targeted to impact. Some telescopes will need pointing accuracy of 0.5 arc seconds to record the impact and plume. The more images of the region taken at various lighting angles that telescope operators have access too, the more likely that they will have an appropriate set to use to accurately aim the telescopes.

At our March meeting, the LCROSS Education and Public Outreach lead, Brian H. Day, will tell us more. He will talk to us about this pre-launch support program as well as observing the actual impact. Whenever that happens, Hawaii will have a good view, because the impact will be scheduled for a time when it can be observed from Mauna Kea. If you are an imager with any interest in contributing to this program, please try to attend the meeting.

Chris



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COMET LULIN (C/2007 N3) photographed and assembled as an animation by club member **FREDDY WILLEMS**. Check out his movie on Flickr; <http://www.flickr.com/photos/31167687@N02/3304787635/sizes/o/>

Comet Lulin imaged in Leo close to Saturn in the Eastern sky.

Freddy took 26 frames of 240 sec. each with his Canon 40D ISO 800. Telescope used WO 102mm f/7, also used the Celestron .63 focal reducer and the Lumicon Deep Sky filter.

Images taken between 23:10 (Feb. 22, 2009) and 01:15 (Feb. 23, 2009), HST Digital development in ImagesPlus and animated in Adobe's ImageReady.

Place stamp
here. Post
Office will not
deliver mail
without proper
postage

