

President's Message

As Mars shrinks ever smaller in our night skies this month, Saturn rises higher in the sky each evening. The rings are what give Saturn its unique appearance in our telescopes, of course, but they don't always appear the same.

Saturn's rings orbit around its equator, and Saturn's rotation axis is tipped, so the rings have a corresponding tilt. Also, Saturn orbits the Sun in a plane that is tilted with respect to the path taken by Earth around the Sun. This brings observers on Earth a continually changing perspective on the rings.

Inside this issue:

Club Information	2
Minutes	3
NASA Space Place	4
Observer's Notebook	6
Meteor Report	7
Minor Planet Report	7
Night Sky Network	8
Treasurer's Report	10

(Continued on page 2)

Upcoming Star Parties

Club Party	Mar 1	Dillingham
Public Party	Mar 8	Dillingham
Public Party	Mar 15	Kahala/Waikele
Club Party	Mar 29	Dillingham
Public Party	Apr 5	Dillingham
Public Party	Apr 12	Kahala/Waikele
Public Party	Apr 26	Dillingham

Upcoming Events:

- The next School Star Party is on **Friday**, **Feb. 29th** at Iolani.
- The next meeting is at 7:30 p.m. on **Tuesday**, **Mar. 4th** at the Bishop Museum.
- Bishop Museum's next planetarium show with Barry Peckham is Friday, Mar. 7th at 7:00 pm.

President's Message (cont.)

Because of the axial tilt, Saturn experiences seasons. At the Saturnian equinoxes, the Sun crosses the equator of Saturn and, therefore, also crosses the plane of the rings. This happens twice during each roughly 29.5-year Saturn orbit, at the beginning of Saturn's spring and autumn seasons. At this time the lit face of the rings goes dark, and the unlit side sees the Sun again.

From Earth, we see a more complicated picture. As our orbital motion carries us above different latitudes north or south of Saturn's equator, our view of the rings can become more edge-on or more face-on. Near the time that the Sun crosses Saturn's rings, Earth also crosses the ring plane. This can happen either one or three times. In the past, this was a time when many moons of Saturn were discovered, and it's still a good time to view the fainter ones.

Occasionally, if the geometry is just right, Earth is in a position to see the unlit side of the rings. This happened twice between May 1995 and February 1996. Earth got up to about 2.5 degrees above the unlit side, and that allowed rare observations of sunlight transmitted through the rings.

Our next view of a ring plane crossing from Earth will be September 4th of 2009, shortly after the Sun crosses the ring plane on August 10h, but Saturn will be near conjunction with the Sun then, so we won't get a good view.

Chris

Hawaiian Astronomical Society P.O. Box 17671 Honolulu, Hawaii 96817

President

Chris Peterson 956-3131 chrisp@higp.hawaii.edu

Vice President Barry Peckham 542-8658 barry@liteboxtelescopes.com

Secretary Gretchen West 737-4742 gwest002@hawaii.rr.com

Treasurer Jim MacDonald 261-2162 jim.macd@hawaiiantel.net

Board Members-at-Large

John Gallagher 683-0118 gallaghej002@hawaii.rr.com Harry Zisko 262-1947 harryz@pobox.com

The Astronews Editor

Carey Johnson 216-1410 quarkcsj@hotmail.com

HAS Webmaster Peter Besenbruch prb@lava.net

The **Astroneus** is the 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 e-mail. The deadline is the 16th of each month. We are not responsible for unsolicited artwork.



Meeting Minutes

HAWAIIAN ASTRONOMICAL SOCIETY GENERAL MEMBERSHIP MEETING February 5, 2008

President Chris Peterson called the February 5, 2008 meting of the Hawaiian Astronomical Society to order at 7:36 p.m. The meeting was held at the Atherton Halau of the Bishop Museum. In attendance were twenty-seven members.

<u>Hawaii Space Lecture Series</u> - The next Hawaii Space Lecture Series takes place on Tuesday February 12, 2008 at 7:30 pm in the NASA Pacific Regional Planetary Data Center on the fifth floor of the P.O.S.T. building at the University of Hawaii at Manoa. Dr. Jeffrey Gillis-Davis will be the featured speaker. He will be speaking on "MESSENGER's First Look at Mercury's Previously Unseen Side. For more information you can contact NASA PRPDC at 808-956-3132 or on the Web at http://www.higp.hawaii.edu/prpdc.

<u>General Information</u> - H.A.S. President, Chris Peterson reviewed planets and other easily seen objects available for easy viewing this month.

H.A.S. President, Chris Peterson discussed the various NASA and European Space Agency missions. He reminded members of the 50th anniversary of the Explorer I.

<u>Light Pollution Survey</u> - Forrest Luke informed the members of the International Night Sky Association, "Globe at Night" project, taking place on February 25 through March 8, 2008. This will be the third annual international survey of the effects of light pollution on our night skies. If you are interested, you can go online to www.globe.gov/globeatnight.

<u>Star Party Report</u> - Forrest Luke reports that H.A.S. has our first 2008 school star party at Iolani School on Friday, February 29, 2008.

Upcoming Events:

Hawaii State Science and Engineering Fair: March 31st through April 2nd. Institute for Astronomy - Open House: Early April

<u>Astro-Imaging/Viewing Area</u> - Astronews Editor Carey Johnson has obtained permission to use an area at Barber's Point for astro-imaging. If you are interested contact Carey.

<u>Astroneus availability</u> - There was a discussion of how, in the future, we might make the club newsletter available on-line.

<u>NASA Night Sky Network</u> - At-Large member and Night Sky Coordinator John Gallagher informed members about the teleconference that took place earlier that day and made available for viewing the slides used during the conference on the "Globe at Night" project. Anyone who is interested in any of the teleconference information should contact John Gallagher. We also viewed two NASA informational videos about Saturn.

<u>Short Notes</u>: Vice-President Barry Peckham spoke on a variety of short (Continued on page 4)



Meeting Minutes (Continued)

subjects. He shared the usability of the Sky Spot Messier Object viewer guides. Barry urged all amateur astronomers to utilize their own digital cameras at the focuser to take some interesting and good-looking shots of areas on the moon. Barry made us all aware that the Rukl maps of the moon are once again available, and that they are great teaching tools at public star parties. Barry capped off his short items by reviewing a few interesting facts about Beta Cassiopeia.

The meeting was adjourned at 9:00 p.m. and refreshments were served.

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

Upcoming School Star Parties

- 2/29 Iolani (Space Night)
- 4/4 Mililani Mauka Elementary
- 4/25 Lanakila Elementary
- 4/25 Kapolei Middle School (Spring Fling)
- 5/8 Ala Wai Elementary
- 5/9 Pearl Harbor Elementary
- 5/12 Red Hill Elementary

If you are interested in helping out at a School Star Party, sign up on the monthly sheet at the HAS Meeting or contact the Star Party Coordinator: Forrest Luke at 623-9830 or e-mail at lukef003@hawaii.rr.com

Join the

Friends of the Institute for Astronomy (FIfA)

As a "Friend" you can be directly involved in the mission of the University of Hawaii's Institute for Astronomy. You will be invited to meet with IfA and visiting scientists, attend star parties and other activities. You will also receive quarterly newsletters and invitations to special events at the IfA. For more information and an application: www.ifa.hawaii.edu/friends

Page 4

H.A.S. Secretary





Invisible Spiral Arms

by Patrick Barry

At one time or another, we've all stared at beautiful images of spiral galaxies, daydreaming about the billions of stars and countless worlds they contain. What mysteries and even life forms—must lurk within those vast disks?

Now consider this: many of the galaxies you've seen are actually much larger than they appear. NASA's Galaxy Evolution Explorer, a space telescope that "sees" invisible, ultraviolet light, has revealed that roughly 20 percent of nearby galaxies have spiral arms that extend far beyond the galaxies' apparent edges. Some of these galaxies are more than three times larger than they appear in images taken by ordinary visible-light telescopes.

"Astronomers have been observing some of these galaxies for many, many years, and all that time, there was a whole side to these galaxies that they simply couldn't see," says Patrick Morrissey, an astronomer at Caltech in Pasadena, California, who collaborates at JPL.

The extended arms of these galaxies are too dim in visible light for most telescopes to detect, but they emit a greater amount of UV light. Also, the cosmic background is much darker at UV wavelengths than it is for visible light. "Because the sky is essentially black in the UV, far-UV enables you to see these very faint arms around the outsides of galaxies," Morrissey explains.

These "invisible arms" are made of mostly young stars shining brightly at UV wavelengths. Why UV? Because the stars are so hot. Young stars burn their nuclear fuel with impetuous speed, making them hotter and bluer than older, cooler stars such as the sun. (Think of a candle: blue flames are hotter than red ones.) Ultraviolet is a sort of "ultrablue" that reveals the youngest, hottest stars of all.

"That's the basic idea behind the Galaxy Evolution Explorer in the first place. By observing the UV glow of young stars, we can see where star formation is active," Morrissey says.

The discovery of these extended arms provides fresh clues for scientists about how some galaxies form and evolve, a hot question right now in astronomy. For example, a burst of star formation so far from the galaxies' denser centers may have started because of the gravity of neighboring galaxies that passed too close. But in many cases, the neighboring galaxies have not themselves sprouted extended arms, an observation that remains to be explained. The Galaxy Evolution Explorer reveals one mystery after another!

"How much else is out there that we don't know about?" Morrissey asks. "It makes you wonder."

Spread the wonder by seeing for yourself some of these UV images at <u>www.galex.caltech.edu</u>. Also, Chris Martin, principle scientist for Galaxy Evolution Explorer —or rather his cartoon alter-ego—gives kids a great introduction to ultraviolet astronomy at spaceplace.nasa.gov/en/kids/live#martin.

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





Observer's Notebook - March 2008 by Jay Wrathall

Other Events of Interest

Planets Close To the Moon

Times are Hawaii Standard T	ime Tir	mes are Hawaii Standard Time	
Mar 2, 16h, M 3.6° S of Jupite (57° from sun in morning s Mar 5, 05h, M 0.28° ESE of M (27° from sun in morning s Mar 5, 10h, M 0.33° NNE of M (24° from sun in morning s Mar 5, 12h, M 0.26° ESE of N (24° from sun in morning s Mar 14, 17h, M 1.7° N of Mar (99° from sun in evening s Mar 19, 03h, M 2.4° SSW of S (154° from sun in evening s Mar 30, 09h, M 3.1° SSE of Ju (80° from sun in morning s Mar 31, 23h, M 0.28° WSW o tune (154° from sun in evening	rr Mar 3, 01h, N ky) (27.1° v) fercury Mar 6, 14h, ky) (24° fro Venus Mar 7, 07:14 ky) Mar 8, 10h, U Venus Mar 8, 10h, U Venue (Passes ky) Mar 8, 20h, N s (26° fro (xy) Mar 19, 19:4 Saturn Mar 21, 08:3 sky) Mar 24, 04h, upiter (20° fro ky) Uranus is clo g sky) near the moo	Mercury at greatest elongation west of the sun in morning sky) Venus 0.57° SSE of Neptune om sun in morning sky) h, Moon New Jranus at conjunction with the su into morning sky) Mercury 0.91° S of Neptune om sun in morning sky) 8h, Spring or Vernal Equinox 9h, Moon Full Mercury 0.97° SSE of Venus om sun in morning sky) ser than 15° from the sun when n in March	n
X Mercury is visible low in the east just before sunrise most of March. It is slightly higher than Venus.	Venus Is very low in the east just before sunrise.	Mars is still well placed for viewing in the evening sky, but will fade from mag. 0.2 to 0.8 during March.	
2 Jupiter Is visible high in the east- ern sky in the hours be- fore dawn.	5 Saturn was at conjunction last month, so is still very well placed for viewing in the evening sky.	W Uranus is at conjunction with the sun this month and is lost in the glare of the sun.	
W Neptune is very close to Mercury and Venus in the dawn sky just before sunrise, but is so dim that it will	Dwarf Planet Pluto rises about 1:30 am and can be observed in the predawn sky.	Dwarf Planet Ceres is visible in Taurus near the Pleiades during the evening hours.	

Page 6

be difficult to find.

The Astroneus

Meteor Log - March 2008

by Mike Morrow

Low sporadic rates continue through March north of the equator. Not much in the way of showers occur this month unless you are thinking of rain showers.

Thursday the 13th, the Gamma Normids. Radiant 15h56m, -50 deg. The Moon is not a problem and this may be a good year to observe this minor shower. Expect less than 4 meteors an hour.

I would like to thank Carey Johnson and Carolyn Kaichi for helping me with the Meteor Log while I did not have the data available to me.

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

Minor Planet Report - March 2008 by Carey Johnson

Comets

3/7 17P/Holmes conjunction with NGC1499 California Nebula. 3/11 C/2008 C1 (Chen-Gao) 1.300 AU from Earth, Mag. 11.9 3/23 26P/Grigg-Skjellerup 0.559 AU from Earth, Mag. 11.76 3/23 26P/Grigg-Skjellerup Perihelion, 1.117 AU Mag. 11.76 8P/Tuttle, Mag. 9.1 - 11.3* 46P/Wirtanen, Mag. 9.6 - 11.0* C/2006 O1 (McNaught), Mag. 11.7 - 11.4* C/2007 B2 (Skiff), Mag. 13.3 - 13.0* C/2007 W1 (Boattini), Mag. 13.0 - 11.0* Asteroids 3/17 PHA (1620) Geographos 0.125 AU from Earth, Mag. 12.4 3/21 2003 FY6 6.3 LD / 0.0162 AU from Earth, Mag. 15.0 (1) Ceres, Mag. 8.3 - 8.4* (8) Flora, Mag. 9.8 - 10.2* (14) Irene, Mag. 10.8 - 10.9* (29) Amphitrite, Mag. 10.0 - 10.3*

(349) Dembowska, Mag. 10.6 - 10.9*

* March 1st - March 31st.

Volume 56, Issue 3



Night Sky Network

Astronomy Clubs bringing the wonders of the universe to the public

The Hawaiian Astronomical Society joined the Night Sky Network (NSN) in August 2004. Our mission was to obtain valuable resource material to assist with our outreach program such as public star parties, support to schools, and Astronomy Day activities. The NSN is supported by NASA, JPL, Astronomy Society of the Pacific and other scientific organizations to serve as a catalyst to bring together clubs across the country who share their love of the night sky with their communities.

Club members do not have to join to gain numerous benefits available at http://nightsky.jpl.nasa.gov such as Night Sky Planner, Find Other Clubs, participate in teleconferences, NASA Amateur Resources with links to NASA Space Place Program for Astronomy Clubs, Solar System Ambassadors, Saturn Observation Campaign, After School Astronomy, NASA Photo Journal, Astronomy Picture of the Day, NASA Resources for Educators, NASA Education Forums, and JPL's Amateur Astronomy Page.

Why should I join the NSN? As a member of HAS your help is needed. Our object is not to wait for the community to come to us, but through outreach we bring the wonders of the night sky and astronomical scientific topics to the public knowledge. Star parties and similar are a start, but with your help much more can be done. Based on the number of events logged on the NSN, our club becomes eligible for Outreach Toolkits and other awards. Events using material toolkits such as presentations to youth or community groups, a demo set up at a science museum, a classroom activity in school or science fair, a gathering at your house where you take a group of friends outside to look at the sky using a star map. Also qualifying events could be an article for the club newsletter or local newspaper or a spot in a local radio or TV show using material from toolkit about NASA's missions featured in the toolkit, or about the NSN. Then the events must be logged and herein is the rub.

To log an event you must be a NSN member. To join the NSN just provide your name, contact phone number, and an e-mail address to the clubs NSN Coordinator. Once you are signed up, you will receive an e-mail with your log-in name and password. About once a month you will receive an e-mail about upcoming events, teleconferences, and other related material. That's all there is. Features available as a member: ability to log events, find members, find events, toolkit downloads to include teleconference slides and MP3 files, and participation in a Discussion Board.

Each Outreach Toolkit includes material needed to support a variety of activities with a training video on DVD, resource material CD, a manual of suggested activities, power point presentations, and video clips. So far released toolkits are:

Shadows & Silhouettes: Phases, Eclipses, and Transits Planet Quest: The Search for another Planet Our Galaxy, Our Universe Black Hole Survival Toolkit Telescopes: Eyes on the Universe Exploring Our Solar System

Since 2004, there have been 21 Teleconferences on various astronomical events and NASA Missions. These events occur during the week either at 3:00 pm or 4:00 pm.

As a NSN member you receive early notification so you can plan if you want to participate. At the end of the teleconference there is a chance to win a prize for the club.

We are looking for volunteers to help our outreach to the community. You do not need a telescope so maybe this is your "nitch." Contact your NSN Coordinator for further guidance.

John Gallagher



The Astroneus

Moving Sale: Take it before I move it! New Telrads (5) @ \$45 ea. JMI DX3 focusers (3) at \$120 ea. JMI DX-mini3 focuser (1) @ \$100 6", F/6 rotating tube Dob. new. with Schwaar mirror (never used) : \$400 10", f/4.5 LITE-BOX telescope (new) with 4 lb., 1/5th wave primary: \$1550 Booklet: "Astronomy for Children Under 80" by John Dobson (3) @ \$2 ea. 70mm spotting scope, like new in case - \$80 15x70 Galileo binoculars, like new in box -\$150 15x63 Orion Mini-Giant binoculars, used - \$60 Binocular chair swiveling platform with adjustable mount - \$150 Call Barry: 542-8658 or email barry@liteboxtelescopes.com For Sale: 1 Meade DSI Pro Monocrome CCD camera with all standard accessories (USB cable, Cables to connect PC to Meade Autostar controllers, software) 1 set of LRGB filters for the DSI Pro 1 Cooling fan with battery case. 1 Plastic case with foam for camera and accessories. All for \$250 Great starter CCD for astrophotography, also can be used a guider imager.

Contact Steven Chun:

e-mail: sctchun@usa.net phone: 677-1819 (evenings before 9 p.m.)

Easter this year is almost as early as it ever gets. The rule is that Easter falls on the first Sunday after the first full moon after the spring equinox. This year the equinox is on Thursday, March 20 at 5:48 UT. The full moon is Friday, March 21 at 18:39 UT, so Easter is on Sunday, March 23. The earliest date possible is March 22, but it hasn't been on the 22nd since 1818 and will not be again until 2285, so this year is the earliest Easter for the 467 period between those dates. The next time Easter will be on March 23 is 2160.

Jay Wrathall

How would you like your Newsletter?

Option 1: Printed version in the mail as we do now.

Option 2: Electronically as a PDF.

Option 3: Electronically as a PDF, but pick up Printed version at the meeting? Option 4: Printed version in the mail and Electronically as a PDF.

The advantages to receiving it electronically are:

- 1. You would receive it a couple of days earlier as it gets sent to the printers.
- 2. It's in color!
- 3. Saves the club money on stamps, printing, and mailing.
- 4. Saves trees.

.....

Volume 56, Issue 3





Initial Balance:	\$5,061.13
Receipts:	
Dues Received	122.00
T-Shirt Sales	15.00
Total Income:	\$137.00
Expenses:	
Blank Checks	28.50
Excise Tax	2.70
Magazine Subscription	32.95
Refreshments	22.16
Software - Astronews	153.97
WAA Membership	20.00
Total Expenses:	\$260.28
Final Balance	\$4,937.85

HAS Financial Report as of February 15, 2008

Our membership remained unchanged this month. Thanks also to everyone renewing their membership.



Kahala Star Party 1-12-2008 by Carey Johnson



Stay Connected Join the HAS Yahoo Group

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

Page 10

The Astronews

THE HAWAIIAN ASTRONOMICAL SOCIETY MEMBERSHIP APPLICATION 2008/2009

Name			
Street or P.O. E	30x		
City	State	_Zip	
Phone	(e-mail)_		
Family Membe	ers		
Dues		\$20.00	
Dues (Full-time Student)		\$12.00	
Additional family members. Each		\$2.00	
Sky and Telescope Subscription		\$32.95	
Astronomy Subscription		\$34.00	
Donation			

Total

Fill out this form and send with your check to: Hawaiian Astronomical Society P.O. Box 17671 Honolulu, Hawaii 96817-0671

Volume 56, Issue 3

Page 11

H.A.S. P.O. Box 17671 Honolulu, HI 96817



As if spiral galaxies aren't splendid and mysterious enough in visible light, astronomers have recently discovered that many of them are really up to three times larger than they appear. New ultraviolet images from the Galaxy Evolution Explorer spacecraft are revealing new star formation going on far, far from what was thought to be the edge of many galaxies. See the **Space Place** article on page 5.

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