



COAL SACK

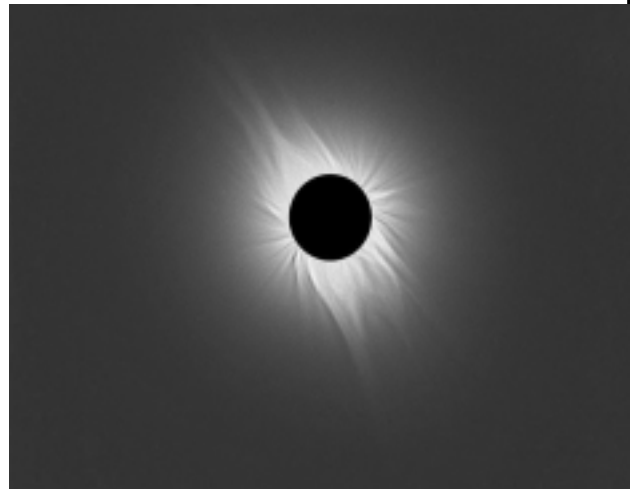
EDUCATING SOUTH FLORIDA SINCE 1922

FEBRUARY 2006

Members Photo Page



Horsehead and Orion Nebulae with Deep Hydrogen alpha Emissions, by Bill Williams. Taken with 180 mm Nikon lens @ f/4 with SBIG ST-10 CCD camera; 2.25 hour exposure@-15C through Astrodon H-alpha filter; Jan 23 & 25, 2006 from Boca Raton, Florida



Total solar eclipse, 2-26-98, Curacao, Nikon F3/T with MD-4 motor drive; Fujicolor NPS 160 @ ISO 160; 1/250 second through 4 seconds; Nikkor 300mm f/4.5 EDIF AL-S at f/5.6; 12 image stack. by Scott and Lou Ireland.

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LEFT - M42/M43, from Kendall, 01-09-06 with C8 SCT at F3.3 on ASGT Camera: ATIK16
Filters: Astronomik H-alpha
14mm Exposures: H-alpha:
2x1min + 2x20sec. TOTAL 2min
40 sec Processing: Combined in
Registax3D. Levels and unsharp
masking in PhotoShop
CS. by Roger Muro
BELOW: Saturn taken by Tim
Khan, January 9, 2005



FOR SCAS/NASA NEWS
CALL THE 24-HOUR
HOTLINE:
305 661-1375
OR VISIT THE
NEW SCAS WEB SITE:
HTTP://WWW.SCAS.ORG

Due to the Winter Star Party,
there is no February Public
Program. Please join us on
MARCH 17th for SCAS MARS
PROGRAM & AWARDS- FIU
Astronomy Center presented by
renowned planetary experts Dr.
Don Parker & Jose Olivarez
SCAS scholarship-Science Fair
Winners & exhibits

The Coal Sack

The Coal Sack is a monthly publication of the Southern Cross Astronomical Society, Inc., Miami, Florida

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Material for the Coal Sack must be submitted to the Editor by the 25th of the month prior to publication. Please use e-mail when possible.
Change of Address: Please notify Managing Editor Barb Yager with change of address or other membership information.

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Check the larger SCAS STARGAZER in the Wednesday Miami Herald's new TROPIC LIFE section, by Barb Yager, now in its 20th year!

CLASSIFIED

SCAS SUPER SALE

For SCAS members: royal blue POLO shirts with white lettering front & back \$10. S - 2XL

THE ART OF COLLECTING METEORITES, an in-depth 232-pg. entertaining guide-book with color photos and references by astronomer/explorer Kevin Kitchinka who describes this exciting and educational hobby based on his adventures in the Andes and his friendships with renowned scientists and collectors. Only \$10.00 ! Call: 305-661-1375.

SUPER IMAGING OFFER!

Do you have top-quality solar/celestial images & photos? SCAS member LARRY APPLE, President, Associated Photo & Imaging, 19 SW 6th Street (near Miami River) has offered to enlarge your color graphics to any size (including large wall murals) FREE! Pls contact LARRY: larrya@apimaging.com or 305-373-4774/ 305-495-7709 (cel).

NEW SALE!!

NEXSTAR GPS 11" SCT for sale....Excellent optics-Carbon Fiber Optical tube-2800mm FL F/10-Starbrite Coating-9x50 finderscope-2.1.25 Stardiagonal, new hand controller-all cables-Starizona Landing Pad-Bob's Knobs-manual-12v battery. Excellent condition. \$2200.00-call Boris Ortiz 305-233-9992/Cel: 407-758-3097.

Send in your classified ads to PegasusLM@earthlink.net or BarbYager@aol.com

SCIENCE & ENGINEERING FAIR 2006

SCAS judges to the Miami-Dade Public School Science & Engineering Fair had a tough time but finally decided on three very talented winners in the astronomy category. Three girls, students at Mast Academy and Dr. Michael Krop Senior High, will be presented and awarded at the SCAS public Mars program at FIU, Friday March 17th.

ANNUAL TROPICAL STAR PARTY - RE-SCHEDULED!

Due to VERY inclement weather and strong ocean winds Friday evening January 27th, our popular TROPICAL STAR PARTY has been re-scheduled FRIDAY, MARCH 10th, 5-9 pm, thanks to the kind staff at Bill Baggs State Park, Cape Florida, Key Biscayne.

MARS will cruise near the PLEIADES cluster in the west. Silver-ringed SATURN will glow beside the BEEHIVE star cluster and bright Moon overhead. Dazzling winter constellations sparkle in very dark skies above Biscayne Bay. Sunset will occur 6:28 p.m. This would be our last opportunity to hold a public SCAS evening event at Cape Florida prior to DST.

Sunset Special admission: \$3.00 per car. Main park gate will close 8:15 pm. Bring picnic, family, friends, lawn chairs, jacket, binoculars, telescopes and bug cream. Park in the large lot near the historic lighthouse. NO LIGHTS allowed in the restricted telescope area. Call SCAS Hotline: 305-661-1375 or

www.scas.org

SPACE NEWS

The Return from Stardust-

January 15th, the 100-lb. capsule containing microscopic debris, tiny visual particles, and thousands of cosmic samples from Comet Wild-2, unleashed from its mothership Stardust, streaked out of the northwest about 2 a.m. and became a -9th magnitude fireball above northern California and Nevada prior to opening its parachute for a safe landing in the Utah desert. For seven years, NASA's Stardust has cruised 3 billion miles through space, flawlessly collecting comet dust. While scientists continue to examine the cosmic samples Stardust will continue to orbit the Sun in an energy-saving semi-conscious mode. It's next fly-by Earth will occur January 14, 2009.

An airborne and ground observer team recorded the Stardust Capsule re-entry speed, color, shock emissions and temperature of the heat shield. The flight team aboard NASA's DC-8 was loaded with hi-tech equipment. The crew reported: 'the capsule was bluish at first, then turned a deep red. Another 'miracle' in NASA's Space Engineering Department.
NASA Ames Research Center 1/16/06

NEW MEMBERS

-Barb Yager

SCAS extends a warm welcome to new members: EDWARD POTOKAR, NYC, ANDRES VALENCIA, electronic engineer, wife BIRTA and daughter ANDREA of Key Biscayne and Caracas, Venezuela; DARLENE WEINGARTEN FAMILY, REESE, GEORGETTE, ASIA & AVA from Parkland, Florida; DR. BILL WILLIAMS, renowned astro-imager, Boca Raton, FL. We look forward to meeting you at our future SCAS events

ON CAMPUS

FIU Lecture Series

March 2006

-Dr. J.R. Webb

Friday evenings, 8 pm, FIU Physics Bldg., CP-145, University Park SW 109th Ave./SW 8th St. FREE! followed by a SkyWatch at the Observatory (?)

March 3rd- Hurricane Cycles, by Dr. Chris Landsea, National Hurricane Center.

March 10th- Physics of Hurricanes, by Dr. Misak Sargsian, FIU Physicist

March 31st- Space Weather..How It Affects You! by Dr. James R. Webb, FIU astronomer.

FEBRUARY ALMANAC AT A GLANCE

FIRST QTR. Sunday 5th 1:29 a.m.
 FULL MOON Sunday 12th 11:44 p.m. (most distant full Moon this year)
 LAST QTR. Tuesday 21st 2:17 a.m.
 NEW MOON Monday 27th 7:31 p.m.

MORNING SKIES:

Golden Jupiter and its Moon system rise in the ESE around midnight in Libra, and drift across the south before dawn.
 Mars sets in the west soon after midnight.
 Corvus the Crow leads Spica in Virgo into the SW. 21st- Last Qtr. Moon escorts huge Scorpius above the SE horizon in the predawn.
 Blazing Venus, Morning Star, lies to the left of the Sagittarian Teapot rising in the SE.
 Vega leads the Summer Triangle and Cygnus the Swan above the NE horizon.
 Saturn sets in the west by dawn.
 The Big Dipper hangs in the NW, its 'bowl' always faces Polaris the North Star.
 Arcturus, Herdsman, sparkles overhead.
 24th- The waning Moon floats below Venus in the SE.

EVENING SKIES: 3 planets visible

Westbound Mars shrinks & fades near the delicate Seven Sisters (Pleiades) star cluster in Taurus the Bull.
 Use binoculars on ringed Saturn beside the dim Beehive cluster in Cancer in the east.
 8th- Mercury appears on the western horizon by night fall.
 14th- Mercury/Uranus 1/2 degree apart low in the west.
 23rd- The 'first rock from the Sun' reaches its highest altitude & sets 90 min. after the Sun. (by March 7th, Mercury will descend into the sunset.)
 28th- At dusk, a young Moon rises briefly in the west, below Mercury. Great view in binocs!
 Aries the Ram chases the Winged Horse (Great Square of Pegasus) onto the western horizon. Queen Cassiopeia and Andromeda swing into the NW. The Seven Sisters cluster (Pleiades) lead the dazzling winter constellations overhead: Taurus the Bull, V-shaped Hyades cluster, Orion the Hunter strides into the south, followed by his Big Dog and the Pups Blazing blue Sirius sparkles from the Dog's collar. Capella in Auriga, Charioteer, rolls overhead, followed by the Gemini Twins: Castor & Pollux rising in the NE. Procyon, Little Dog, shimmers in the east, between Sirius and Saturn. By mid-evening, Leo the Lion

crawls higher in the east. The Big Dipper clears the NE horizon. Bright Arcturus, Herdsman sparkles in the NE. The Little Dipper's handle is 'attached' to Polaris, North Star.

The Zodiacal Light—a translucent pyramid of dim light rising from the western horizon after night fall is sunlight below the horizon reflecting off zillions of dust particles in outer space.

Date (m/d)	Moon Rise	Moon Set
16/2/2006	21:19	8:46
17/2/2006	22:11	9:14
18/2/2006	23:05	9:44
19/2/2006	—	10:16
20/2/2006	0:03	10:54
21/2/2006	1:04	11:39
22/2/2006	2:07	12:31
23/2/2006	3:10	13:32
24/2/2006	4:10	14:40
25/2/2006	5:05	15:52
26/2/2006	5:53	17:03
27/2/2006	6:36	18:13
28/2/2006	7:15	19:20
1/3/2006	7:52	20:26
2/3/2006	8:28	21:31
3/3/2006	9:04	22:36
4/3/2006	9:43	23:40
5/3/2006	10:26	—
6/3/2006	11:13	0:43
7/3/2006	12:05	1:43
8/3/2006	13:00	2:39
9/3/2006	13:57	3:28
10/3/2006	14:54	4:12
11/3/2006	15:49	4:50
12/3/2006	16:42	5:24
13/3/2006	17:34	5:54
14/3/2006	18:25	6:23
15/3/2006	19:16	6:50
16/3/2006	20:07	7:18
17/3/2006	21:01	7:47

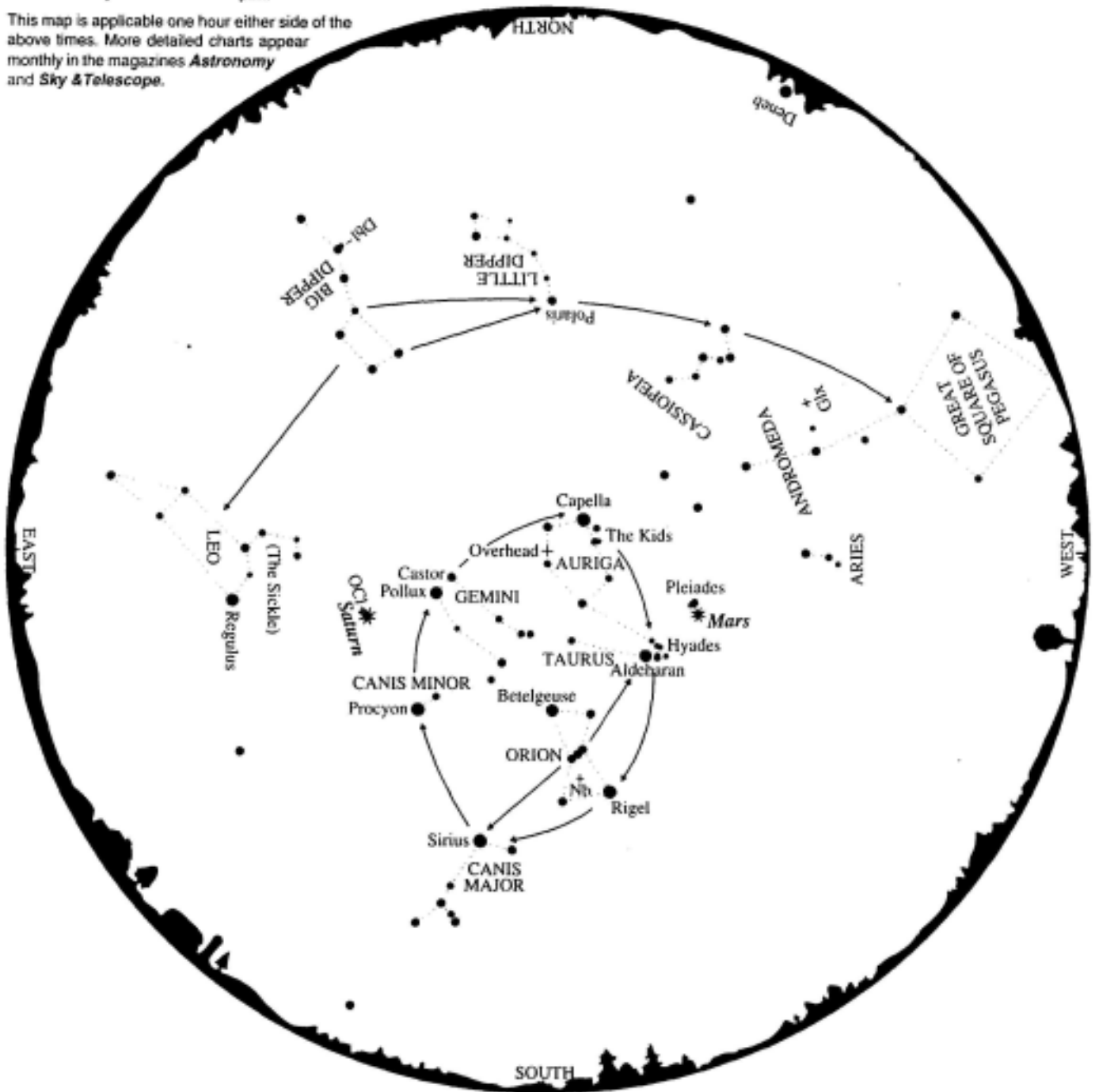
February Evening Skies

This chart is drawn for latitude 40° north, but should be useful to stargazers throughout the continental United States. It represents the sky at the following local standard times:

Late January	10 p.m.
Early February	9 p.m.
Late February	8 p.m.
Early March	7 p.m.

© 2006 Abrams Planetarium
 Subscription: \$11.00 per year, from *Sky Calendar*,
 Abrams Planetarium, Michigan State University,
 East Lansing, MI 48824-1324.

This map is applicable one hour either side of the above times. More detailed charts appear monthly in the magazines *Astronomy* and *Sky & Telescope*.



The planets Mars and Saturn are plotted for mid-February 2006. At chart time 11 objects of first magnitude or brighter are visible. In order of brightness they are: Sirius, Saturn, Capella, Rigel, Procyon, Mars, Betelgeuse, Aldebaran, Pollux, Deneb and Regulus. In addition to stars, other objects that should be visible to the unaided eye are labeled on the map. The double star (Dbl) at the bend of the handle of the Big Dipper is easily detected. The famous Orion

Nebula, a cloud of gas and dust out of which stars are forming, is marked (Nb) in that constellation. The open or galactic star cluster (OC) known as the "Beehive" can be located between the Gemini twins and Leo. The position of an external star system, called the Andromeda Galaxy after the constellation in which it appears, is also indicated (Glx). Try to observe these objects with unaided eye and binoculars.

—D. David Batch

JANUARY EVENTS

-Barb Yager

Our very sincere thanks to the staff from Fairchild Garden, Everglades National Park and Cape Florida State Park who continue to invite SCAS experts to share their special events

FAIRCHILD GARDEN MOONLIGHT WALK-

More than 1500 Fairchild members and guests descended upon the beautiful Fairchild Garden January 11th. For more than two hours a steady stream of excited visitors were very impressed by the fantastic views of the clearing winter skies to reveal a bright Moon and blazing stars in SCAS hi-tech equipment arranged near the Garden House auditorium by members: Boris Ortiz, Mike Smith, Ashley Stevens, Vickie & Steve Van Ryn and Barb Yager. We all caught glimpses of the spectacular, colorful Chihuly glass sculptures subtly illuminated throughout the Garden and on the ponds.

WSP CLEAN-UP CREW-

Several SCAS astronomers spent long hours (and strained muscles) working at Camp Wesumke, West Sumerland Key, to complete acres of clean-up and repairs the weekend of January 14th prior to the SCAS Annual Winter Star Party in late February. Deep sand has been smoothed down and pushed toward the beachfront. Grass grows in spots. Broken glass, fallen trees and debris have been removed and chickees swept clean.

A very sincere thanks to the hard-working SCAS crew: Russell Brick, Tim Khan, Mike Mooney, Art Mullis, Boris Ortiz, Pat Saunders, Mike Smith, Nick Stingone, Steve Van Ryn with George Tegzes, President and Ron Poller, Treasurer of the FL Keys Astronomy Club.

SHARK VALLEY-

The Everglades National Park Trust held their annual Park Ride to the Lookout Tower and Picnic at Shark Valley Sunday 15th. Dozens of Trustees and families enjoyed awesome views of the full Moon and dazzling winter stars against very dark skies in hi-tech SCAS equipment. SCAS members: Jim Rose, Steve & Vickie Van Ryn and Barb Yager also enjoyed watching huge flocks of birds skimming above the Glades against a beautiful sunset, and a surreal full Moonrise on the

northeastern horizon that resembled a bright red setting Sun! Several SCAS members were finishing the clean-up at the WSP campsite.

BOWMAN-FOSTER-ASHE ELEMENTARY

Wednesday 18th, Bowman-Foster-Ashe Elementary school, W. Kendall, held a daytime Astronomy Program, followed by a SCAS SkyWatch. Members: Mike Smith, Russ Harcha Paul Buscher (school computer specialist) and Barb Yager arranged hi-tech equipment on their basketball court to focus on rising Saturn, Orion's Nebula, Pleiades and Sirius. We were soon surrounded by a big group of teachers, parents and 80 excited youngsters. Spellbound by views in the SCAS 18" Dob, Mike's computerized images, Paul's C-8 and SCAS Unitron, and Barb's giant binoculars, they kept coming back for more beautiful views way past closing time!

ANNUAL TROPICAL STAR PARTY-

Friday 27th, the SCAS Tropical Star Party, buffeted by strong 25+ mph winds and very persistent clouds from a weather front, kept the usual throng of visitors at home! Our loyal band of SCAS Astros arrived but equipment was kept protected in our vehicles. Russell Brick, Lew Gramer, Russ Harcha, Rogelio Muro, Jim Rose, Mike Smith, Ashley Stevens, Nick Stingone, Andres Valencia, Steve & Vickie Van Ryn and Barb Yager were treated to a rare evening tour of the historic Key Biscayne Lighthouse and lightkeepers house by our friendly host and ranger Art Levy, Cape Florida State Park.

The ANNUAL TROPICAL STAR PARTY has been re-scheduled Friday, March 10th, 5-9 pm same area. The main Park gate will close at 8:15 pm. Our last attempt prior to DST.

MAHOGANY HAMMOCK STAR PARTY-

Several SCAS Astros took advantage of excellent skies January 28th, following a lengthy weather front the night before (totaled the Tropical Star Party at Cape Florida). Tim Khan, Scott Ireland, Ed Puntervoldt, Bob Torres, Steve & Vickie Van Ryn and Mike Smith were among the group that captured M-76, M-78, Abel 21 and 12, companion to Sirius, M-46, NGC 1088 and 1092..and visually saw the Horsehead Nebula!! At that time, the main Park road to Flamingo was still closed.

NASA SPACE PLACE

Micro-sats with Macro-potential

-Patrick L. Barry, JPL

Future space telescopes might not consist of a single satellite such as the Hubble, but a constellation of dozens or even hundreds of small satellites—Micro-sats—operating in unison. Such a swarm of little satellites could act as one enormous telescope with a mirror as large as the entire 'constellation', similar to the arrays of Earth-bound radio telescopes. It could last for a long time, because damage to one Micro-sat would not ruin the whole space telescope—the rest of the swarm could continue as if nothing had happened.

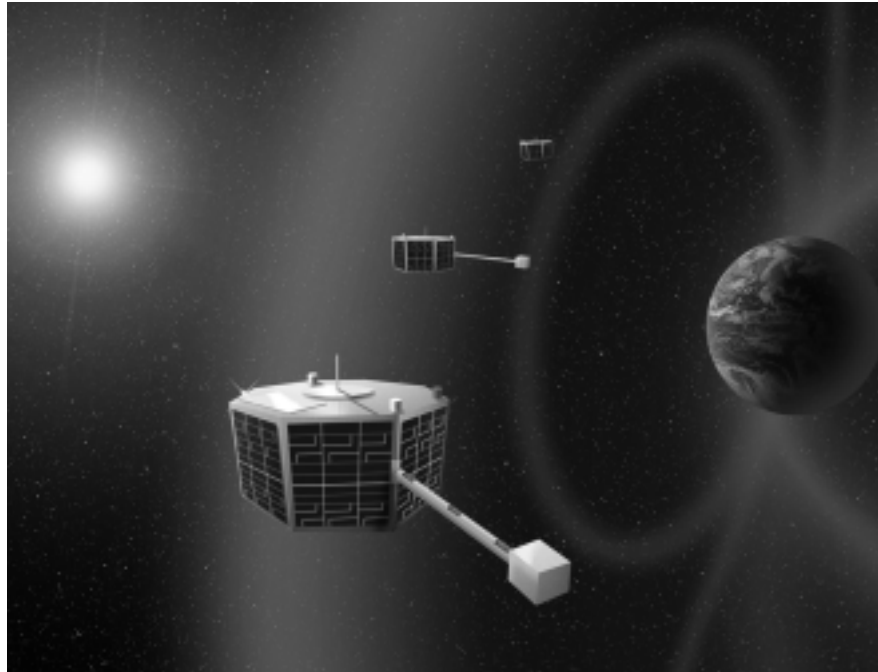
Micro-sats are smaller and lighter than normal satellites, so they are much cheaper to launch into space. Measuring 20 inches across and weighing only 55

lbs., each of the three Micro-sats for ST-5 resembles a small TV in size and weight. Normal satellites can be as large and heavy as a school bus.

In February, NASA plans to launch its first experimental Micro-sat mission—Space Technology-5. As part of the New Millennium Program, ST-5 will test crucial technologies needed for Micro-sats (miniature thrust and guidance systems) for dependable use in future

"ST-5 will also gather scientific data, helping scientists explore Earth's magnetic field and space weather" says James Slavin, Project Scientist for ST-5. He also suggests other potential uses for Micro-sats: a cluster spread out between Earth and Sun could sample incoming high-speed particles from an erupting solar

flare—giving scientists hours of warning of any threat posed to city power grids and communication satellites. Or perhaps a string of Micro-sats flying single file in low-Earth orbit, could record violent thunderstorms as each Micro-sat in the "train" passes over the storm. This technology would combine the continuous large-scale storm



monitoring of of geosynchronous weather satellites—which orbit far from Earth at about 36,000 kilometers altitude—with the closer, highly detailed view of satellites only 400 kilometers overhead.

Check out the Micro-sat image: http://spaceplace.nasa.gov/astro_clubs/st5_render.jpg

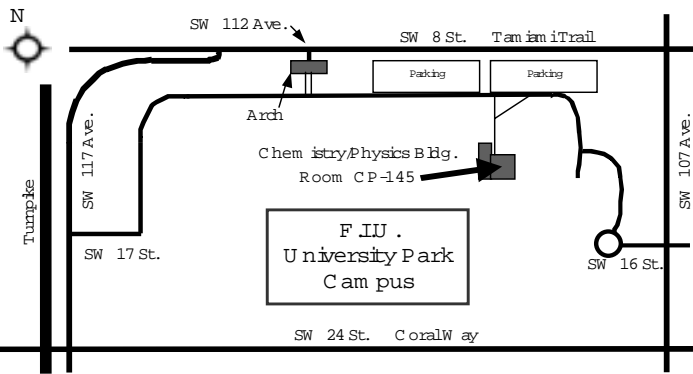
Ed note: SCAS will publish interesting articles from NASA Space Place Program/JPL.

SATURNIAN LIGHTENING

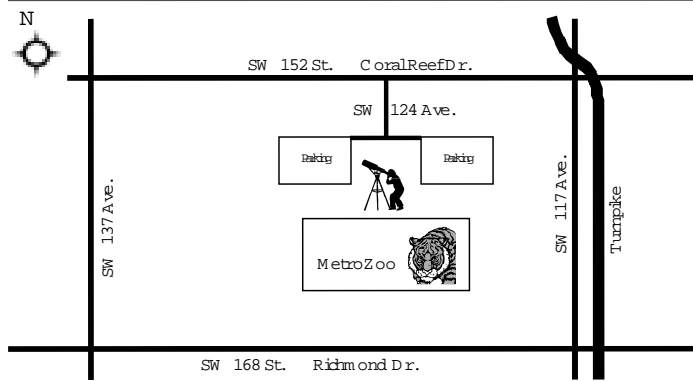
NASA's Cassini spacecraft is tracking an intense lightning storm on Saturn. The powerful bolts are causing the Cassini's radio to "crackle"—the same occurs when driving near a thunderstorm here on Earth. Hear it on: <http://spaceweather.com> Check out enormous solar prominences, curtains of colorful Aurora Borealis (Northern Lights) or the ISS cruising over the Sun taken by amateur astronomers and photographers on the above website.

Spaceweather.com 2/14/06

SCAS General Meetings - Third Friday of every Month



Saturday Solar Viewing - 10am - 12noon

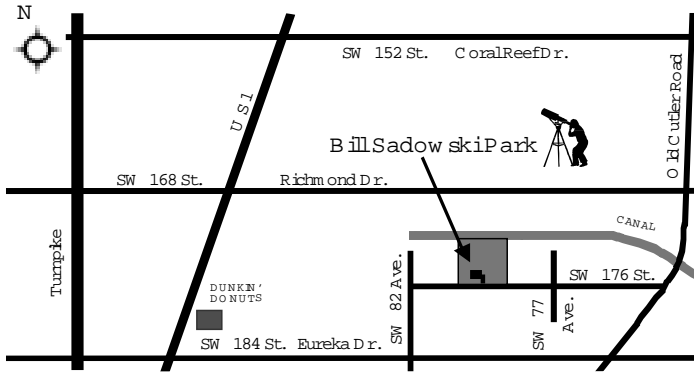


Southern Cross Astronomical Society, Inc.
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SCAS is a member of
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 The International Dark Sky Association

SCAS Star Gazing - Every Saturday Night 8-10pm



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<http://www.scas.org>

SCAS annual dues: \$25 adults/\$10 full-time students