

★ ABOVE THE FOG

• BULLETIN OF THE SAN FRANCISCO AMATEUR ASTRONOMERS •

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San Francisco
Amateur Astronomers



Sharing the Wonders
of the Universe



Information Hotline
(415) 566-2357

Web Page
<http://www.zennla.com/sfaa>

A Letter from the President Al Stern

SFAA would like to thank Renita Mock for designing and supervising the production of our new SFAA brochure, which includes club information and a membership application form.

The total eclipse of the moon on January 20th was a big success, both at Jane Houston Jones' event at St. Anselms School and at our event on Mt. Tam. Thanks for everyone's support at these events.

We are still searching for a brave soul to take over as Speaker Coordinator. We will assist you with speaker selection and the coordination process. If you are interested, please contact me at (510) 728-1851 or Dennis Tye at (415) 775-6136.

The ASP is looking for volunteers to assist in the preparations for their Annual Meeting to be held in Pasadena from July 13th through 18th. Please contact myself, or Sandrine of the ASP at (415) 337-1100 x109.

Tina Denetclaw has written a nice report on the SFAA Annual Awards Banquet. She discusses the SFAA awards presented to Renita Mock, Steve Gottlieb, and Toney Burkhart, as well as, the astrophotography awards, won by Kerry Sagar, Jim Uber, and Matthew Mazurek.

It was also announced that the astronomy community has lost a good friend with the passing of John Hewitt. He was a fixture at the Lawrence Hall of Science, Vice President of the AANC, and well known to all San Francisco Bay Area astronomy clubs. Jane Houston Jones has written a very warm tribute to John, which can be found on the SFAA website bulletin board. Click on John's name at the bottom of her message to read this wonderful tribute. John will be sorely missed by all who knew him.

SFAA Officers 2000

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Telescope Loans

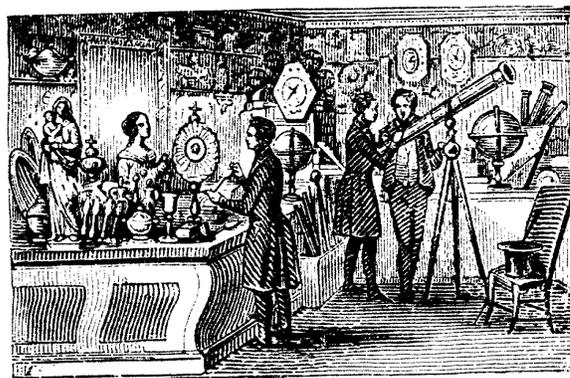
Ray Cash (415) 665-8666

SFAA Website Update

For those of you with online access, don't forget to visit the club's website. The bulletin board area especially is a great place to post info and ask questions. Go to <http://www.zennla.com/sfaa>.

Above the Fog is the official bulletin of the SFAA. It is our forum in which club members may share their experiences, ideas, and observations. We encourage you to participate, to submit your letters, drawings, announcements, articles and photos. We would also like to hear from our new members, about what you have done in the past, what other clubs you may have been with and, while you are at it, tell us about yourself. The deadline for the next issue is the last day of the prior month. Send your articles to Lorrie Boen to 765 Geary Street #302, San Francisco, CA 94109 or at LorrenLee@aol.com.

Club Telescopes



Long time member Ray Cash-LePennec has 3 loaner telescopes for club member use and is in charge of loaning them out. If you are interested in borrowing a club telescope, give Ray a call. There are many new members in the SFAA and they ask what kind of telescope to buy or use and this is a good way to get to know the Dobsonian type of scope and learn the sky as well.

CLUB DATES

Board Meeting

March 8 – 7:00 p.m. Western Addition Library – corner of Scott & Geary Sts. SF

SFAA Club Meeting

February 16 at 7:30 p.m.

March 15 at 7:30 p.m.

Morrison Planetarium, Golden Gate Park

City Star Party

February 12 at 5:30 p.m. – first of the year

March 11 at 6:00 p.m.

SFAA Annual Dinner

By Tina Denetclaw

The SFAA Dinner at Strawberry Joe's on January 22nd was very successful. Chelle Owens did a marvelous job coordinating. Al Stern, of course, was Master of Ceremonies, although he wasn't wearing his Captain's hat. Edwina Cherrington was the unofficial narrator, and she made sure that all appropriate comments and kudos (and jokes) were included.

Bill and Mark Cherrington were sitting at a small table on the side, where Toney Burkhart and Stacey McDermott had joined them, so Edwina ended up at the larger table sitting next to Carl Trost, an elder statesman of the club who is as charming as Bill. The first joke of the night was Toney quoting Bill as noting the old song, "My wife ran off with my best friend, and I sure do miss him."

All of the past officers and board members got certificates of appreciation and some of them must have their walls papered with them.

Toney won the Herman Fast Award, against his own vigorous objection. He insists that, despite his winning, he retains the right to nix future nominations that he feels aren't up to par. He wants this award to *really* mean something as the premier award of the club. Toney is dead-serious about this, but I think that he ought to win again next year (even though it's a one-time-only award). Toney was almost profane in his acceptance speech this year; I can imagine a quite exciting refusal speech should he win again.

Renita Mock won a service award in large for taking on the responsibilities of club secretary. It was a newly-formed position when she embarked so she's pioneering it.

Lorrie Boen was recognized for doing a great job in getting the newsletter back up and running.

Steve Gottlieb won "Observer of the Year" for his work on the NGC/IC project. Everyone probably knows that he's published in S&T and Astronomy, and he told us that it began with editors seeing his work on Jim Shield's website. Edwina said it's his

generosity of service that causes him to grow more handsome each year.

Kerry Sagar won the photography contest for his picture of the Milky Way. Other winners, not present, were Jim Uber, for "Mercury Transits the Sun" and Matthew Mazurek for "Whirlpool Star Trails."

Chelle was the official picture-taker for the night, and it was Kerry Sagar who gave her the most animated face for his shot.

Toney, Renita, Steve, and Kerry all received handsome star paperweight prizes engraved by Dennis Tye, and Lorrie received a certificate of recognition.

Lew Epstein was singled out by Edwina as being one of the club's founders, and she insisted that he stand and say a few words. He asked whether the real modern amateur astronomers were people sitting at home during the eclipse to watch an elaborate Nova program about astronomy, or are they the people outside in the damp air with personal (and therefore comparatively crude) telescopes and binoculars watching the eclipse with their own eyes. His conclusion was that it is those who use their own limited resources to directly see-taste-feel the experience who are keeping amateur astronomy alive. Plus, we showed ourselves proof that the earth is real, since we saw it cast its shadow!

There was also a moment of silence for John Hewitt at Lawrence Hall of Science who died just before Christmas. He had been a Hubble-user, along with Nancy Cox and Dennis Tye, and Nancy said a few words about him. My husband, Wil, says John was the guide at the planetarium who gave the lecture we attended a week before we bought our own telescope last summer. It had been John's taking us through the night sky that finally sparked us to get for Wil his long-desired scope. It's hard to believe that we've lost such a great person.

Because we were sitting next to the Owens, Wil and I got to hear the Art-and-Chelle romance story, and Art also told us about how Meteor Crater keeps finding him.

Probably the best part of the meeting for Wil and me was our first chance to see the faces in light that belong to the telescopes that we've gotten to know in the dark these last 8 months. Especially surprising were Dan and Lois Blaga and Kerry Sagar. They'd shown us our first view of "Jupiter and the Trees" last August. It was great fun to meet them.

Afterwards, Art showed all of us the club's newly acquired 10-inch reflector. And, Wil got a chance

to visit with Bill Cherrington. Bill is quite an interesting philosopher!

I almost forgot...Art and Chelle had a raffle for a book they found called "The Little Guides: Space." It's published in San Francisco. It doesn't give authors, but the consulting editor is Dr. John O'Byrne. It's an exceptionally nice little book. They raffled off several copies, and I won one of them!

We had a great time.

The Silicon Valley Astronomy Lectures

Smithwick Theater, Foothill College
Los Altos, California

PANEL ON THE EXPLORATION OF MARS

March 1, 2000

The speakers are Drs. Chris McKay and Carol Stoker of NASA's Ames Research Center and Dr. Margaret Race of the SETI Institute. Among the topics to be discussed during this very special evening will include: what we have learned about Mars so far, what the plans are for future exploration of the red planet (and for the search for ancient Martian life), and how NASA is working to prevent microbes from Earth from contaminating Mars and any possible microbes from Mars reaching the Earth.

For telephone updates about the series, check the hot-line at 650-949-7888

Texas Star Party

April 30 – May 7

Registration information can be found at: <http://www.metronet.com/~tsp/tspreg.html>



Planisphere Clock at Darling Harbour, Sydney

ASTRONOMY in MARIN

Winter Events Calendar

MARCH

Saturday, March 4th Star Party in Lagunitas

Sunday, March 12th Moon/planet viewing at Book Passage

Friday, March 17th (St. Patrick's Day) Moon/Planet viewing in Fairfax

The Honey Moon -- Observing Tips for Lovers

By Jane Houston Jones and Morris Jones,
married January 15th, 2000

Are you looking for Mr. or Ms. Right under starry skies? Do you want to introduce a special person to your hobby? Do you want to encourage the love of your life to share your passion for spending long cold nights outside, bundled up like a sausage roll? Well, you've come to the right place!

Romance is certainly in the wintery air. February is a great month for romance. Valentines Day is just one special night this month. How can you bypass the chance to whisper the 6 minutes of Christine Lavin's Planet X song into the ear of your beloved on Clyde Tombaugh's birthday, February 4th? Or observe Jupiter's four biggest and brightest moons on Galileo's birthday on the 15th? Copernicus was born on February 19th -- a full moon night this month -- the best night to view the gorgeous rays of his namesake crater on the moon! Zeppo Marx was born on the 25th. You can do what ever you like on his birthday. Tell silly jokes and make bad puns, perhaps? And on the 29th, it's national leap day! What a month! There's even a partial solar eclipse over Antarctica on the 5th, if you want to practice snuggling to keep warm.

There's no reason not to mix astronomy and romance, as long as you observe a few simple rules of the road. I've collected some of these from personal experience, and some from friends who shall remain nameless.

Music: Music can be good and it can also be very bad. If you are fond of new age music that never ends, and your love interest isn't, you may find that (s)he has gone on a long hike in the dark. Choose your music carefully. Perhaps saving the music for the drive home is the best advice. Why not just leave it home in the first place, and make your own music?

Food: Warm stuff like coffee or hot chocolate or Windsor 1996 Merlot are very good things to bring. Decadent treats like chocolate chip cookies (not the kind that come in a plastic tray from the grocery store) or brownies or anything chocolate are very smart choices. Huge cashews make me swoon -- they are especially good with that Merlot! I'll bet I'm not the only one who loves chocolate and hot things on a cold night. The combination of fat and caffeine may extend your evening if you are lucky!

Personal Space: One of the real smart romantic tips involves helping your beloved to the eyepiece. It may involve holding his hands or steadying his backside while he negotiates a ladder. Or gently touching her shoulders, to assist in the positioning of eye to eyepiece. It is acceptable to remain close to your paramour during these trips to the eyepiece. It is also acceptable to lean close and whisper sweet NGC's into her ear. "That's NGC 7331, isn't it lovely?" or "Can you see how close the small companion is? Don't they look nice together?"

Sharing Telescopes: If you both have telescopes, don't show off and quickly grab that galaxy he has been hunting for the past half hour. Express great pleasure at the sight through her telescope before saying, "Why don't you take a look at the same object through MY telescope, dearest?"

Packing up: It is advisable and preferable, if you must drop an eyepiece or telescope part, to do this with your OWN equipment. This is especially important when transporting mirrors, at least on the first date.

When is it time to go (but you don't want to): If your beloved is prone to falling asleep, gently cover him with lots of warm things, so you can keep on observing for another hour.

When it is time to go (and you really want to): Pack up your telescope, sit in the car, and play that new age music!

I hope you all have a wonderful February observing with your sweetheart. Make every moon your honey moon in one way or another. I know I plan to do just that -- every month!

Morrison Planetarium's
Benjamin Dean Lecture Series
presents

Looking Back: A Historical Approach to Understanding Modern Astronomy

29 February

The Power of the Stars:

The Role of the Sky in Developing the Cosmology of Civilizations

Throughout the ages humans have responded to the night sky in dramatic expressions that capture the essence of the age and civilization itself.

Dr. Bryan Penprase, Pomona College

DEAN LECTURE INFORMATION LINE at (415) 750-7141



**Be a Visiting Astronomer in Bay Area Schools
Get Free Training and Materials with Project ASTRO**

Project ASTRO is searching for amateur or professional astronomers who would like to work with teachers in grades 4 - 9. This is a great opportunity to help kids learn science while sharing the wonder of astronomy with the most enthusiastic audience you can find (and you'll also sharpen your own teaching and communication skills).

Volunteer astronomer applications are now being accepted for the 2000-2001 school year. The deadline is April 26. Space is limited to 20-25 partnerships. All participants are required to attend the free training workshop, which will be held August 11-12, 2000, at the San Mateo County Office of Education in Redwood City.

More information and astronomer application forms are available from Project ASTRO, 390 Ashton Avenue, San Francisco, CA 94112; tel. 415-337-1100 ext. 101; email astro@aspsky.org. Forms can also be downloaded from www.aspsky.org/astro/volunteer.html.

Stacy's Stargazing Getaways

A Peek at the Peak

by Stacy Jo McDermott

A couple of years ago, when I first got back into astronomy seriously, I kept hearing about Fremont Peak. At first, I thought this site was in Fremont, CA and somehow I had missed it in my travels. I soon found out that this area was a state park, complete with camping facilities and an observatory. The California State Parks department had worked with local amateur astronomers in setting up an area that is very amateur astronomer friendly about an hour and a half south of San Jose on highways 101 and 156.

My first visit was on a new-moon weekend. I was surprised at the lack of people in the campgrounds, but to me, that was a plus! So, I proceeded to pick out the best campsite, set up my tent and my telescope. It was surprisingly dark for a site so close to the metro area of San Jose to the north, Salinas (with a prison) to the south and the little town of San Juan Bautista at the base. While the observatory is open for public viewing on certain nights, one can set up their viewing equipment on "telescope row". The main gate is closed at 9pm so the instance of vehicles with their headlights blazing is minimal.

The campgrounds have picnic tables, nice toilet facilities, fire pits and easy access. There is a \$7 fee for camping overnight per night per sight. When I was there over the summer, the park rangers were very nice and considerate towards those of us setting up our telescopes. (They drove around with just their parking lights on.) Subsequent trips to the Peak have been equally enjoyable.

The sky is relatively dark. When the fog rolls in and covers the valley along with the cities' lights, it is very dark. However, due to the prison in Salinas upgrading their security lighting systems, if it's not foggy, there is a sky glow in the south as well as the north. This can cut into deep sky observing, especially if you are searching remote galaxies and faint nebula. Trees growing up the western slope of Fremont Peak obscure the

western horizon (and part of the northern horizon).

On certain nights during the year, The Fremont Peak Observing Association opens up their observatory to the public. A schedule of these nights can be found at www.astronomy-mall.com/FPOA. At times during the new moon, it can get a little crowded on telescope row, but all the people are lovely and very helpful. This is a mainstay site of observers living in the South Bay.

Fremont Peak is also quiet for the most part. There was one instance where a bunch of kids were celebrating graduation and for most of the night we were serenaded with salsa music, but hey, you only graduate high school once so we weren't going to begrudge them their celebrations. (It's tough enough being a teenager and you would have to pay me an obscene amount of money to relive it for even one day.) We ended up showing these young adults our telescopes and while they did not stay long enough to look at a couple things, I hope that just checking out the scopes planted a seed that will one day bloom.

All in all, Fremont Peak is a good site to head out to to do observing. It's proximity and astronomer-friendly format makes it an enjoyable site. I've been up to the Peak several times and plan to go up again in the future. For more information and directions, check out the FPOA site and the California State Parks website at www.park.ca.gov.

Overall Rating:



Dark sky rating:	6
Ease of access:	7
Fees:	4
Crowds:	4
Critter factor:	4 (These little guys are smart, so don't leave any food out!)

©2000 by Stacy Jo McDermott

All opinions expressed by the author do not reflect those of the SFAA, the FPOA, the California State Parks Systems or the wildlife inhabiting the park.

Leonid Storm 1999: Aboard the ARIA

Part 3 of 4

By Jane Houston Jones

The complete story & photos can be found at <http://morris.san-jose.psn.net/~mojo/jhmac/index.html>

The ARIA flew through the old comet debris. Never were Shakespeare's words "Parting is such sweet sorrow" more appropriate. The peak of the Leonid Storm of 1999 was over so soon! The flux measurement team was spent. We were exhausted! The anticipation, the speculation, the practice had drained every ounce of our energy. We had eaten every peanut butter cracker, every Skittle in sight. We even ate the fruit! Was it worth it? You bet! It was worth every minute of wakeful or subconscious effort. We had witnessed a Leonid Meteor Storm! What do you do when the storm is over? Celebrate? Crack open some bubbly? Nah, we kept counting meteors, of course!



Mission over, Paul still working

The storm peaked at 2300 ZHR barely 20 minutes after it began. By 03:00 the numbers were down to 500 ZHR, still a lot of beautiful meteors to observe and count. By 04:00 the count was back down to less than 50 Leonids per hour, adjusted to ZHR. Although exhausted, we tried our best to keep observing, to catch the falling stars, to record our meteor counts. And to bid farewell to the Leonids. I gave up the ghost at 4:30 am, after nearly 5 hours of counting or looking out the window, and walked around the aircraft, watching the video monitors replay the best and brightest for the NASA highlight shows. I slept a little too.

We were all interviewed at one time or another over our nights of Leonid watching, sometimes with night vision cameras in the dark - filming the flux team in action, displayed in eerie green fluorescence on tiny monitors in the dark. We looked like some alien creatures from a science fiction show, goggles with a bright red "on button" light glowing out from where our eyes should be. Sometimes the interviews were conducted in more of a studio-like setting back with the media crew. We looked terrible, in the dark or in the light. Mole-like squinty eyes used to the dark (like the amateur astronomers we are!) or puffy sleep-deprived eyes and faces captured for the world to see on television. It was "Live from the Leonids", starring 70 or so of the luckiest folks above the planet!

This was a very long flight night. From Tel Aviv, carefully to the Azores we sped, skirting outlawed airspace. We were flying near Greece but not over Greece during the Leonid Peak. Out the window of the plane, we could see the blinking light of our sister aircraft, the FISTA often during the 10+ hour flight. That aircraft, too, was packed with researchers, all experiencing the same mental and physical euphoria and exhaustion we were. We communicated back and forth. 80 miles away, their parallel track matched ours. For a while the head winds drained their progress and fuel. There was some talk of refueling in Spain. Out our windows the great cities of Europe passed by below. Vast darkness was the more prevalent view. I spent some time observing the spoke-like shapes of light radiating from the great city of Madrid. The twinkling coasts of Spain. Bright Barcelona. Sparkling islands offshore. Then more darkness.

November 19: The Island of Terceira.

Never did breakfast smell and sound more appealing than in the officers' dining room at Lajes Field, Azores. We were famished. But first, the big press conference. Luckily, coffee, juice, water and sweet rolls were waiting for us after passing through Portuguese customs. We again were questioned, photographed and peppered with camera flashes. On to breakfast, sleep, and a walk about the charming village of Praia. Then some time to freshen up for the fantastic local dinner banquet on the island's golf

course. Terceira, one of the nine islands that make up the Azores Archipelago boasts a geologic hump known as the Mid Atlantic ridge. Hot springs and cinder cones are evidence of the tectonic underwater activity here. We dined on a local dish, Alcatra. Beef simmered in clay pots left in the hot springs which abound on these islands. After no food on Leonid night, we were still starving by dinnertime, and dug in. We all savored the local fish, chicken, but most of all the Alcatra. Champagne corks were popping at every table (except for the Air Force crew's table). Portuguese wine filled the goblets. We hugged and cheered ourselves and each other.

I sat with a reporter from the Stars and Stripes Magazine over from Spain for the big story, and the Lajes Field Public Affairs officer. I learned all about the "burger burn," the ceremony of cooking hamburgers for our U.S. military returning from the hot spots of the world. Lajes Field is where many enter or leave civilization. After a year in the desert, or a tour of duty in a war torn part of central Europe, Lajes Field puts on an all-American feast for its honored guests. Kegs of beer and 'burgers are lavished on our servicemen and women - a brief glimpse of home, before a return to loved ones and special familiar places. A thank you, of sorts, from these far flung representatives of a grateful nation.

Afterwards we all had the luscious coffee specialty of the islands. Somewhat like a café latte, but even more yummy, it was served in a tall narrow glass. I'll remember what it is called eventually, probably when I search the internet for the recipe. I can still taste the Alcatra and smell the coffee from my brief stopover on Terceira. I hope to return someday.

Hours later, we donned our flight suits again, packed our gear and boarded buses for a drive to the Lajes flight line. It was another work night for the flux measurement team. We had a several hour wait in the aircraft, and finally took off for Florida. After what seemed like 12 hours, we landed. After what seemed like more hours we passed U.S. customs. After what seemed like even more hours, we checked into the Cocoa Beach Hilton. It was hours! Hours and hours and hours! We arrived at 7:00 a.m. Eastern Time to find our rooms would not be ready 'till 11:00 a.m. Flight suited researchers and Air force personnel crashed on the lobby floor, and every available

chair and couch. Snoring blue and green flight suited beings (if you could call them that!) littered the lobby. 7 hours later, refreshed, tanned from walks on the beach or at least rested and cleaned, we all gathered for the final ceremony. A beach barbecue! The hurricane of the day was not too far out in the Atlantic, and soon we were pelted with rain and wind. In came the food and beer and desserts. In came the Leonid MAC '99 group, 80 strong, gathering 'round the bar! We all could toast each other, and celebrate this time. The flight crew were our special honored guests. Award certificates were handed out by Col. Pete Worden and Dr. Peter Jenniskens. We all exchanged email addresses. I sat with the parents of MSGT Greg Williams from Sarasota, Florida, and vowed to visit them next month when I spend the holidays in Sarasota.

More hours later, 9 of us piled into a small compact car and traveled about a mile to the Waffle House for breakfast. Best to leave the rest to your imagination, but the waffles, I understand were great!



Celebration!

Postscript:

What were my very favorite moments of this trip? Was it spending the darkened work hours with my friends on the Leonid Storm '99 Flux Measurement Team? Or was it sharing cream tea with Bill and Kristina Smith in Cambridge? Perhaps nudging Chris Crawford on the first night, to share with him the aurora borealis through my eye-goggles. No, maybe it was my first or my last Leonid, streaking through the goggles, or whizzing past Orion's belt through a scratchy 707 window. Was it looking down on Arizona's Meteor Crater, just an hour before landing at Edwards Air Force Base in California on Saturday November 20th at 3:00 pm? Was it

the many bus trips to the many flight lines throughout the world? Strapping on the oxygen kits for a walkabout the aircraft? Watching moonset over the Atlantic? Sunrise over the Mediterranean Sea? A glimpse at the Southern Cross, Eta Carina and Omega Centauri through the window shortly before landing in Florida? The helpful teams of Air Force personnel at every

stop of our great adventure? Maybe the Alcatra on Terceira?

Sights and sounds and smells will evoke all of these memories - more than enough to fill a lifetime or a scrapbook. I think I'll cherish all of them. And the many more that will appear in my thoughts as time passes.

COMET COMMENTS FOR FEBRUARY 2000

By Don Machholz

No bright comets are in our skies these nights so this Comet Comments contains no ephemerides or orbital elements. This gives us the opportunity to look back at 1999 and to discuss the comets we hope to see this year.

Amateurs Gary Hug and Graham Bell of Eskridge Kansas discovered a new comet on CCD images they took through a 0.3-meter Schmidt-Cassigrain reflector on Dec. 10. The comet was magnitude 19 and near the Beehive cluster when found. Comet 1999 X1 (Hug-Bell) has a seven year orbital period and stays outside the orbit of Mars. The LINEAR program found its final comet of the year on December 20. Comet 1999 Y1 is more than a year from its perihelion, which is a distant 3.2 Astronomical Units.

Fifty-six comets were discovered in 1999. Only 7 of them are periodic-returning in fewer than 200 years.

Who made these discoveries? The LINEAR project in New Mexico, designed to find asteroids and comets that may hit the earth, found 20 comets. Many of them were first thought to be asteroids before closer examination (often by others) detected a coma or short tail. The SOHO program found 19 comets. SOHO is a spacecraft in solar orbit, about a million miles from the earth. It constantly monitors the solar region and has taught us a great deal about the sun. SOHO's comets are very bright and are often part of the Kruetz sungrazer family. Most of the SOHO comets are seen entering, but not exiting, the solar region. It is believed that they disintegrate as they

pass near the sun. Amateurs visually discovered three comets. All were Australians: Tillbrook, Lee and Lynn. All three comets were found south of the equator. Four other amateurs, in two teams of two, used their own CCD's to discover comets. Korlevic and Juric found a comet in February, while Hug and Bell found one in December. The remaining twelve comets were found by those using professional equipment, often in the search for hit (or near-miss) asteroids and comets. Incidentally, for each comet they find there are hundreds of asteroids found.

The year 2000 doesn't line up to be a great year for comets, but you never know when a bright one will be discovered. Comet LINEAR (1999 S4) was expected to reach magnitude 3 in July when it will be placed in the northern polar region. However, recent observations show that the comet is slow to brighten as it moves toward the sun, and during one stretch the dust production decreased rather than increased. Now at 14th magnitude, it will be interesting to see what happens before we lose it in the solar glare in early April. Comet McNaught-Hartley (1999 T1) may reach magnitude 6 late this year, but it is within 70 degrees of the sun and far south until then. Finally, Periodic Comet Encke will be briefly visible from each Hemisphere late in the year.

COMET HUNTING NOTES: The first visual telescopic comet discovery was in 1680. In the 1760's Charles Messier and others competed to visually discover new comets. The first photographic comet find was in the 1890's. For one hundred years these were the two chief methods of finding comets. So what happened in 1999? 56 new comets were discovered. Three were visual. Two were photographic. Fifty-one were found by CCD's.

**The Sonoma State University
Department of Physics and Astronomy**

Present

What Physicists Do

Physics is what physicists do late at night

Mondays at 4:00 p.m.

Darwin Hall Room 108

Coffee at 3:30 p.m.

- February 14 **The Ubiquity and Power of Analogies in Physics**
Dr. Douglas Hofstadter of Indiana University and Stanford University will show how the cognitive mechanism of borrowing previous ideas in physics (and often blending two or more ideas in what seems to be utterly incoherent fashion) has repeatedly enabled physicists to come up with radically new and deeply right insights and thus to leapfrog ahead at amazing speeds.
- March 6 **Astronomy in the Twentieth Century**
Dr. Joseph S. Tenn of Sonoma State University will describe progress in solar system, stellar, and extragalactic astronomy and show how the oldest science has become a branch of physics.
- March 13 **Astronomical Instruments for Remote Observatories**
Tom McMahon ('85) of the University of Arizona will describe the design and construction of instrumentation for observatories at the South Pole and in space, including the Space Infrared Telescope Facility, Terrestrial Planet Finder, and gossamer optics.

The Planetary Society Bay Area Volunteer Network
and
Morrison Planetarium
present

Walking Your Dog on the Mars:
The Case for Human Exploration
Saturday, February 19, 2000
Morrison Planetarium

Visit the Planetary Society at <http://planetary.org>
And the Bay Area Volunteer Network at <http://www.tpsbavn.org>

Tickets ordered in advance: \$3.00 (\$5.00 at the door) Send a check payable to the Planetary Society, with your name, address and phone number, and a self-addressed stamped envelope to:
TPS Mars Event, c/o Barbara Raskin, 1530 Bay Laurel Dr., Menlo Park, CA 94025

Orders received after February 10, or without SASE, will be held at Morrison Auditorium.
Tickets are limited and non-refundable.

Have you seen this stolen equipment?

Bob Czerwinski of San Jose is looking for his Tele Vue 101 refractor telescope with accessories, 3 sets of binoculars, a Kodak DC290 digital camera (serial no. EKT94104092) and much more, stolen in San Jose January 12. See details on our website bulletin board, contact Bob at (408) 832-4518 or email him at bczerwin@ix.netcom.com.

Founded in September 1952, the San Francisco Amateur Astronomers (SFAA) is an association of people who share a common interest in astronomy and other related sciences. Our membership consists of people from all walks of life, educational backgrounds and ages. Many SFAA members own their own telescopes; some have been made by hand in local telescope-making classes and vary in size from 6 to 25 inches.

Treasurer, SFAA, 13 Mabry Way, San Rafael, CA 94903

make checks payable to **San Francisco Amateur Astronomers** and mail to:

- \$25 enclosed, individual membership
- \$30 enclosed, foreign membership
- \$30 enclosed, family membership
- \$30 enclosed, institutional membership
- \$8 enclosed, youth membership (under 18)

Select one category:

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_____ Name: Telephone:

San Francisco Amateur Astronomers Membership Application

San Francisco Amateur Astronomers

c/o Morrison Planetarium
California Academy of Sciences
Golden Gate Park, San Francisco, CA 94118

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