

★ ABOVE THE FOG

• BULLETIN OF THE SAN FRANCISCO AMATEUR ASTRONOMERS •

Vol. 55, No. 5 – May 2007

June 20, 2007 – General Meeting

7:00 pm Doors Open . 7:30 pm Announcements . 8:00 pm Speaker

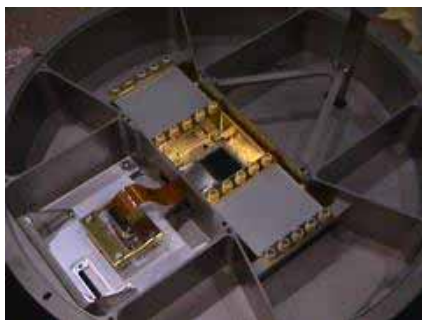
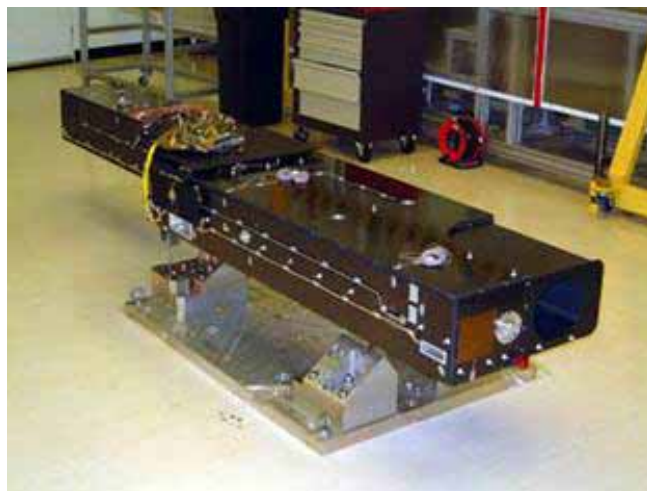
NEW OBSERVATIONS OF THE SUN WITH THE HINODE SATELLITE

DR. THOMAS BERGER, LOCKHEED MARTIN



The Japanese "Hinode" (Sunrise) satellite was launched on the last of the M-V solid fuel rockets into a Sun-synchronous orbit on 23-September-2006 from the Uchinoura Space Center in Kagoshima, Japan. Hinode consists of three major solar physics instruments: the Solar Optical Telescope (SOT), the X-Ray Telescope (XRT) and the Extreme Ultra-violet Imaging Spectrometer (EIS). Each of these instruments works as part of a system to explore the generation and evolution of the Sun's magnetic field, the magnetic "active regions" and their role in the heating of the million-degree solar corona,

and the onset and aftermath of solar flares and coronal mass ejections, among other key questions in solar physics. Hinode has returned spectacular images and spectra to date, including coverage of the massive X3.5 solar flare of 13-December-2006. I will review recent Hinode results, focusing on the SOT data with which I'm most familiar. An overview of the SOT instrument will be given, followed by images and movies of the 13-December-2006 flare, fantastic images of solar prominences (relatively cool gas structures suspended mysteriously in the corona), a "reverse" solar eruption, and other surprising new discoveries made in the past months with Hinode. The Hinode/SOT website is http://solar-b.nao.ac.jp/sot_e/index_e.shtml.



Dr. Thomas Berger is a solar physicist at the Lockheed Martin Solar and Astrophysics Laboratory in Palo Alto, California. He received a B.S. in Engineering Physics from U.C. Berkeley in 1986 and a Ph. D. degree in Applied Physics from Stanford University in 1997, working with Dr. Alan Title at Lockheed Martin. His research focuses on tunable birefringent filter design and applications to optical wavelength observations of the solar photosphere and chromosphere. He has specialized in the study of the generation and evolution of the smallest measurable magnetic fields on the Sun, primarily using the Swedish 1-meter Solar Telescope (SST) on the island of La Palma, Spain. In 1999 he was appointed a Co-Investigator on the Solar Optical Telescope (SOT) instrument on the Japanese/US/UK "Solar-B" mission, which was renamed the "Hinode" mission upon successful launch in 2006. He currently works as a Chief Observer for the SOT instrument, traveling frequently between the US and Japan.

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	Joe Amato	Web-master@sfaa-astronomy.net

CI ub Tel escopes

The SFAA owns eight very fine, easy to use, loaner telescopes well-suited for deep sky, planets, and star parties. All scopes are available to any SFAA member. The loaner custodians for the majority of our fleet are Pete & Sarah Goldie. Please contact them at pg@lbin.com for details if you are interested in borrowing a scope or if you have items you can donate for the loaner program (eyepieces, star maps/books, red flashlights, collimator, etc.). Please contact the appropriate member indicated below if you are interested in borrowing one of the telescopes.



- 1) 6" f/10.3 Dobsonian/Ken Frank president@sfaa-astronomy.org
- 2) 8" f/7 Dobsonian/Pete Goldie
- 3) 8.5" f/6 Dobsonian/Pete Goldie
- 4) 10" f/8 Dobsonian/Pete Goldie
- 5) 114mm f/4 Newtonian StarBlast/Pete Goldie
- 6) 8" f/10 Celestron SCT/Annette Gabrielli/agabrielli-sfaa@sbcglobal.net
- 7) 8" f/10 Meade SCT/Stefanie Ulrey/treasurer@sfaa-astronomy.org
- 8) 9.5" f/5.6 Celestron Newtonian/Ken Frank/kennethfrank@planitarium.net

CI ub Astronomy Videos

The SFAA owns a series of astronomy videotapes featuring Alex Filippenko, a world-renowned professor of astronomy at UC Berkeley. The videotapes provide an introduction to astronomy and cover topics such as the Solar System, the lifecycles of stars, the nature of galaxies, and the birth of the Universe. The SFAA loans the tapes free to all members. If you are interested in viewing these tapes, you may check them out at any of the SFAA General Meetings. These tapes were kindly donated to the SFAA by Bert Katzung. For information on the course tapes themselves:



<http://www.teach12.com/ttc/assets/coursedescriptions/180.asp>

Membership Dues

Membership is billed for each upcoming year on June 30. Members may receive no more than one bulletin after the expiration of membership.

SFAA Website and Online Services



The SFAA web site at sfaa-astronomy.org is provided to our members and the general public for the sharing of club information and services. The web site contains links for club [star parties](#), [events](#), [newsletters](#), [lectures](#) and [meetings](#). If you wish to interact with other people who are

interested in astronomy, the SFAA web site offers public and members only [bulletin board forums](#). If you wish to remain up-to-date on club activities, then we encourage you to subscribe to one or both of our public [mailing lists](#), which will allow you to receive our newsletter and/or club announcements via email. Other useful and interesting information and services are available on the site such as [observing location reviews](#), member [astronomy photos](#), and [members only telescope loans](#). Information about SFAA's membership, organization and by-laws are available at the club's online public document [archive](#). If you need to contact a representative of the SFAA, then please visit our [contacts](#) page to help in finding the right person to answer your questions.

Above the Fog is the official bulletin of the San Francisco Amateur Astronomers. It is the forum in which club members may share their experiences, ideas, and observations. We encourage you to participate by submitting your articles, announcements, letters, photos and drawings. We would also like to hear from our new members. Tell us about yourself – what you have done in the past and what other clubs you have joined. **The deadline for the next issue is the 20th day of the month.** Send your articles to Editor@sfaa-astronomy.org.

FOCAL POINT

So what happened to all that great weather I espoused? We're now almost half way through the year and I'm ready for some DSO's (deep sky objects) Our SUP was SOL (seeing oh so lousy) well, ok it was in-and-out. The wind died down fortuitously but the seeing didn't. Michael, Dave Frey and myself did some comparison viewing...the Clubs 6" f/10.3 to Dave's slick stocky stopped down 18" Dob to Michael's Megrez 80 converted Apo to my plain vanilla Megrez; of Saturn and a few double stars James and Michael were hunting down. We attempted Mercury, which current studies show that our innermost planet may be crunchy on the outside, with a soft, chewy center; but limiting horizons and lazy feet keep this orb elusive to our eyes; not so for solar chasing. A cast of many, including two new members followed the setting sun up still green grassy knolls to reward ourselves with some great views with our PST acquisition. The PST is a great tool for daytime astronomy. Art Owens sans mud bathing Chelle, amused himself by watching me adjust my snazzy QuickSet tripod up, down and back up again to the merriment of all. Cheryl and Dave took some stunning shots of proms, silhouettes of branches and looming Sunspot 955. Later as Scorpio rose, we tried our luck with Old Jove. He looked like a pat of melted butter and not much else. I can't wait for the images of Christopher Go's at the AANC-CON 2007 Saturday September 29th at CSM. <http://www.aancstars2007.org/>

Akkana Peck's column of Shallow Sky covers Jupiter and more at <http://ephemeris.sjaa.net/> on page 3 of the June 2007 issue.

Our club treasury CD's are almost keeping up with inflation now. Not that we need to but how would you like your money spent? Annette and Joe have done a great job in the Above the Fog conversion process, from hard copy to on-line now so we are really saving money. Speaking of on-line, your board members have been working on making the SFAA-astronomy.org website more user friendly. From the statistics Joe gives us each month, we are continuing to get more hits from real people vs. bots these days, so we must be doing something right. If you have content you would like to contribute and see on our website, just give Joe a shout; same for Above the Fog. Just send your column to wordsmith Annette. For you aspiring astrophotographers, send us your jigs. We can always use new images of the most recent supernova you have discovered.

Don't forget to mark your calendar for the upcoming AANC-CON 2007 (did I say that already) Reach for the Stars, being held at CSM's brand spanking new planetarium and science center, hosted by SMCAS <http://www.smcas.com/> Our keynote speaker, Imke de Patter will announce new discoveries in planetary science with the gas giants assisted by the stunning images by Christopher Go, visiting us from Cebu, PI. We shall also have Dr. Pamela Gay of Southern Illinois University who, remotely in her bunny slippers, will give us her take on what is new and exciting in the astronomy world. Listen to her podcasts on Astronomy Cast and Slacker Astronomy. <http://www.astronomycast.com/> You can find all of this and more on the new and expanding website of <http://www.aancstars2007.org/> of which former president Michael Portuesi has graciously volunteered his valuable free time.

We have a new junior member, Daria Lyn Goldie, born 3:05am May 23rd 6 lb 13 oz to Pete and Sarah, our telescope minders. We wish Daria many warm, fogless nights of good seeing.

ISAN or International Sidewalk Astronomy Night on 9th and Irving with the Schumacher's, were greeted with San Francisco's finest. A fire engine and crew came over for a peek in the eyepiece. Top 'o Tam had post lecture poor weather which didn't help the awaiting public. Ghirardelli Square with John Dobson and me had an assortment of sidewalk planet gazers from Sonoma to Spain. We lucked out with calm winds, fairly fair skies and lots of telescope aficionados minding the telescope. If you've got photos, please pass them on so we can post 'em. Our MoJane contingent in southern California had this to add: you might enjoy hearing the story on Weekend America about International Sidewalk Astronomy Night. Mojo has an edited version of the audio here: <http://photo.whiteoaks.com/2007-05-19-weekend-america/sidewalkastro.mp3>

On the event horizon for June don't forget: John Dillon's City Star Party Solstice talk on June 9th, Fremont Peak on June 15 -16 and Mount Tam talk by Alex Filippenko on the 23rd.

See you in the marine layer,

KEN FRANK, President

IMPORTANT DATES

SFAA GENERAL MEETINGS & LECTURES

Wednesdays - June 20, July 18, August 15
7:00 p.m. Doors open. 7:30 p.m. Announcements. 8:00 p.m. Speaker
Randall Museum, 199 Museum Way (Near 14th Street and Roosevelt)

BOARD MEETINGS

Tuesdays - June 12, July 10, August 14
7:00-8:30 p.m.
Randall Museum, 199 Museum Way
(Near 14th Street and Roosevelt)

MT TAM STAR PARTIES – SPECIAL USE PERMIT – MEMBERS ONLY

SATURDAYS -- June 16, 8:25 p.m. – Gatekeeper **VOLUNTEER NEEDED**
July 14, 8:19 p.m. – Gatekeeper **VOLUNTEER NEEDED**
August 11, 7:59 p.m. – Gatekeeper **VOLUNTEER NEEDED**

CITY STAR PARTIES - Telescope Clinic one hour before sunset

VOLUNTEERS ARE ALWAYS NEEDED

Saturday, June 9, 8:22 p.m. at Randall Museum
Saturday, July 7, 8:26 p.m. at Land's End (Point Lobos)
Saturday, August 25, 7:42 p.m. at Land's End (Point Lobos)

Map and directions – Land's End (Pt. Lobos) <http://www.sfaa-astronomy.org/clubarchive/directions-pointlobos.php>

Weather may cancel the City Star Party. Call the SFAA Hotline at (415) 289-6636 AFTER 4 PM to learn the status of the event and the location. If the hotline announces the Star Party is cancelled, the Telescope Clinic and Lecture are cancelled as well. However, if the Hotline does not cancel the Star Party, be assured that the Lecture will proceed as scheduled even given less-than-perfect telescope conditions.

Please also note that while City Star Parties WILL ALWAYS be held on Saturdays, some will be closer to the last quarter phase of the moon, while others will be close to first quarter. This is so we can work around dates for Mt. Tam public star parties as well as our members-only events on Mt. Tam.

2007 SAN FRANCISCO AMATEUR ASTRONOMERS LECTURE SERIES

RANDALL MUSEUM THEATER , Randall Museum, 199 Museum Way, San Francisco
FREE & OPEN TO THE PUBLIC

JULY 18 – DR. KEVIN ZAHNLE, NASA AMES

“Large Impacts, Planetary Evolution and the Atmospheres of Mars and Venus-like Planets”
Check for forthcoming details.

AUGUST 22 - *To be announced*

SEPTEMBER 19 - CHRIS FORD, SENIOR DESIGNER, PIXAR ANIMATION STUDIOS

Using hard data, amateur astronomer Chris Ford will show astronomy visualizations, aspiring to scientific accuracy that will educate and entertain. You will fly across Mars, traverse Saturn's Rings, see Jupiter up close and learn about how these spectacular simulations are done. Ford will discuss both the tools and the state of the art, and declares, “This media is where Chesley Bonestell would be working today!”

OCTOBER 17 - NOVEMBER 21 - DECEMBER 19 - *To be announced*



NEW SFAA MEMBERS
Scope City is offering to new members a \$25 credit toward the purchase of telescopes and binoculars.
Obtain a receipt for dues payment from
Vivian White, Treasurer,
treasurer@sfaa-astronomy.org
Contact Sam Sweiss at Scope City
to arrange for your discount.

2007-2008 MEMBERSHIP DUES

Just a courtesy notice to let you know that your SFAA membership comes due at the beginning of June. Thank you for your membership; I hope you decide to continue it!

Note that if you were subscribing to Sky and Telescope or Astronomy magazine, you will need to renew your subscription separately. The magazine will send you a renewal notice. You can just mail your check and renewal notice to SFAA, and we will renew your magazine at the special discounted rate. Note that not renewing your club membership on time may mean your magazine subscription will also terminate.

Within the new membership structure implemented this year, dues are billed for each upcoming year on June 30.—SFAA yearly membership benefits include:

- Subscribing to our Announcements mailing list to receive newsletter, activity and event announcements.

- Interaction with world class speakers as they present cutting edge astronomical research

- Discounts on [Sky & Telescope](#) and [Astronomy](#) magazines

- Discounts on equipment and accessories at [local telescope retailers](#)

- Annual club Astrophotography, Literary & Art Awards

- Social events, such as our annual picnic and our awards dinner

- Club telescopes – use one of the club's loaner scopes on a month-to-month basis

- Yosemite Star Party – held at Glacier Point exclusively for SFAA members

- Access to events and resources in Northern California and beyond

- Field trips – to observatories and other locations of scientific interest, such as Mt. Wilson Observatory in Pasadena, Chabot Space and Science Center, Fremont Peak, and the Stanford Linear Accelerator Center (a registration fee may be requested)

- Extended observing hours at the Mount Tamalpais Astronomy Program

- Access to dark sites in Northern California

Yearly rates for membership:

- \$10 - Youth (under 18) / Student Membership

- \$25 - Individual Membership

- \$30 - Family or Foreign Membership

- \$40 - Institutional Membership

- \$75 - Supporting Membership

Magazine subscriptions:

Subscriptions to Sky & Telescope magazine and Astronomy magazine are available to club members at a discount rate. Add specified amount to membership fee for a 1-year subscription. Magazine fees remain the same regardless of the time of year you join.

- Sky & Telescope (+ \$32.95)

- Astronomy (+ \$34.00)

Please complete the membership form on the last page of the newsletter and submit with your check payable to

San Francisco Amateur Astronomers

Send to

San Francisco Amateur Astronomers

P.O. Box 15097

San Francisco, CA 94115

INTERNATIONAL SIDEWALK ASTRONOMY NIGHT
GHIRARDELLI SQUARE – SAN FRANCISCO
May 20, 2007



Left (top to bottom):

1. Ladies from Oregon
2. Maria, John Dobson and Sam Sweiss
3. John Dobson holding court

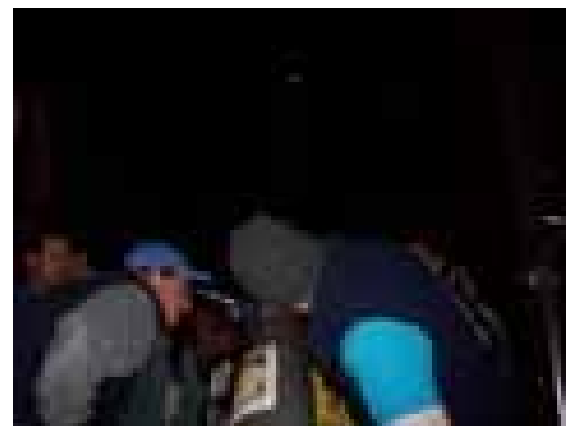


Right (top to bottom):

1. It's the moon and Venus!
2. Milvia's friends
3. Nina, Milvia and Friend, John Dobson and Ken Frank
4. Venus, Moon, telescope and viewers



Photos courtesy of
Kenneth Frank



INTERNATIONAL SIDEWALK ASTRONOMY NIGHT
GHIRARDELLI SQUARE – SAN FRANCISCO
May 20, 2007



Left (top to bottom):

1. Many folks used their camera for shots like this of the Moon and Venus
2. Lots of cosmology and telescope class mates reunite

Right (top to bottom):

1. Milvia and friends
2. John retells a story
3. Andrea gets excited about Titan!



Photos courtesy of Kenneth Frank



ANNUAL YOSEMITE STAR PARTY AT GLACIER POINT FRIDAY, JULY 13, AND SATURDAY, JULY 14, 2007



Panshot courtesy of Mojo

We have a New Moon weekend so our quota will fill up quickly. To sign up, please email [peter.schumacher at ucsf.edu](mailto:peter.schumacher@ucsf.edu) with "Yosemite" in the subject line, and include in the text body: your name(s), number of people, type & size of scope(s).

If you are currently registered and decide for some reason you cannot come, please let Peter know as soon as possible so others may fill your campsite. Those on the wait list will thank you for your consideration.

A note for non-members and those not making the list: Yosemite is your National Park, and you may come if you arrange your own accommodations. In this case, you would be welcome to join us at Glacier Point for the public star party and the observing afterward; however, you would not be obligated to set up for the public.

Regarding location, the Star Party will be held at Glacier Point and will be hosted by the National Park Service (NPS). For directions and guidelines, rustic camping is located at the Bridalveil Creek campground group site. There is room for several tents. Cold running water is convenient but *sans* showers. The campsite is 8.5 miles away from Glacier Point.

For those of you unfamiliar with this event, we are given free reserved admission and camping space. In exchange, we give two public star parties at Glacier Point, on Friday and Saturday night. We'll have the public (about 200 - 300 people) starting twilight and for a few hours, and then the rest of the night (and all day) to ourselves. This is a mighty good deal, considering how some folks come 12,000 miles to see these rocks. NPS limits astronomy clubs to a maximum of 30 SFAA campers. Please do not ask if your friends can come ... unless they are SFAA members. Want to join the SFAA? You are expected to have at least one public telescope for every two people. Check the National Weather Service for up-to-date weather info on Yosemite Park current weather and conditions. There is a live cam of Half Dome from Ahwahnee Meadow. Once confirmed, you will be given an Entrance Fee Waiver Form you must present to the ranger at the park entrance. These forms will

be available at our meetings. You may be asked to show the ranger your telescope when you enter the park.

The observing site is mostly open, with incredible views from about NNW to the east, around to due south. Though the horizon from south around to the west is partly blocked by tall trees, there is still a lot of open sky, and typically, the seeing and transparency are excellent. Warm temperatures of 70 to 90 prevail during the day, with cool to chilly 40's at night due to the elevation of 7200 feet.

During our Star Party, one of the rangers gives a sunset talk, and then turns the crowd over to us. A SFAA member will then deliver an evening talk. Some of the public will have white flashlights, so we need to be tolerant of that; we will have club members with red brake light tape to cover the offending flashlights.

Expect many questions from the public! Here is an object list with corresponding finder charts and some brief information.

Fun part- By around 9:30 or so, we will have the place to ourselves, and can stay until dawn. Scopes must be removed when we quit, then set up again on Saturday. Some of us may set up sun scopes during the afternoon, show Half Dome, and invite people to come again after sunset.

Gastronomic Astronomic- Early Saturday eve is traditionally potluck and is always fun. Please provide enough for ~ say 4 or 5. Salads, main course, pu pu's and desserts are all welcome. Let's try again for the best astronomical theme of incredible edibles. Prizes will be awarded! Please remember this repast takes time so it's better to start our own gastronomic party early so there's no need to rush for set up Saturday evening on Glacier Point. Sunset Saturday will be 8:23 pm.
See you there.

Peter & Ken



MT TAM ASTRONOMY PROGRAMS
MT. TAM MOUNTAIN THEATER
JUNE 23 - 8:30 P.M.

Please join us on SATURDAY, JUNE 23, AT 8:30PM in the Mountain Theatre on Mt Tamalpais.

Prof. Alex Filippenko of UC Berkeley will discuss "The Birth of the Universe". He will present evidence in favor of a Big Bang origin for the cosmos - a hot, dense beginning with an inflationary expansion. And he will also

discuss recent theories suggesting that our universe may be only one of many. Prof. Filippenko is a favorite repeat speaker on the mountain, and his talks always entertain and elucidate.

Carpool with your friends, bring flashlights and dress warmly. It can be cold sitting on rocks! All programs are **free**, and we encourage you to bring students and family members of all ages. Telescope viewing will follow the program, weather permitting, until about 11:00pm in the Rock Springs Parking Lot.

If the weather is questionable on the day of the program, call the SFAA hotline at 289-6636 (the Astronomy hotline will not be changed on this program). Usually the program goes even if the sky is not inviting for observing. And remember that when the fog comes in we are usually above it and welcome it to block out the lights of San Francisco.

Thank you for your interest in the Mt Tam Astronomy Programs. See you on the Mountain!

Jun 23 – 8:30 p.m.	Prof. Alex Filippenko UC Berkeley	"The Birth of the Universe" <i>There is evidence in favor of a "big bang" origin for the cosmos - a hot, dense beginning with an inflationary expansion. More recent theories, however, also suggest that our universe may be only one of many.</i>
Jul 21 – 8:30 p.m.	Dr. Janice Voss NASA-Ames Research Center	"Life as an Astronaut: Highlights of STS-99" <i>Shuttle Mission STS-99 launched on Feb 11, 2000 was Dr. Voss' fifth space flight. Dr. Voss will describe the mission and other aspects of life as an astronaut.</i>
Aug 18 – 8:30 p.m.	Dr. Joseph F. Hennawi UC Berkeley	"Weighing the Dark Matter in the Universe with Gravitational Lensing" <i>A description of the mysterious problem of Dark Matter in the Universe which has confounded astronomers and physicists for nearly half a century, and recent progress on understanding it based on one of the predictions of Einstein's theory of general relativity.</i>
Sep 15 – 8:00 p.m.	John Dillon Randall Museum	"When Astronomy Became a Science" <i>An examination of the amazingly sophisticated astronomy that flowered more than 2000 years ago at the legendary Museum of Alexandria.</i>
Oct 13 – 7:30p.m.	Dr. Steve Stahler UC Berkeley	"How Stars Are Made" <i>Stars are the natural outcome of processes that occur throughout galaxies. Research has led to a good understanding of the basic evolutionary process, but deep mysteries still remain.</i>

San Francisco Amateur Astronomers
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_____ Sky & Telescope _____ Astronomy (+\$34.00)

Members pay one half the amount listed below
Membership Categories (Check one): _____
\$40 Institutional _____
\$10 Youth/Student _____
\$25 Individual _____
\$30 Family _____
\$75 Supporting _____
Magazine Subscriptions Add specified amount to membership fee for a 1-year subscription.
Magazine fees remain the same regardless of the time of year you join.

MEMBERSHIP APPLICATION

San Francisco Amateur Astronomers
P.O. Box 15097
San Francisco, CA 94115



Information Hotline: (415) 289-6636

Web Page: www.sfaa-astronomy.org

Sharing the Wonders of the Universe

Has your membership expired? Your mailing label includes the month and year through which your membership is paid. If it is past, your membership has expired and this may be your last issue.