

# ***EPHEMERIS***

*OF THE SAN JOSE ASTRONOMICAL ASSOCIATION.*



## ***AUGUST 1989***

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\* AUGUST 12TH 8 PM \*  
\* SUPRISE GUEST SPEAKER \*  
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- JULY 30 STAR PARTY AT HENRY COE STATE PARK. DUSK TILL DAWN.
- AUGUST 05 JOINT STAR PARTY WITH THE SANTA CRUZ ASTRONOMY CLUB AND THE PENINSULA ASTRONOMICAL SOCIETY AT THE BONNY DOON AIRPORT. SUNSET, 8:08 PM; THE 19% MOON SETS 10:05 PM. MORNING TWILIGHT, 4:37 AM; SUNRISE, 6:16 AM.
- AUGUST 12 GENERAL MEETING AT THE RED CROSS BUILDING. PROGRAM SUPRISE, DON'T MISS IT! 8 PM.
- AUGUST 16 TOTAL LUNAR ECLIPSE. MOON RISE AT 7:16 PDT ALREADY IN ECLIPSE. MID-ECLIPSE AT 8:08 PM WITH TOTALITY RUNNING UNTIL 8:56 PM.
- AUGUST 19 SJAA BOARD MEETING AT THE RED CROSS, 6:30 PM. INTRODUCTORY OBSERVATIONAL ASTRONOMY CLASS AT 8:00 PM. "24HRS IN THE LIFE OF AN ASTROPHOTOGRAPHER" IS THE PLANNED PROGRAM.
- AUGUST 26 STAR PARTY AT FREMONT PEAK STATE PARK. TIMES ARE: SUNSET, 7:42 PM; ASTRONOMICAL TWILIGHT, 9:14 PM. THE 15% MOON RISES AT 3:55 AM; MORNING TWILIGHT WOULD BE 5:01 AM. SUNRISE, 6:33 AM.
- SEPT 02 STAR PARTY AT GRANT RANCH COUNTY PARK, MAIN PARKING LOT. SUNSET, 7:34 PM; THE 8% MOON SETS 8:32 PM. ASTRONOMICAL TWILIGHT IS 9:05 PM. MORNING TWILIGHT, 5:08 AM; SUNRISE, 6:39 AM. THIS EVENT IS HELD JOINTLY WITH THE HALLS VALLEY GROUP.
- SEPT 09 SEPTEMBER SWAP MEET AT 6:00 PM, FOLLOWED BY SLIDE AND EQUIPMENT NIGHT AT 8:00. BRING THE NEAT NEW STUFF THAT YOU'D LIKE TO SHOW "N" TELL. SHOW YOUR BEST OR NOT-SO-BEST EFFORTS AT ASTROPHOTOGRAPHY. ALL AT THE RED CROSS BUILDING.
- SEPT 16 SJAA BOARD MEETING AT THE RED CROSS, 7:00 PM, FOLLOWED BY A INDOOR STAR PARTY. PLEASE NOTE: NO INTRODUCTORY OBSERVATIONAL ASTRONOMY CLASS: SEE THE 22ND.
- SEPT 22 (FRIDAY!) THE INTRODUCTORY OBSERVATIONAL ASTRONOMY CLASS MEETS FOR ITS ANNUAL STAR PARTY AT FREMONT PEAK STATE PARK. TIMES ARE: SUNSET, 7:03 PM; ASTRONOMICAL TWILIGHT, 8:29 PM. THE 37% MOON RISES AT 0:41 AM; MORNING TWILIGHT WOULD BE 5:28 AM. SUNRISE, 6:55 AM.

**FIELD OF VIEW**  
**BY: JOHN GLEASON & JIM VAN NULAND**

**GREGORY AWARD**

The Dr. A. B. Gregory award for 1989 was presented to Tom Ahl, in recognition of the many hours he has spent helping people with all aspects of astronomy and telescope making. Congratulations to Tom, and thank you for all of your efforts.

**YOSEMITE**

The Yosemite star party was a considerable success. Though a controlled burn on Friday caused some smoke, the sky was clear though very wet on Friday. Saturday was very well attended by both the public and the astronomers, and seeing was superb!

**JOINT STAR PARTY**

The Santa Cruz Astronomy Club has invited the SJAA and the Peninsula Astronomical Society to a joint star party at the Bonny Doon Airport on the 5th of August. The airport itself is a private airport, and rather small. That is to say, easy to drive right by without noticing. There won't be any lights. There is one hanger, a gravel parking lot with a modest sign, then a house. A mile past the Felton empire Rd. intersection (the name changes to Ice Cream Grade at Empire Grade), keep looking left for an open space and the hanger. Club members should go through a gate next to the hanger and drive around to the apron in front of the hanger to set up. Park your car so that the car is heading in the right direction for leaving, avoiding back-up lights and maneuvering in the dark. Doug Smith owns this airport. He has been very nice in turning out the runway, taxiway and security lights and in letting us use the site for the past couple of years, but he has a couple of requests. The fire danger is quite high now, so please, NO SMOKING except inside of automobiles. And he insists that no one use the site except during star parties. Both Jim Bricken, Bill Sorrells and Tom Ahl hope to see a big turn out for what could lead to an annual event. See the map included in this bulletin and if you have any questions please give Tom a call (408-268-3972) or call Jim Bricken (408-335-2450).

**INSIDE LOOK INTO THE WORLD OF THE ASTROPHOTOGRAPHER**

This months Intro Astronomy class will also feature a candid look at the process of astrophotography in addition to its regular program. Don't forget that Jack Zeiders has also reserved the 30-inch telescope at Fremont Peak for the September 22 (Friday!) class. Class participants are asked to meet at the observatory building before 8 pm. Please see Jack for further information and directions at the next meeting.

**SWAP MEET**

The September swap meet will be held at the Red Cross, preceding the meeting on September 9. Since there will be a first-aid class during the afternoon, we cannot get the building until 6 PM. Please don't come much earlier than that. The annual Slide and Equipment night program will follow at 8 or 9 pm depending upon when the swap meet ends. This is an excellent opportunity for members to share observing experiences, astrophotography, and equipment.

**VOYAGER/NEPTUNE**

Voyager II will fly past Neptune on August 25. Between Aug. 21 and 29, NASA will be transmitting a variety of information from JPL, including daily press conferences, special "Blue Room" updates, interviews, and other material. This will be available to those having a satellite dish, via the GE F3R Satcom transponder, called "NASA Select". It will operate 6 am to 8 pm PDT, through most of August. This material may be shown live, or taped for showing to the public. Anyone having a dish and VCR might consider taping, especially from 6 am Aug 24 thru 8 pm Aug 25 (PDT), which is the time of closest approach. Jim Van Nuland has slightly more information, including the NASA address for those who wishes to operate a public exposition.

## ASTRO ADS

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FOR SALE: ASTRO-SCAN 2001 by Edmond Scientific, Celestron 2X Barlow, and 12.5 mm Orthoscopic eyepiece. All like new. \$300. Contact Mrs. Burns. 408-984-1409 8/89

CELESTRON 8, with wedge, Meade tripod, 6x30mm finder, diagonal, filter set, Nikon photo adapter, 40mm Kellner, 25mm Kellner, 20mm Wide-Angle Kellner and 9mm Kellner 1 1/4" eyepieces. Hardly used. \$995 or Best Offer. Chris Kralik, Home: (702) 851-2140 (Reno), Work: 415-877-5094. 8/89

TUTHILL Polar Axis finder/with instructions. \$85. Bill Dillinges 415-792-9206

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CELESTRON SUPER POLARIS C8: Very good condition, with dew shield, and f/5 telecompressor lens assembly. Celestron 26mm Plossl eyepiece, 8X50 - scratchbuilt - finderscope. \$800 firm. (408) 926-8190 7/89

EDMUND 4 1/4" Newtonian on German mount. 30 years old but in very good shape (mirror is dusty but coating is still good), 6 x 30 finderscope, one Ramsden and two Kellner eyepieces. Great beginners scope. \$150 firm. (408) 926-8190

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MEADE 8-INCH SCHMIDT FOR SALE: The optics are in excellent condition and is fully functional. When I purchased this scope a few years back I was told the optics were 20th wave. Meade provided this scope to a prominent astronomer for his trip to Hawaii. The owner some years later sold the scope and I purchased it. View finder, tripod, clockdrive, 40mm, 25mm, 9mm, and 6mm Meade orthoscopic eyepieces, 19mm Plossl, 12mm guiding eyepiece, 2" ring adapter, 40mm, 55mm 2" eyepieces, Barlow 1.5x-2x-3x (variable), Dew Zapper, Accutrac Tracker, Motorized focus attachment, travel cases, adapter rings and tubes for photography. Asking \$1500. Call: Dave at home (408) 379-9228 or work (408) 370-5245. 7/89

FOR SALE: Celestron C8 with wedge, tripod, dual axis drive corrector, plus everything additional you need to begin both observing and astrophotography except a camera body. Equipment list includes: electric Motofocus, 8X50 finder, counterweight bar assembly, off-axis guider plus 12.5 mm Orthoscopic illuminated reticle eyepiece, 10 mm Plossl and 25 mm Orthoscopic eyepieces, 2x Barlow, The Amateur Astronomer's Handbook, Webb Society Deep-Sky Observer's Handbook (Vols. 1 to 5), The Cambridge Astronomy Guide, Astrophotography II, plus much more. \$1000 or best offer. Contact Ron at (415) 278-3335. Evenings, before 9:30 PM, please. 6/89

6-INCH REFRACTOR, f/14 on Altazimuth mount, made by Tinsley Lab around 1946-1949. Good condition and beautiful performance. Will take best offer above \$1700. Edward Hillyer, P.O. Box 6065, Salinas, CA 93912. (408) 424-0460 evenings. 6/89

CELESTRON 8 with special coatings, tripod, telescope carrying case, equatorial wedge, star diagonal, 40mm ocular, 25mm ocular, illuminated reticle ocular assembly, off-axis guider body, tele-extender and camera adapters, home-made counter weights, astrophotography basics guide. Price \$1050 (Sorry, but no personal checks) Contact: Steven M. Cohn (415) 272-7464, 655-6807 5/89

## COMET COMMENTS BY: DON MACHHOLZ

Recently we've had three returning comets recovered and and new one discovered. In our Seeking Comets section we'll discuss comet observations and how to make them. Most comet hunters spend at least some time observing known comets.

Periodic Comet Du Toit-Newjmin-Delporte (19891): Jim Gibson of Palomar recovered this comet on May 22 at magnitude 18. It has an orbital period of

6.3 years and will be closest the sun, at 1.7 A.U. this October. It will not get much brighter.

Comet 1989m (SMM 8): This is the eighth sungrazing comet to be found by the Solar Maximum Mission satellite. It was observed for nearly two hours on June 2, then it apparently hit the sun and disappeared. It was magnitude 0, and was probably part of the Kreutz sungrazing group.

Periodic Comet Gehrels 2 (1989n): Jim Gibson also recovered this comet on June 14 at magnitude 19. It will be closest the sun in November, perhaps at magnitude 15.

Periodic comet Brorsen-Metcalf (1989o): Finally recovered on July 4 by Eleanor Helin using the 48" Schmidt at Mt. Palomar, this comet was 15 degrees from its expected position and 15 days early. Then at magnitude 11, it will continue to brighten, reaching magnitude 6 in early September.

This newly-calculated orbit suggests that the Southern Hemisphere will lose it in mid-August. The Northern Hemisphere observers can see it rise before morning astronomical twilight until late September. When it emerges from the solar glare (for both Hemispheres) in early November it should be difficult to see at magnitude 11.5. No one will probably see it in October.

The comet rapidly moves through the morning sky. It will go only as far north as 42 degrees, passing through the Milky Way and central Auriga in mid-August. It should sport a tail during the next few months.

## EPHEMERIS

### Periodic Comet Brorsen-Metcalf (1989o)

DATE (UT)	RA (1950)	DEC	RA (2000)	DEC	ELONG	SKY	MAG
07-28	02h30.9m	+31°47'	02h33.9m	+32°01'	79°	M	8.6
08-02	03h20.7m	+36°43'	03h23.9m	+36°54'	73°	M	8.1
08-07	04h21.4m	+40°25'	04h24.8m	+40°32'	65°	M	7.7
08-12	05h28.5m	+41°56'	05h32.0m	+41°58'	57°	M	7.3
08-17	06h33.3m	+40°59'	06h36.8m	+40°56'	49°	M	7.0
08-22	07h29.3m	+38°07'	07h32.7m	+38°01'	43°	M	6.7
08-27	08h14.9m	+34°09'	08h18.1m	+34°00'	37°	M	6.4
09-01	08h52.1m	+29°39'	08h55.2m	+29°27'	33°	M	6.1
09-06	09h23.5m	+24°53'	09h26.4m	+24°40'	29°	M	6.0
09-11	09h51.2m	+20°51'	09h54.0m	+19°47'	25°	M	6.1

## SEEKING COMETS

Comet observing, that is, estimating the magnitude (brightness), size and appearance of known comets, employs a greater number of dedicated amateurs than does comet hunting. This not only supplies valuable information for comet research, but also gives the potential comet searcher an idea of what he should be looking for. I've always felt that anyone wishing to seek comets should first become familiar with the objects themselves- to observe not just the bright comets, but the faint ones as well.

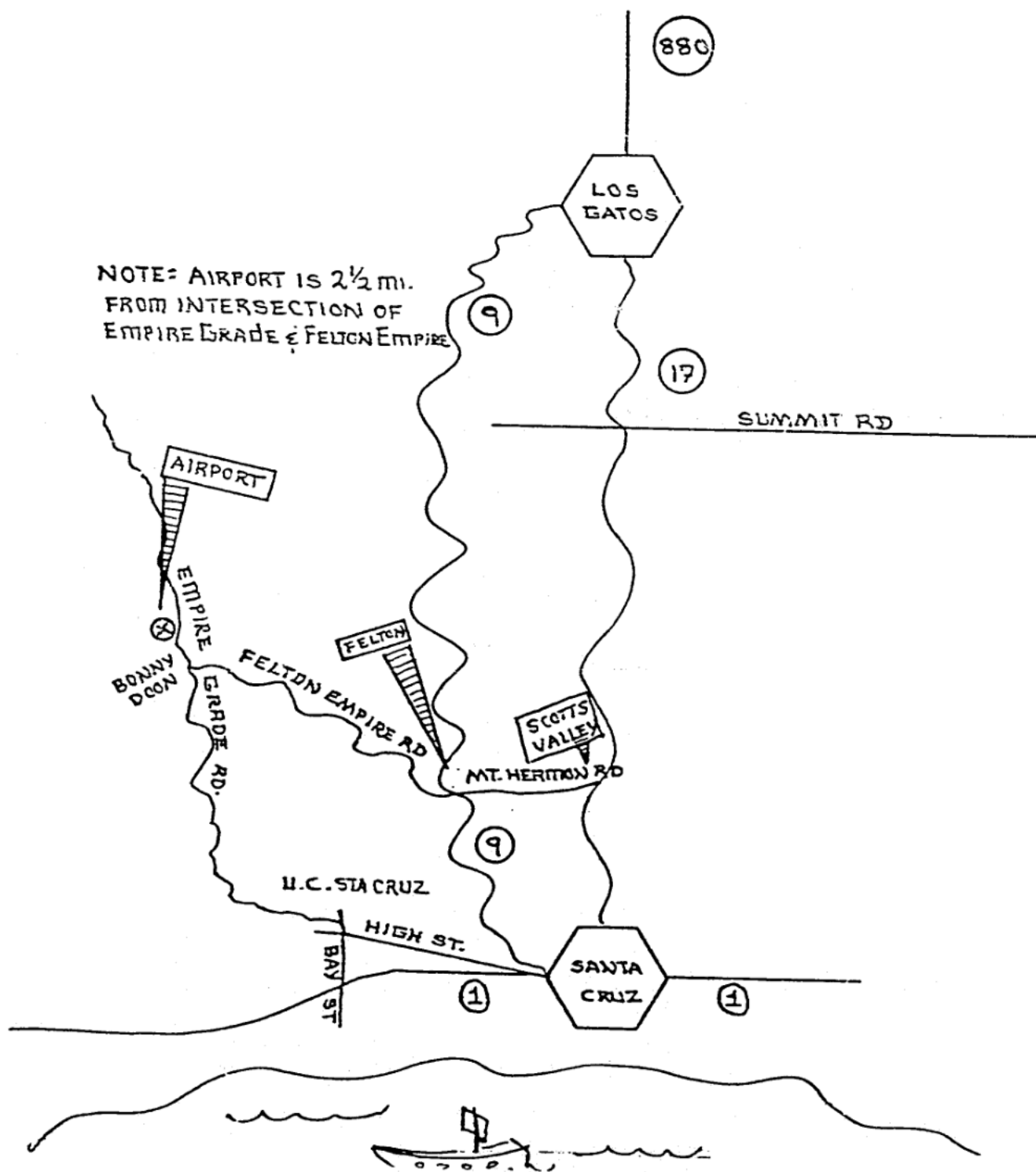
A "comet observation", when properly pre-planned, can be completed in a few minutes. It consists of an estimate of its brightness (mag. est.), coma size, appearance and tail length and direction. I'll cover each briefly, more details are available in numerous observing guides, or from me.

For a magnitude estimate, the comets brightness is visually compared to stars of known brightness. We never compare it to galaxies or nebulae. The stars' magnitudes are often available in catalogs or from variable star charts. Here are the three most common methods of estimating comet magnitudes. Each requires a various amount of racking in and out of the focuser: 1). Bobrovnikoff: Compare the out-of-focus comet to the out-of-focus stars. 2). Sidwick: Compare the in-focus comet with the out-of-focus stars. 3). Morris: Compare the slightly out-of-focus comet to the out-of-focus stars.

Each will give a slightly different result, so be sure to record the method and source of star magnitudes. Also, since the telescope affects your estimate too, record your instrument size, type, focal ratio and power. It is also important to note sky conditions and comet altitude.

# FIELD OBSERVING SITE OF THE SANTA CRUZ ASTRONOMY CLUB

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Next we estimate the size of the coma, or head of the comet. One way is to use the known separation of two stars, but a more accurate method is the "drift" method found in most observing guides. This is measured in arc minutes..

The "degree of condensation" is an indication of appearance. The coma is rated from "0" to "9", with "0" indicating a very diffuse appearance, "5" means it is diffuse with condensations (brightening near the center), while "9" indicates stellar or sharp-edged.

Most comets do not exhibit a tail, but if one does, we need to measure its length (reported in degrees to the nearest tenth) and direction, also known as the "Position Angle". This is taken from the center of the coma to the end of the tail; 0 degrees = N, 90 degrees = E, etc.

When many such reports of a comet are made over a period of months, its behavior can be analyzed. If this sounds like the type of comet observations you would enjoy, if you would like to join the hundred of amateurs around the world who are advancing our knowledge of comets, get started now. Periodic Comet Brorsen-Metcalf needs to be observed tonight. Don Machholz 408-448-7077.

## **AUGUST STARRY NIGHTS BY: RICHARD STANTON**

**METEORS** - While you can see sporadic meteors every night of the year, August will be an especially busy month. There are seven showers running during the month but sadly only one will be a major shower. The annual Perseids, the major event, showing fast meteors at 60 kms, can show fifty or more per hour to a lone observer. The halcyon nights of August will be among the least likely to give you a case of frost bite if you want to make this your first venture into the realm of the meteors.

### **METEOR SHOWER SUMMARY**

05-AUG	- S.Iota Aquarids	- Minor
12-AUG	- N.Delta Aquarids	- Minor
12-AUG	- Persids	- MAJOR
14-AUG	- Zeta Draconids	- Minor
14-AUG	- Theta Cygnids	- Minor
18-AUG	- Kappa Cydnids	- Minor
22-AUG	- N.Iota Aquarids	- Minor

**PARTIAL SOLAR ECLIPSE** - This one will not be visible anywhere in the U.S.A. You might try traveling to South Africa for the August 31 event.

**LUNAR GRAZE & OCCULTATION** - August has two events for the lunar observer that will be occurring in our neck of the woods. On August 9th at 20:46 PDT the Northern limb of the moon will graze by the 6.4 magnitude star ZC2174. Your chosen observing location will decide whether you will get a graze, celestial body dancing through the lunar mountains, or an appuse, where the celestial body doesn't quite appear close enough to the limb to disappear and reappear behind the mountains. A sure way to find out which is available is to go out and look at the event. On August the 13th at 00:49 PDT the lunar orb will occult 388 Sagittarii, 4.7 magnitude. The star will disappear on the lunar disk limb at Position Angle 90 degrees.

**TOTAL LUNAR ECLIPSE** - The moon will rise on August 16th at 19:16 hrs PDT already immersed in eclipse. The unbral shadow will reach mid eclipse at 20:08 and the lunar surface will remain immersed in the umbra until 20:56. The full eclipse will last until 22:52.

**AUGUST DEEP SKY CHALLENGE** - For our members with telescope of an aperture of 25 cm or larger we'd all like an opportunity to see the "Egg Nebula", also known as PK 80-6.1. This is a suspected proto planetary nebula hiding in Cygnus. It should be obvious at 16 arc seconds size and 13.5 magnitude. Can you owners of "Light Buckets" detect any polarization. The coordinates are 21:02.3 +36:42. Try looking at the Uranometria 2000.0 Chart No. 121.



## GENERAL MEETINGS

The Red Cross building is located at 18011 Los Gatos-Saratoga Rd. From Hwy 17 take the Hwy 9 (Saratoga) exit and continue west up the Los Gatos-Saratoga road for about 0.6 miles. Turn right at Rose Ave. Then turn right immediately into the parking lot of the Post Office and Red Cross building. Doors open at 7:45 PM, with General meetings beginning at 8 PM. General Meetings are currently held on the 1st Saturday of each month.

Occasionally there are a few Saturday evenings set aside for informal gatherings of amateur astronomers to share their common interest in astronomy, to "talk shop", or to simply enjoy the company of friends. Members are encouraged to bring in telescopes and accessories to share with the group. Typically there will be several telescopes operating in the parking lot or there will be a slide show of recent astrophotography and star party events in progress in the meeting hall. The SJAA also holds its board meetings during this time as well as an introductory astronomy workshop that is conducted once a month.

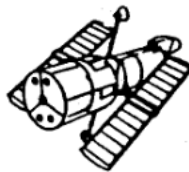
On the Saturdays closest to the New Moon, the SJAA will conduct a "Star Party" for astronomical observation at a designated location. Several times a year these star parties are held close to San Jose while others are held as far away as Yosemite national Park. Watch the EPHEMERIS for star party locations.

The most popular of locations for bay area amateur astronomers is Fremont Peak State Park. Located 70 miles south of San Jose near the town of San Juan Bautista, Fremont Peak rises nearly 3000 ft. above the valley floor. For two decades amateurs have gathered at the "Peak" during New Moon weekends for serious deep sky observing and astrophotography. To get to Fremont Peak for San Jose, take Hwy 101 south towards Salinas. Then take Hwy 156 east (San Juan Bautista exit) for 3 miles to a yellow flashing light. Turn right and go about 1/4 mile to where the road reaches a "Y". Veer left for about 25 yards and then go right. (Watch closely for the Fremont Peak sign) Follow the Canyon Road for about 11 miles up into the park. The SJAA sets up in Coulter Camp. It's visible on your right as you first drive onto the main area of the park. Expect to find a lot of astronomical activity here every clear New Moon weekend. Arrive early if you are setting up equipment. 50 to 100 telescopes are not uncommon at Fremont Peak during the summer months.

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# **SAN JOSE ASTRONOMICAL ASSOCIATION MEMBERSHIP APPLICATION**

**MEMBERSHIP ONLY: \$10    MEMBERSHIP/S&T: \$26    JUNIOR (UNDER 18): \$18**

Name: \_\_\_\_\_

Please bring this form to any SJAA meeting, or send to:

Address: \_\_\_\_\_

Jack Peterson, Treasurer  
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1840 Yosemite Dr.  
Milpitas, CA. 95035

Telephone (\_\_\_\_) \_\_\_\_\_

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**Please check type of membership and if New or Renewal**

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