SAN JOSE ASTRONOMICAL ASSOCIATION

SJAA

EPHEMERIS

DECEMBER 1984

****
* DECEMBER 8TH GENERAL MEETING *
* MIKE O'BRINE PRESENTS: *
* GLOBAL POSITIONING SATELLITE SYSTEM *
****

DECEMBER 1 Los Gatos Red Cross build. indoor star party. Doors open at 8 p.m.

DECEMBER 8 General Meeting at 8 p.m. at the Universtiy of Santa Clara. (see map) Guest speaker Mike O'Brine will talk about the Global Positioning Satellite System.

DECEMBER 15 Board meeting, 8 p.m. a the home of Eugene & Sharon Cisneros. 15840 E. Alta Vista Way, SJ.

DECEMBER 22 Field Expedition for Astronomical Observation at Grant Ranch Park. Dusk till Dawn. Bring warm clothing.

DECEMBER 25 MERRY CHRISTMAS

JANUARY 5 Indoor star party at the Los Gatos Red Cross Building. Doors open at 8 p.m.

JANUARY 12 Board Meeting at the Los Gatos Red Red Cross building. Doors open at 8 p.m.

JANUARY 19 Field Expedition for Astronomical Observation (FEAO) at Grant Ranch county park. Dusk till Dawn.

FROM THE EDITORS DESK
BY: JOHN GLEASON

Things to note this month are the observatory projects that are in progress. Of particular interest is the SJAA's proposal to the Friends of Grant Ranch and a newly formed association at Fremont Peak. For a long time active members have wanted a permanent observatory location, both close in and far out of town. Perhaps these two proposals will meet everyone's needs. Members who tried to attend the November 10 general meeting found themselves locked out of the Alumni Science Hall at the University of Santa Clara. This was due to an error with the security paperwork and has been taken care of. The Decmeber general meeting will be held at the University. Also of importance are the SJAA By-Law changes that have been reproduced inside. At the January General Meeting there will be nominations for board members. Elections to be held in Feb. The SJAA board is also looking for a Program Chairman. Someone who would take on the task of finding speakers for our monthly meetings. If interested please call any of the board members listed in this Ephemeris. And.....incase you haven't noticed, you have in your hands the enlarged version of the Ephemeris. But..... I still need contribuitors to fill all this new space.

OBSERVATORY ASSOCIATION AT FREMONT PEAK
BY: JOHN GLEASON

Imagine yourself setting at the cassegrain focus of a 30" telescope under the dark summer skies of Fremont Peak. Slowly the massive instrument slews around to M13, the great globular cluster of Hercules. You grab for your sun glasses as you jerk your head back from the dazzling display of a thousand suns blazing forth from the erfle eyepiece. In the background you can here the slewing motors of the 22" telescope starting another photometric run.

Fremont Peak State Park has been the focal point of Northern California amateur astronomy for several decades. It is an easy drive from any point in the bay area, a year round climate that yields a high percentage of cloud free, dark skies and has the facilities and the security of a state park system that makes for comfortable over night observing. With all of these things going for it, little wonder that leading amateurs from bay area astronomical associations have organized the Fremont Peak Observatory Association (F.P.O.A.).

The associations focus will center around a permanent instrument shelter housing 2 primary telescopes. Both telescopes, a 30" and a 22" instrument will be used for conducting public programs on selected weekends in the park, as well as providing to the members of the F.P.O.A a facility to use these large aperture telescopes for a wide variety of astronomical projects.

The initial ground work has already begun. Nine board members have been elected and official paperwork has been submitted to the local and state authorities. The officers and board members consist of individuals from active bay area astronomical associations. They are: Pres. Robert Fingerhut (SJAA), Vice Pres. Robert Schalck (EAS), Treasurer John Stewart (EAS), Executive Secretary Rick Morales (Park Ranger, Fremont Peak), Assistant Secretary Denni Medlock (SJAA/EAS) and members of the Board of Directors; Kevin Medlock (SJAA/EAS), Frank Dibbel (SJAA), Howard Medlock and John Gleason (SJAA). Applications for membership in the F.P.O.A. will become available once the official applications and site utilization programs have been approved by the state of California.

As mentioned in last months Space Update, Kevin Medlock's 30" mirror is completed. Work is underway on the tube assembly and massive equitorial mounting. Kevin says that the counterweight alone weights out at 600 lbs. Projected target date for completion of building and telescope is early 1986, just in time for comet Halley!

REPORT FROM M.I.R.A.
BY: BILL DELLINGES

Thirteen years ago a half dozen or so graduate students at Case Western Reserve University foresaw a bleak job market in astronomy. As an alternative to battling for the few astronomical positions available, they decided to build their own privately funded observatory--thus was born M.I.R.A. (Monterey Institute for Research in Astronomy), see the July 1981 issue of SMITHSONIAN for a detailed story.

The project has culminated with the installation of a thirty six inch telescope in a uniquely designed two-story building on Chews Ridge (el. 5000 ft), forty miles southeast of Monterey.

On October 21st I had the pleasure of attending an evening of stargazing there, hosted by Dr. William Kaufmann (you may recall my report regarding his Lake Tahoe "Exploring the Universe" summer programs of past years using a rare Celestron-22). The observatory site was 130 road miles and three and a half hour's travel time from my home in Newark; the last several miles consisted of a winding dirt road, easily negotiable in my Datsun station wagon.

The building's unusual appearance is most striking. I've not seen anything quite like it in all my visits to astronomical facilities. Difficult to describe, I refer readers to the photograph on page 316 of October's SKY AND TELESCOPE, which nicely depicts the roll-off roof approach MIRA chose. The telescope is a massive f/10 cassegrain; the primary is reported to be 1/37th wave.

Our plan of attack was simple: we would observe everything. The clear, long autumn evening and a group limited to ten persons assured ample viewing time for all; also facilitating the operation of MIRA's neat computer equipment. Dr. Kaufmann merely depressed the slow or fast slewing buttons on a hand-held paddle until the proper RA and DEC appeared on the CRT monitor and bingo! The object would be in or near the .23 degree, 286X field. (an RFT this scope is not!)

We basically observed all the popular objects during the night and a few not so well known items thrown in. My more memorable visions: NGC 7662--Planetary nebula--And. simular to M57 but with knots in its ring. M13--Resolved core filled the field with stars, overwhelming! NGC 891--"As advertised"...W. Kaufmann. Very impressive. bright edge-on galaxy with noted dust lane. Looked much like its photographs in this instrument. Stephan's Quintet--Four or five members easily picked out without averted vision. M42--The Trapezium was glorious. Seemed as though I was viewing their secrets from only a few light years away. The trapezoid was large, members were like bright diamonds on black velvet, fifth and sixth "trap" stars conspicuous while bright mottled nebulosity was splashed everywhere. Incredible detail of luminous, twisting gas clouds. M57--Very large and bright, best view of this object I've ever had. Highlight of the evening was finally, after years of frustration, seeing the elusive fifteenthmagnitude central star. At first I could not see it, though others in the group could. Someone suggested I use averted vision only inside the "doenut" (which to me looked big enough to drive a truck through), not just outside. it worked. Using that technique, the central star popped into view everytime!

I think we all had a good time through the long cold night, thanks to Dr. Kaufmann's infatigable enthusiasm, astrophysical comments and advice to "wear every piece of clothing you own." There was a heated lounge nearby with plenty of hot coffee available to thaw us out, (it was cold that night, especially with the "dome" rolled back). The gods bestowed upon us a beautifully dark meteor-rippled night sky, even novices were inquiring as to what that nebulous blob was, low in the eastern sky next to the Praesepe--indeed, they were picking up M67 with the naked eye.

I'd like to thank Dr. Nelson Irving and his staff for making the MIRA facility available and dutifully standing by all night to make sure the equipment ran properly. Thanks also to Dr. Jack Marling for donating eyepieces and a star diagonal to convert the six ton monster into a visual instrument. If scheduled again, I recommend this seminar to other fellow stargazers. I will try to keep SJAA members advised of future Kaufmann observing sessions.

EDITORS NOTE:
I want to thank Bill Dellinges for this fine article. The views that Bill describes are typical of those when observed through a large telescope. Now who do I know that's building a 30" telescope?

DEEP SKY NOTES - DECEMBER
BY: STEVE GOTTLIEB

Because of the serious light pollution in the San Francisco Bay region, deep sky observing is often a difficult endeavor. In El Cerrito, where the naked eye visual threshold is between mag. 4.5-5.0, I find my 13.1" does not reach the stellar magnitude obtained with my C8 in a dark site. The situation is still worse for large, extended objects as many galaxies and nebulae of a low surface brightness fade to invisibility against the bright background glow.

Fortunately, for the past several years amateurs had access to a remarkable device for increasing the contrast on planetary and emission nebulae. A narrow band pass nebula filter will significantly darken the sky glow while passing the principal nebular lines due to double ionized oxygen. High contrast views of many nebulae can be obtained by rejecting the glow caused by mercury and sodium streetlights and simulating a dark sky background. Below are the notes from a recent direct compairson of the unfiltered (a) and filtered appearance (b) of emission objects observed in my backyard with the 13.1" at 62X. The nebula filter used was a Lumicon Ultra High Contrast (UHC) filter from Jack Marling.

1. M27 - Vulpecula - Planetary
   (a) Main dumbell shape easily visible.
   (b) Appearance radically altered as large side lobes extend from the main body.

2. NGC 6857 - Cygnus - Planetary
   (a) Very difficult - barely visible with averted vision.
   (b) Obvious with direct vision and moderately bright with avertd.

3. NGC 6888 - Cygnus - Supernova remnant
   (a) Not seen with any certainty.
   (b) Fairly faint but easily visible within a triangle of stars and having a fan appearance.

4. NGC 7008 - Cygnus - Planetary
   (a) Fairly faint, smooth oval glow with a star embedded on the east side.
   (b) Fairly bright with a slightly darker center and a brightening along the NE side of the rim.

5. NGC 6960-6995 - Cygnus-Supernova remnant
   (a) Not seen.
   (b) Eastern loop visible for 1.5 degrees Western loop easily seen north of 52 Cygni.

6. NGC 7635 - Cassiopeia - "Bubble" nebula
   (a) Only suspected knowing position.
   (b) Visible with direct vision as a faint glow surrounding a mag. 8 star.

The most striking results are obtained by using a low power (5x the aperture in inches) and shielding your eyes from all stray light. Good viewing this month! Steve Gottlieb (415) 524-4678.

COMET COMMENTS - DECEMBER
BY: DON MACHHOLZ

Two new comets have been discovered by professional astronomers, one is visible in our scopes now. Meanwhile, Comet Austin has faded quite a bit, but two periodic comets brighten in our morning sky.

This month sees our last "Past Discovery" installment, this section has run for two full years. I am presently up-dating and enlarging the Past Discovery series and I'll begin a new series which will replace the Past Discovery section at the end of my Comet Comments article.

COMET SHOEMAKER (1984r): Carolyn and Eugene Shoemaker discovered this comet on Oct. 23 not far from the Pleiades at magnitude 16. They used the 18" Schmidt instrument at Mt. Palomar. The comet is now slowly moving further from the Sun and is getting fainter. An amazing fact about this comet is that it never got closer to the Sun than 5.5 astronomical units, always staying outside of Jupiter's orbit.

COMET SHOEMAKER (1984s): Found two days later by the same team and instrument used above, this comet was magnitude 12 when picked up next to galaxy NGC 772 in Aries. This comet is getting closer to the Sun and is already visible in our scopes (positions below). Do not confuse this comet with comet Shoemaker 1984f, 1984q and 1984r. Incidently, 1984f will be visible to us beginning next March, shortly after this Comet Shoemaker (1984s) fades.

HALLEY'S COMET on Dec. 15: RA: 06hr 04.8m, Dec: +11deg 54.7'. Distance from the Sun: 5.44 AU. Distance from the Earth: 4.48 AU. Mag.: 18.1 Elong. 165 deg. Morning sky.

EPHEMERIDES

1984/5
DATE R. A.(1950) Dec. Elong. Mag.

Periodic Comet Arend-Rigaux (1984k)

11-26	08h 12.2m	-01°26′	116°	11.7
12-01	08h 21.2m	-00°45′	119°	11.6
12-06	08h 29.5m	+00°10′	122°	11.5
12-11	08h 37.0m	+01°20′	126°	11.4
12-16	08h 43.7m	+02°46′	130°	11.4
12-21	08h 49.4m	+04°29′	134°	11.3
12-26	08h 54.2m	+06°28′	139°	11.3
12-31	08h 58.0m	+08°43′	144°	11.3
01-05	09h 00.8m	+11°11′	149°	11.3

AREND-RIGAUX NOTES: This faint comet brightens slightly as it moves through northern Hydra in the morning sky. Now is the time to get out and see this one, don't be discouraged by its faintness. It should be quite easy to see.

Periodic Comet Schaumasse (1984m)

11-26	12h 00.1m	+09°44′	68°	10.7
12-01	12h 20.0m	+08°19′	68°	10.7
12-06	12h 39.5m	+06°53′	68°	10.6
12-11	12h 58.1m	+05°29′	68°	10.6
12-16	13h 16.3m	+04°08′	68°	10.7
12-21	13h 33.8m	+02°49′	69°	10.8
12-26	13h 50.5m	+01°34′	69°	10.8
12-31	14h 06.6m	+00°24′	70°	10.9
01-05	14h 21.8m	-00°42′	71°	11.0

SCHAUMASSE NOTES: In the morning sky and quickly moving near the equator, this comet holds a steady magnitude and elongation. It also remains equidistant from both the Earth and the Sun at 1.2 AU. It may be slightly fainter than these predictions suggest.

Comet Shoemaker (1984s)

11-26	02h 10.4m	+03°13′	147°	10.4
12-01	02h 16.8m	+00°00′	142°	10.2
12-06	02h 24.9m	-03°12′	137°	10.1
12-11	02h 35.0m	-06°19′	132°	9.9
12-16	02h 47.1m	-09°15′	128°	9.8
12-21	03h 01.1m	-11°54′	125°	9.8
12-26	03h 17.0m	-14°13′	122°	9.7
12-31	03h 34.5m	-16°08′	120°	9.7
01-05	03h 53.4m	-17°37′	119°	9.8

Shoemaker notes: Our brightest comet this month is well-placed, above the horizon nearly all night. It will be only 0.37 AU from the Earth in mid-Dec. The magnitudes predicted are based on only two weeks of observations, so they may be off a bit.

PAST DISCOVERIES

Are some constellations more "popular" than others when it comes to finding comets in them? Are certain parts of the celestial sphere favored over others? A look a the 28 comets discovered by amateur astronomers between 1975 and 1983 shows some parts of the sky favored over others.

As for the Right Ascension of the comets at discovery, we find this:

00h to 06h Right Ascension: 5 discoveries.
06h to 12h Right Ascension: 10 discoveries.
12h to 18h Right Ascension: 5 discoveries.
18h to 24h Right Ascension: 8 discoveries.

And as for the declinations of the discovery positions:
13 were found North of the equator: all found by observers in the Northern Hemisphere. The most northernly was found at 68deg. N. 15 were found South of the equator: all but 4 found by observers in the Southern Hemisphere.

And when the discovery positions were compared with the ecliptic:
12 were found North of the ecliptic. 16 were found South of the ecliptic. 3 were found within 10 deg of the ecliptic, two of these turned out to be periodic comets of low inclination.

18 constellations had one discovery each. The following constellations contained 2 discoveries each: Aquarius, Hydra, Ursa Major, Scorpius and Draco. And the 2 discovery positions closest to each other are William Bradfield finds, Comets 19791 and 1980t. Their positions were 1.2 deg apart, one being found 51 weeks after the other, in Southern Scorpius.

GRANT RANCH OBSERVING SITE PROPOSAL
BY: DAVE AMBROSE

INTRODUCTION

When developing a proposal, it is helpful to agree on a set of objectives and ground rules for achieving them. Below I have outlined what I think we ought to achieve with an observatory site and some administrative/ contractual conditions we will need. In doing this, it is my desire to prevent straying afield from our primary objectives.

OBJECTIVES:

1. Provide a site for close-in star parties.

2. Provide a permanently mounted telescope for use in ongoing observing programs.

3. Provide a facility for public education programs.

4. Provide a visible facility for the SJAA to help attract new members and serve as a publicity vehicle.

PHASE I

From the SJAA's persepective, this phase is primarily concerned with developing access to the site. There would be little in the way of specialised facilities but the developments would be designed with astronomy in mind. From the county's view, there would be little expense in the accommodating astronomical uses.

The initial step would be to get a reasonable road, power, and water to the site. After that, the site could be developed as a picnic area, trailhead and vista point. Developing the site for public uses would entail the construction of a parking lot, rest rooms and picnic tables. Given proper design, these would not interfere with astronomy uses. Specific additions by the SJAA would be limited to the construction of concrete pads or piers for telescopes.

Activities at the Grant Ranch site could start soon after development begins. Once the road is put in, the site would become usable for star parties. After the parking lot and rest rooms are constructed, public star parties would be practical. The SJAA would maintain its current star party schedule. In addition, our well publicised events would be held at the Grant Ranch site. As is customary with the SJAA, our normal star parties would be held as park sponsored events to which the public is always welcome. The lectures that the SJAA sponsors could also be held at the Grant Ranch park, providing that suitable facilities were available. These lectures could easily be held in conjunction with other activities at the observatory site itself. An additional activity that should be explored more fully are special lectures and demonstrations which would be held for specific public and private schools science classes.

We should note that most of the benefits to be gained from astronomical activities are available at the completion of phase 1.

PHASE II

Phase 2 would encompass the construction of a small permanent building on the site. This would most likely be a roll-off roof observatory with some provision for storage and rudimentary facilities for public lectures.

These facilities would serve as enhancements to our existing programs. a rool-off roof would allow a larger telescope to be installed on the site for use as a public viewing instrument and for members observing programs.

There are other projects that could be part of phase two. One easy project would be to put a sundial and explanation on the south wall of the observatory or other building. An armilary sphere could also be installed at the site by interested members.

A third project under serious discussion is a scale model of the solar system. The model would be about 1 mile long and consist of appropriately sized spheres placed at their correct distance from the sun. This model would graphically depict the actual scale of the solar system in a way that most people will understand. This project fits well with the proposed trailhead at the site.

THE CELESTIAL TOURIST SPEAKS
BY: JAY REYNOLDS FREEMAN

Recent interesting observations prompt resurrection of this longdormant column.

Several years ago, I first saw Stefan's Quintet, in a 16-inch telescope, and I was impressed. So when I got my C-14 and found the Quintet therein, I thought I was doing well. But Jack Zeiders showed it to me in his 10-inch Newtonian. It required averted vision, yet it was there. And then I found it in an 8-inch Newtonian -- Mary Engle's, I think -- also with averted vision.

At Fremont Peak on September 29, I was looking for the Quintet with a "Super" Celestron 8. I couldn't quite recall its location with respect to NGC 7331 (the Quintet lies about 0.5 degree SSW), so I borrowed a larger telescope to refresh my memory. Once I knew where it was, it was easy in the C-8, at 100X. Encouragaed and feeling crazy, I said "OK -- who's got a good six inch handy?" Bob Schalck did, and sure enough -- we found Stefan's Quintet in a six-inch f/8 Newtonian at 48X. It helped that Bob's mirrors had been realuminized a month before.

How about something smaller? Somebody had a C-5. And at 50X, there was the Quintet! It was very difficult! I had to know exactly where it was and use averted vision patiently, but there was no doubt. This observation was confirmed by both Kevin Medlock and Bob Schalck.

We Couldn't find a four-inch, and Kevin could not see the Quintet in his crown/fluorite 700-mm refractor. In a crazier and crazier mood, I looked with my 11 X 80 binocular and actually suspected something was there, but could not really claim to see it. The binocular's two objectives scoop in almost as much light as the C-5, so possibly the problem was inadequate magnification and not insufficient photons.

The key to these observations was precise position! I had carefully located the Quintet with respect to NGC 7331 and to several stars bright enough to show up in the smaller instruments. Modest magnification was useful, as it often is with galaxies. The successful observations were made with 2 mm or 3 mm exit pupils. We were not using rich-field powers.

What fun! Stefan's Quintet in a five-inch telescope! Bob, Kevin and I were chortling madly. And what a shame that most observers realize so little of the potential of their equipment.

By-Laws Revisions

A number of changes to the By-Laws of SJAA have been proposed. To save space, only the changed sections will be given here. The full text of the proposed By-Laws may be obtained from Jim Van Nuland. These changes will be explained and discussed at the December meeting, and each change will be voted upon at the January meeting. Call Jim if you have questions.

Article II, section 1, part c. Strike: ... the right to vote and to receive.... Insert ... receiving....

This will give Honorary Members a vote at Membership Meetings. It seems miserly to withhold the right to vote from someone we wish to honor. Change proposed by Jim Van Nuland.

III-2. Change ... June ... to ... February.... Strike the last sentence (beginning: Twenty-five percent ...).

The intent is to to move the election of the Board of Directors to February. Our attendance is usually rather small in June; it is felt that February will permit more people to attend and vote at the election. Suggested by various people; formally proposed by Steve Greenberg and the Board.

III-5. Strike the words: ... other than the Annual Meeting....

This change, along with the second part of the above, eliminates minimum attendance for the election. Change proposed by Jim Van Nuland, Bob Fingerhut, and the Board.

III-6. Proxy Vote. If a Member is unable to attend a regular or special meeting of the membership, the Member may vote in absentia by one of the following methods.

1. The absent Member may designate another voting Member to vote in their place. The absent Member shall inform the presiding officer of the proxy before the meeting is called to order.

2. The absent Member may designate their vote on a specific issue prior to the meeting. The absent Member shall deliver the vote and the issue to be proxied to the presiding officer before the meeting is called to order.

In all cases, the absent Member shall be recorded as having cast their vote. The Secretary shall record in the minutes of the meeting that the vote was delivered by proxy and the person acting as proxy.

This proposed new section parallels the provision for absentee vote by Board Members. Proposed by Jim Van Nuland following Dave Ambrose's text.

IV-8. Roll-Call Voting. Any vote of the Board my be polled by roll call at the discretion of the presiding officer, or on a motion (with second) by any Director.

IV-9. Proxy Vote. If a Director is unable to attend a regular or special board meeting, the Director may vote in absentia by one of the following methods.

1. The absent Director may designate another voting Director to vote in their place. The absent Director shall inform the presiding officer of the proxy before the meeting is called to order.

2. The absent Director may designate their vote on a specific issue prior to the meeting. The absent Director shall deliver the vote and the issue to be proxied to the presiding officer before the meeting is called to order.

3. During a meeting, an absent Director may be contacted by telephone, telegraph, or other appropriate medium of communication to cast a vote.

In all cases, the absent Director shall be recorded as having cast their vote. The Secretary shall record in the minutes of the meeting that the vote was delivered by proxy and the person acting as proxy.

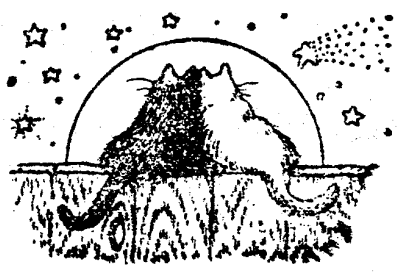
A proxy vote will count as though the absent Director was present. For the purposes of attendance requirements, the absent Director will be considered excused.

The above two new provisions are needed in certain cases of legally-important votes, especially involving finances. Proposed by Dave Ambrose and the Board.

VIII-2. Notice of any such repeal, amendment, or adoption shall be submitted to all Active Members 30 days prior to a Special Meeting being called for that purpose. When action is to be taken at a regular Membership Meeting, notice shall be given, and the topic discussed, at the regular Meeting prior to the one at which action is to be taken.

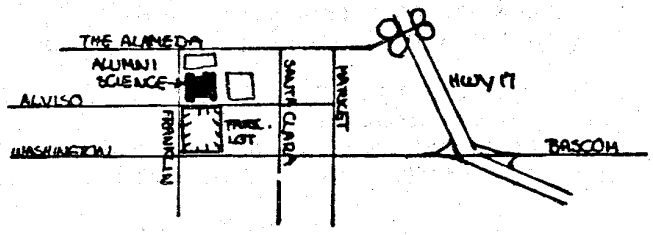
This rewording does not make a practical change, but it does clarify the course to be followed in making revisions to the By-Laws. Proposed by Jim Van Nuland and the Board.

Respectfully Submitted,
James H. Van Nuland,
Secretary, SJAA.



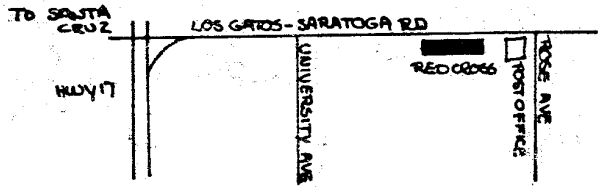
GENERAL MEETINGS:

University of Santa Clara, Alumni Science Hall, room 102. Heading north on Hwy 17, exit at Bascom/Washington Ave (north), proceed to Franklin, then turn right. Heading south on Hwy 17, exit at the Alameda (north), proceed to Franklin, then turn left. Go two blocks and turn left into the parking lot. Alumni Science Hall is the 3 story building that borders the east end of the parking lot. Room 102 is on the ground floor and is best gotten to by entering the first door on the right side of the building when walking in from the parking lot. MEETINGS BEGIN AT 8 PM.



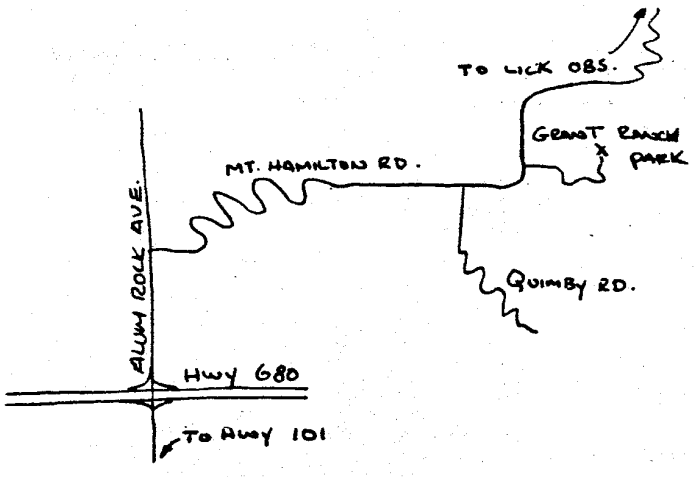
INDOOR STAR PARTIES:

Los Gatos Red Cross Building, 18011 Los GatosSaratoga Rd., Los Gatos. From Hwy 17 south take the Hwy 9 (Saratoga) exit and continue up Los Gatos Saratoga road for about 1.5 miles. Turn right at Rose Ave., and turn right immediately into the parking lot of the Red Cross Building. OPEN AT 8 PM.



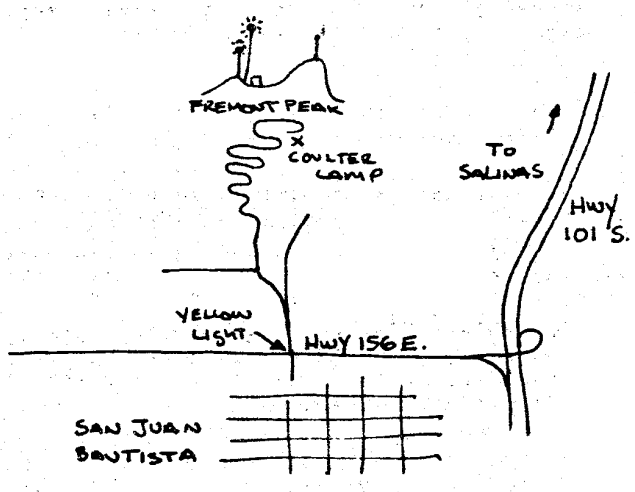
GRANT RANCH COUNTY PARK:

This site is a new one for the SJAA so come and try it out. Located on Mt. Hamilton Road, halfway between San Jose and Lick Observatory. To get to Mt. Hamilton Road, take Hwy 101 (either direction) to Alum Rock Rd. Go east up Alum Rock Road to Mt. Hamilton Road and follow it. Grant ranch is just past the Quimby road intersection. After sunset the park front gate will be locked with the SJAA's combination lock. Use the sequence 4565 to open, but be sure to lock the gate behind you, coming or going. There are two gates, the lock may be on the exit gate, if so enter the park from this gate.



FREMONT PEAK STATE PARK:

Take Hwy 101 south towards Salinas. Take Hwy 156 east (San Juan Bautista) for two miles to a yellow flashing light. Turn right and go about .25 miles to where road curves slightly to the left and splits. Stay left for about 50 yards and then bear right when road splits again Follow road for about 11 miles up into the park. SJAA sets up at Coulter Camp overflow area, it's visible as you drive up into main area of camp. Parking lights only after dark, please.



ASTRO ADS

Celestron 80 refractor with equatorial mount and motor drive. Like new. $375. firm. 12" Parks mirror, cell, focuser, etc. Never used. $275. Firm. Lots of surplus astro stuff: Aerial Lenses, finders, odds and ends. $200. or best offer. Call: Eva Butler, 408-225-0373 (San Jose)

Make Offer: All parts for 6" reflector. Includes mirror kit (rough grinding begun), Edmund driven mount. All components for tube assembly. Camera mount, 2 eyepieces. Price is open. Contact: Mark Yamonoka, 408-2482294 (home), or 408-429-8062 (UCSC).

For Sale: 300mm f/5.6 Celestron Mirror/Lens telephoto, Nikon TMount. Nikon F camera body, New lens, camera recently overhauled by EPOI of San Francisco. Equipment like new. $375. Contact Steve Greenberg, 415-443-6638 eves or 415-422-1606 days.

For Sale: Treker Scope model 6-S for $200 Contact Andy Jaros 408475-1321

For Sale: 78' Celestron C-8 w/coatings, wedge, tripod and many acessories. Excellent condition $850.00 Contact Duncan Pairman.

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THE SAN JOSE ASTRONOMICAL ASSOCIATION

Deep-sky observing, Astrophotography, Telescope making, Eclipses, Computerized astronomy. Whatever your astronomical interests, you'll find people in the San Jose Astronomical Association who will enjoy sharing their knowledge with you.

ACTIVITIES

The SJAA sponsors an activity every Saturday night (except around certain holidays):

General Meetings, featuring programs on various astronomical topics, are held once a month a the Alumni Science building at the University of Santa Clara.

Star Parties-group observing sessions-are held at several different locations, some close to the San Jose area, and some in the adjacent mountains.

Indoor "Star Parties" provide an informal opportunity to show slides, work on equipment, exchange ideas, etc. They are held in the Los Gatos Red Cross building.

MEMBERSHIP BENEFITS

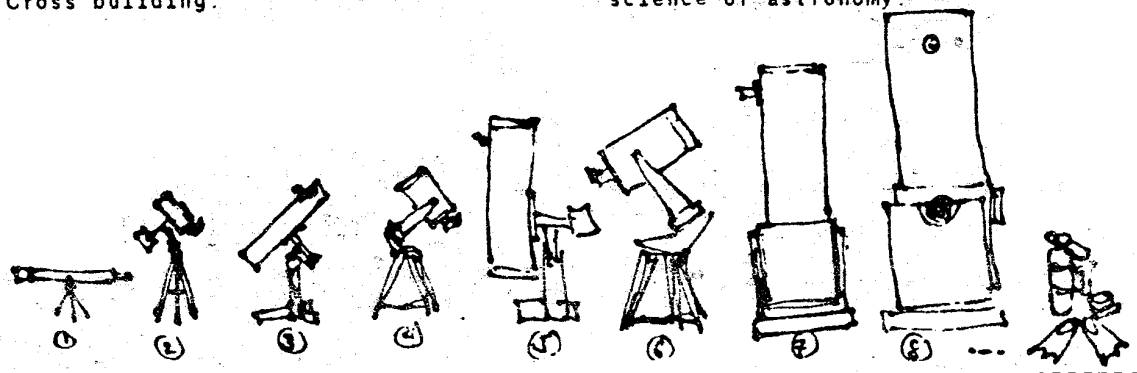
You need not be a member of the San Jose Astronomical Association to participate in our activities, but membership does grant certain advantages:

Twelve months of Sky and Telescope magazine, and reduced rates on products from Sky Publishing Corporation.

The SJAA EPHEMERIS, our monthly newsletter, containing a calendar of events and activities and other interesting articles.

Use of club telescopes. (Both reflectors and refractors are available.) Access to the SJAA's library of books, magazines, and pamphlets.

The San Jose Astronomical Association, founded in 1954, is a non-profit group devoted to expanding the general public's interest in astronomy, conducting research within the capabilities of amateurs, and promoting the science of astronomy.



SAN JOSE ASTRONOMICAL ASSOCIATION MEMBERSHIP APPLICATION

MEMBERSHIP ONLY: $8.00 MEMBERSHIP/S&T: $21.00 JUNIOR (UNDER 12): $15.00

Name _____

Address _____

_____

Telephone (____) _____

Please bring this form to any SJAA meeting, or send to:
Robert Fingerhut, Treas.
San Jose Astronomical Association
340 Rio Verde Pl. #4, Milpitas, CA 95035

[Phone: (408) 263-4455]

Membership: Adult ___ Junior (under 18) ___
Bulletin Subscription only: ___

Questionnaire (optional)

What are your astronomical interests (e.g. astrophotography, deep-sky observation, telescope making, etc.)? _____

_____

_____

_____

Do you own a telescope? _____ If so, what kind?

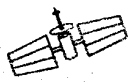
_____

Is there any specific area of astronomy that you feel qualified to help others with? _____

_____

_____

SPACE PROGRAM UPDATE
BY: BOB FINGERHUT



DISCOVERY RETRIEVES TWO SATELLITES
The shuttle recovered two communication satellites on Nov. 12 and 14th whose boosters malfunctioned earlier this year. Two other communications satellites were also launched.

NEXT SHUTTLE FLIGHT DELAYED
The next launch which was scheduled for Dec. 8 has been delayed at least 6 weeks. The delay has been caused by a material called Screed which is used to smooth the aluminum surface of the orbiter under the tiles. The Screed has softened possibly due to the water-proofing agent, xylene, used on the tiles. About 2800 tiles will have to be removed to repair the Screed and then replaced. Mission 51-C is now scheduled for Jan 22 and 51-E in February. When 51-C is launched, the payload will be a classified geosynchronous orbit satellite. An IUS upper stage booster will be used. A dedicated Defense Department military astronaut, Maj. Gary Payton, will fly for the first time. He has been training in secret for this flight and is one of 25 defense manned space flight engineer astronauts. The time of launch will not be made public until the Challenger's engines ignite, but will be made narrowed to no smaller than a 3 hr. period prior to launch. The other crewmen will be: Mission Commander, Thomas K. Mattingly, Mission Pilot, Loren J. Shriver, Ellison S. Onizuka and James F. Buchli.

GOES-10 WEATHER SATELLITE REACTIVATED
The satellite was reactivated by NOAA following a successful maneuver to free a stuck bearing in its imaging system. GOES-1's continued operation depends on the performance of an encoder lamp that has a history of low output but now is operating properly.

RESCUE SATELLITES TO OPERATE THROUGH AT LEAST 1990
International participants in the Sarsat/Cospas satellite-aided search and rescue system have agreed to extend the program through 1990. Both the U.S. and Soviet Union will maintain two satellites in orbit with Sarsat/Cospas repeaters. Destress beacons will use 121.5/243 MHz and 406 MHz.

SOVIETS TARGET TWO VENUS LANDERS
The soviets will launch two Vega Venus/Halley's Comet spacecraft this December. The two spacecraft will fly by Venus in 1985 and release two landers which will put down about 300-600 miles apart. They will also release atmospheric balloons at 33.5 miles above the Venusian surface. The main spacecrafts will continue on to encounter Halley's Comet in early 1986.

TDRS LAUNCHES TO RESUME
The second Tracking and Data Relay Satellite (TDRS-B) has been taken out of storage for delivery to NASA. It is believed that problems with the inertial upper stage (IUS), which put TDRS-A into the wrong orbit, have been solved.

SPACE TELESCOPE TUBE ASSEMBLY DELIVERED TO LOCKHEED
The optical tube assembly was flown into Moffet Field on Nov. 1 in a Supper Guppy airplane. It was delivered to Lockheed for integration with the spacecraft a few days later.

NOAA-F TO STUDY THE ATMOSPHERE
The NOAA-F satellite was scheduled for launch from Vandenberg on an Atlas booster the second week in Nov. It will study wheather pollutants are radically changing the Earth's atmosphere. It will also provide weather photographs and serve as a relay beacon for the joint U.S.-Soviet-French-Canadian search and rescue system.

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