

# Predictions

oct '79

- October 5 Full Moon
- October 6 General Meeting, Rosicrucian Auditorium, Park & Naglee, San Jose'. 7:30 pm. The speaker will be Dr. John H. Wolfe, Chief Scientist for Project Pioneer: Saturn. The lecture will be on the Pioneer 11 Saturn encounter and will be a joint SJAA-Rosicrucian Society public lecture.
- October 12 Board meeting at Cathy Pinheiro's, 4029 Will Rogers Dr., #26, San Jose'. 8:00 pm. 248-0210.
- October 13 SJAA close-in star party at Sanborn Canyon Park. There will be a indoor star party at the Los Gatos Red Cross building if the weather is too poor for observing.
- October 20 New moon and SJAA Star Party at Digger Pine Campground.
- October 27 Indoor Star Party, Los Gatos Red Cross building. 7:30 pm. Halloween costume party. Details inside.
- November 6 General Meeting, Rosicrucian Planetarium, Park & Naglee, San Jose'. 7:30 pm. The speaker this month will be George Gabor from Lawrence Berkeley Labs and the topic will be the past, present, and future design work on the new 400" telescope.
- November 9 Board meeting at Wolfgang Hanisch's, 1815 Cleveland Ave., San Jose'. 8:00 pm. 998-0861.
- November 10 Indoor Star Party, Los Gatos Red Cross building. 7:30 pm.
- November 17 SJAA star party at Loma Prieta.
- November 19 New Moon
- November 24 SJAA star party at Loma Prieta.

---

"The question is not will it clear, but whether or not it will do it by morning."

Charles Turner, Fremont Peak

---

Gerry Rattley, pres. 732-0202



Denni Medlock, ed. 278-8475

# Observations

September was an incredibly active month astronomically with a lunar eclipse, a conference, and many, many star parties held. It is as if we all know winter is coming on and the last chances at some decent observing are very imminent. As usual, club members and associates have been busy working on projects, taking astrophotos, and making plans for the up-coming cold weather observing. I've finally found the secret after all these years to how to keep both awake and warm those cold nights on Fremont Peak. A hot cup of coffee kept on the star charts at all times works wonders. Of course, on those type of nights it's often a contest to see who gets colder quicker, me or the cup of coffee. (Don Machholz's observing garb may look like something out of the Arctic Service but at least it works.)

Sneaking of Don, just a bit of social news here: he and his girlfriend, Laura Zarcone, are planning a wedding for October 27. Congratulations to the both of them! Since the evening of the 27th is also the SJAA's annual Halloween party Gerry Rattley suggested to me that everyone should show up at the wedding in costume....(anything most of us would wear to a wedding would be a costume, anyhow).

Now that you know there's a Halloween party on the 27th let me give out some details. Last year's party was a spectacular success, one of the funniest events of the year for the club and it would be great to see that happen again. Costumes are of course encouraged and there will be a contest for the best, funniest, most original, etc. I don't know what will be given as prizes, maybe Ernie Piini's new book, but something will be thought up. The food this year will be the typical indoor star party fare, in other words, bring your own munchie. Kevin has mentioned something about fixing a batch of his famous lasagne but the food doesn't have to get that involved. As usual, anything goes!

At the October 6 general meeting Ernie Piini will dedicate his new book, "A Solar Eclipse Over America's Stonehenge," to Dr. A.B. Gregory. Mrs. Jean Gregory will be the guest of honor at this event which will be the only club business that evening. Ernie has offered the SJAA seventy-five copies to be sold as a profit making activity for the club, with the price set at \$3.00. Over two years of research went into this interesting chronicle and it should prove well worth reading.

The October 6 general meeting is, of course, one of the most important ones of the year for the SJAA with Dr. John H. Wolfe from NASA as our speaker. This joint public lecture with the Rosicrucian Society is expected to draw at least two hundred people and should provide an interesting and educational evening on the latest results of the Pioneer 11 Saturn encounter. Invite your friends and family, and if possible, please post the public notice of the lecture that makes up the last page of this bulletin. The club appreciates your support in making this event a success.

On Friday evening, October 5, the San Mateo Astronomical Society is inviting all interested amateur astronomers to a lecture on Pioneer 11 by Dr. Robert P. Hogan, to be held in the Choral Room at Canada College, Redwood City. Time: 7:30 pm.

Another invitation has been offered any interested SJAA members who would like to use the Peninsula Astronomical Society's 12" observatory in the Santa Cruz Mountains and their facilities, a 16½", at Foothill College. For a fee of \$7 a year a person can become an associate observer and have full access to these facilities. For more information please call Fred Pfost at 967-4679.

Jim Van Nuland reports not much is happening graze-wise, however, "the sunspot cycle is getting up a pretty good head of steam. One does not need a solar filter; I have one but the best results usually seem to be by good old projection. I stop 8" to about 3", use a 26mm eyepiece, and get a sun about 5-8" in diameter. When seeing is good, a splendid view." I agree. Last weekend (Sept 23rd) I had a chance to look through a solar 'scope and could not believe my eyes! Sunspots all over the place, more than I've ever seen at one time. Take a look!

Gerry Rattley reports that he is still compiling the results from the August questionnaire so if anyone would like to contribute their opinions he will still accept the forms. The results will probably be ready for the next bulletin.

If you are wondering why the suggestions box hasn't been seen at the last two general meetings it's because cardboard boxes don't make it long in the real world. What is needed is a volunteer to construct a solidly built one of wood or plastic. I'm sure with all the talent out there there should be someone who would like the job. The club normally reimburses for expenses.

Speaking of volunteers: Bruno Benassai has agreed to be the SJAA's publicity person, contacting the news media of the public club events. Definitely a needed position, and thank you, Bruno.

Thanks to everyone who contributed to this month's bulletin. Most of them were volunteers this time.....

Deadline for the November bulletin will be October 21.

Denni

---

Gerry Rattley has approximately 40 Condict Cichlids to give away if anyone is interested. (No, it's a fish, not a disease). Anyhow, give him a call at 732-0202 if you'd like a few.

---

"All I'm asking for is people to be a little bit friendlier, and I get jumped on!"  
Doug Beuttner discussing an indoor star party at the board meeting

## COMET COMMENTS

In the past few weeks, one comet has gotten appreciably fainter, one comet has been recovered, one has been discovered by an amateur, and one discovered by a professional astronomer.

Comet Bradfield (1979c): Last month's estimates placed it at about magnitude 11 for the month of October. However, this small object seems to have decreased in brightness in early or mid-August, and now remains about 1-2 magnitudes fainter than predicted. That puts it at about magnitude 12-13 in the morning sky during October as the comet moves away from both the sun and the earth.

Periodic Comet Schwassmann-Wachmann 3 (1979g): This comet was recovered on August 13 by two professional astronomers in Australia, at magnitude 13, in the evening sky close to the sun. With a period of 5.32 years, this comet has missed re-detection since it was last seen in 1930. During October it will slowly change from magnitude 13-14.

Comet Kowal (1979h): Charles Kowal at Palomar Observatory discovered this 19th magnitude comet in the southern evening sky on July 24. Having discovered the first comet of the year, Kowal is the only person to find two comets so far this year. The comet is getting fainter now, and it's been over a year since this comet reached its closest point to the sun (Aug. 23, 1978) at 2.3 A.U.

Comet Meier (1979i): This is the most recent discovery, and I have only sketchy information on it at this time. It was discovered on the evening of September 20 by Rolf Meier of Canada at 12th magnitude at 13h32.2m, 68deg13m N. Its direction of travel is about 25' a day SSW. This is Meier's second comet discovery, his first being in late April, 1978.

Comet tails: Comet Kowal (1979h) is unusual on two counts: First, it was discovered before the previously labeled comet: 1979g. Usually the small letter is placed on a comet in the order of discovery, but if it is not reported for awhile-as in the case of a comet being discovered on a professional's photographic plate-the labeling falls to the order that they are reported.

Secondly, the comet was found nearly a year after its closest approach to the sun-it was discovered as it was getting fainter. This seldom happens.

Don Machholz  
356-7727

SJAA MEMBER'S CORNER

by Frank Dibbell

In the SJAA Member's spotlight this month is Chris Pratt. Chris's interest in Astronomy goes way back, but it got a real boost when he took an Astronomy class from Garrett Wimer at Fresno City College. It was there that he learned of the annual Riverside Conference, and made a point of it to attend. While at Riverside, he heard about the SJAA from none other than Jack Zeiders.

After graduation, Chris and his wife Shea (also an Astronomy buff, and the subject of a future SJAA interview - look out, Shea) migrated to the Santa Clara Valley where he got a job at a local company. Here he met Jim Van Nuland, who re-introduced him to the SJAA and its multitude of activities. So Chris came to some star parties, board meetings, and general meetings to find out what we were like. He joined our club, anyway.

Chris's interest in Astronomy includes telescope making, astrophotography, electronics gadgetry, and socializing with other amateur astronomers. One of his telescopes, an 8 inch f/8 newtonian, has an obsidian mirror. In a crunch, it can be used for a rather large arrowhead.

He also makes a neat little chart light, affectionately called a firefly, and would be happy to assist other club members in making their own. If you would like your very own chart light, talk to Chris at any club function, and he'll be more than happy to help you.

\* \* \* \* \*

Also in the spotlight this month is Robert Hatcher. One of the younger members of the club, Bob heard of the SJAA through his Oceanography instructor in High School (I wonder if Astronomy instructors get their students interested in Oceanography? Probably not - who ever heard of the San Jose Oceanographical Association).

Bob enjoys observational astronomy, and likes to attend the club indoor and outdoor star parties. He will be attending UC Berkeley this fall, and plans to major in Physics/Astronomy. He regrets not being able to attend our club functions during the school year, but he plans to come back when he can during holidays and breaks. Bob says that dorm life will limit the amount of equipment he can take with him. Dorm rooms are no place to store a big newtonian reflector. He does own a Coulter CT-100 which he will be taking, and he plans to use it as much as he can. Good luck in school, Bob, and come back to visit when you can.

\*\*\*\*\*

There was a well attended SJAA star party at Henry Coe State Park Sept. 22 with approximately 15 people and various telescopes setup at the site. Kevin and I arrived late because of his sister's wedding and had to put up with Gerry's verbal abuse about our lights until we had the 18" and 8" together. Not that we minded—we'd do the same to him anytime in the same situation.

Other SJAAers there were Jack Zeiders, Frank Dibbell, Pete Manly, Walt Schoendorf, Bob Fingerhut, and Jack Peterson. I think I heard Jay Freeman's voice in the dark too, and there were probably others I never even knew about. I observed for about an hour, and after trying, in vain, to find the Saturn Nebula, decided I'd had too long a day and retired to the van. Most everyone else stayed up all night. Oh well.

Interesting things that happened: Pete Manly got stung in the armpit by a bee while looking through binoculars, the fog came in and it was actually DARK, and with a 4mm on the 18" the central star of the ring (M 57) popped out like a diamond.

Denni

## AANC/NASA-Ames Joint Conference on Astronomy

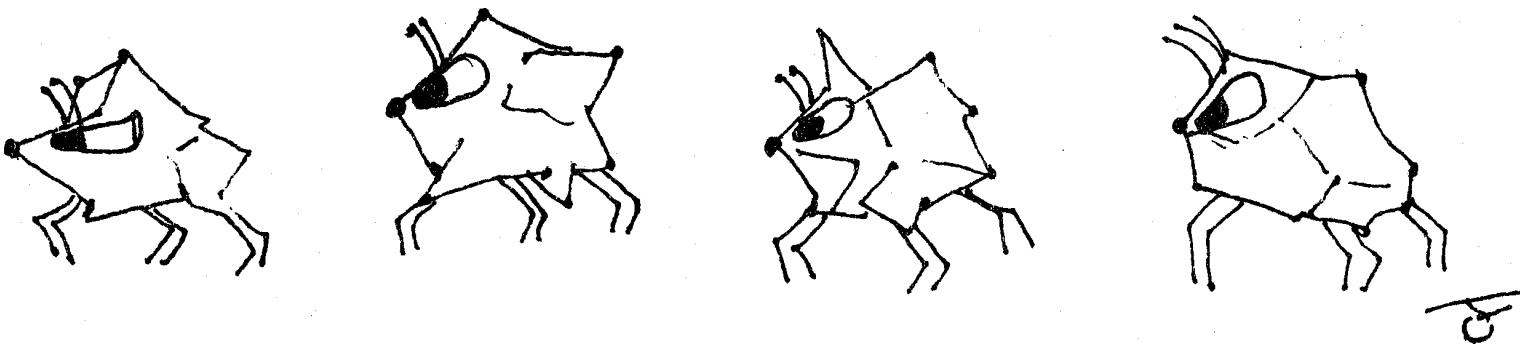
What had to be one of the better, if not the best, amateur astronomical conferences held in the country this year took place Sept. 15-16 with the AANC/NASA joint conference on astronomy at Ames Research Center. Though there was no published theme the locale and timing of the event made the majority of the professional talks centralized around planetary astronomy and the latest information available. The Sun, Venus, Mars, Jupiter, and Saturn were all the subjects of talks by speakers such as Robert Hogan, Allan Meyer, and Larry Colin of NASA/Ames, Steven Collins of JPL, John Westfall, Allan Friedman, Steve Edburg, and Judd Boynton. (Judd, by the way, had predicted the rings of Uranus and Jupiter years in advance of any hard evidence of their existence, and those who attended the WAA/AANC 1976 conference in San Francisco were privileged to hear his lecture on the possibility then. The paper was published in the conference's proceedings.)

Amateur talks covered hypersensitizing film, nebular filters, astronomy related calculator programs, space law, and there was even a movie by the San Mateo Astronomical Society titled, "3rd Encounters of the Worst Kind." Don Machholz gave excellent talks on both the Messier Marathon and the discovery of Comet Machholz. Gerry Rattley presented a well illustrated lecture on the Herschel objects.

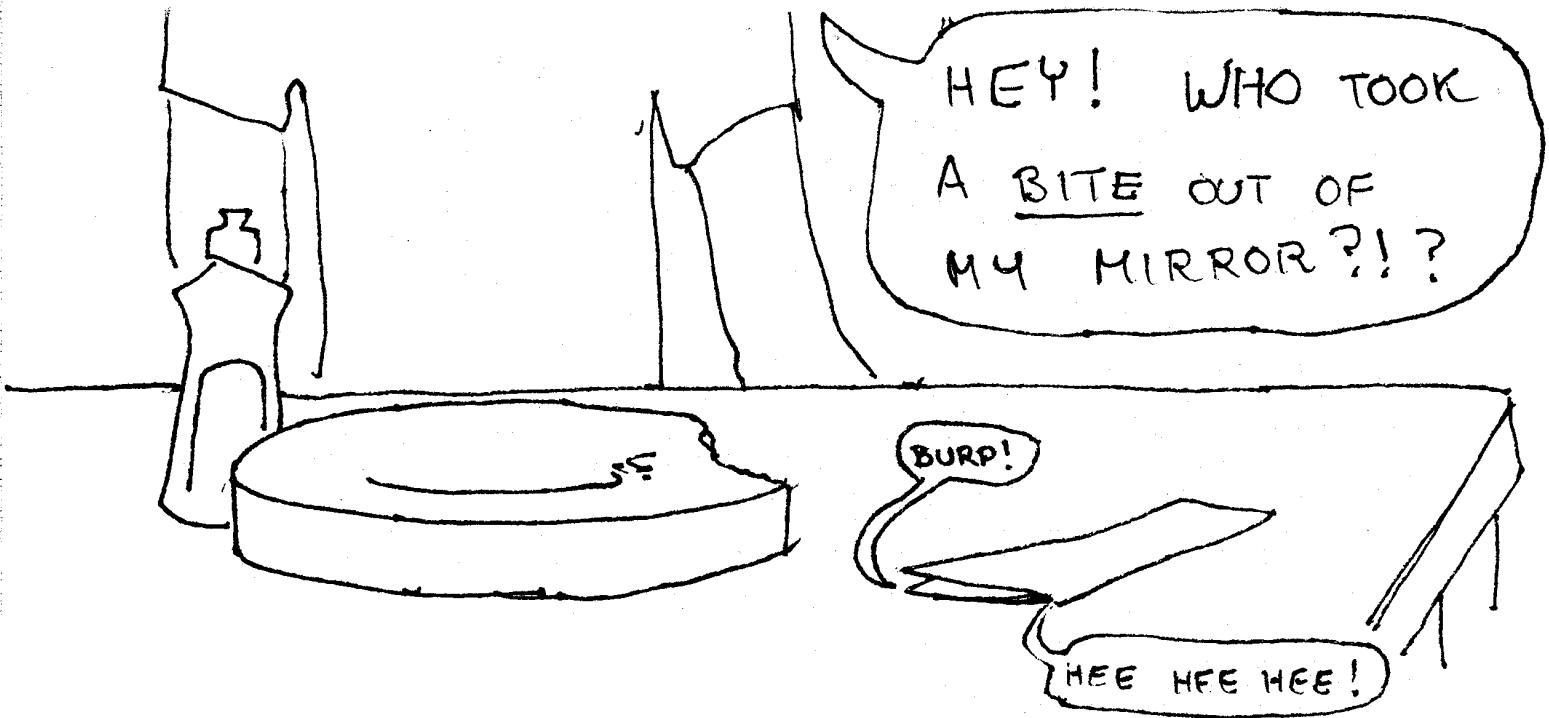
The banquet was excellent, both in food and conversation. Gerry presented the Messier Club awards, (SJAA members who received there were: Rita Miram, Herman Fast, William Cherrington, Don Machholz, and Les Delong. Charles Messier received the first one, one course.) Don Machholz received the AANC's annual amateur achievement award plaque.

A very good conference for those who were smart enough to get their registration in early enough, (100 people had to be turned away), and very lucky for others. SJAAers with winning door prize numbers were Bruno Benassai, Laura Zarcone, and Penny Pinschmidt.

Denni



... 80 CARBORUNDUM COOTIES MIGRATING ACROSS  
THE FLOOR IN SEARCH OF A POLISHED MIRROR ...



... THE 80 CARBORUNDUM COOTIES STRIKE  
SILENTLY AND THEN HIDE... .

8

---

Yes, folks, there really is a question of the month this time! Do you remember what it was? If given a chance to go anywhere in the galaxy, round trip of course, where would you go?

Jack Zeiders: "A bus man's tour. Stop here, and then go over there for awhile."

Randy Cunningham: "I think I'd rather not stay in the galaxy, rather go about 1 diameter away and look down at the profile. It would probably look like M 81's profile."

Dave Ambrose: "Pern, via the galactic core."

Kevin Medlock: "Ringworld."

(you can tell the science fiction buffs...)

Virgil Voss: "I don't know. I'll have to ask my wife."

Lorraine Voss: "Oh, probably the first one that had an atmosphere."

Jim Van Nuland: "Visit a planet within a globular cluster, 47 Tuscan, perhaps; a planet with a large moon so there's be spectacular grazes every night! And starspots!"

Frank Dibbell: "The other side. I want to prove my hypothesis that there's a mirror Earth."

## Sanborn Canyon Star Party—August 25, 1979

Those who attended were:  
Fred Braniff and a friend, Frank Dibbell,  
Jay Freeman, Phil Hermsmeyer, Pete, Joan,  
and Susan Manly, Pete's inlaws and friends,  
Debbie Moore, Cathy Finhiero, Penny Pinschmidt,  
Ed Schell and his brother, Jack Zeiders, my  
wife Shea, and myself.

As we got set up and waited for night-fall we proceeded to exchange witticisms while Ed Schell gave his brother an introductory course in telescopes and astronomy.

After sunset it cooled rapidly and sent many of us into our coats and long johns. It wasn't until about 10:00 PM that the seeing was good enough to enjoy objects like the Trifid, M 31, M 13, NGC 6207 (a small galaxy near M 13), and the Omega nebula in spite of the city lights.

I didn't get to circulate much (first time out with my 8" obsidian mirror) so I may have missed names and goings on; if I did I'm sorry. Two things I didn't miss, however, were Pete using his C-8 sans T.V. camera and cars, with associated head lights, cruising the parking lot.

One set of those headlights belonged to a policeman and his partner. They stopped to check out the crowd with the strange equipment and ended up with a course in astronomy conducted by Jay Freeman.

Around 1:30 A.M. we all decided that we had had enough, so we packed up and headed for "the old watering hole" (Sambo's Los Gatos). Once there, some satisfied their sweet tooth, while others enjoyed breakfast, with all getting a large helping of tall stories and puns.

Chris Pratt

---

## A Full Moon at Loma Prieta

About twenty people gathered at Loma Prieta to observe the lunar eclipse. By 10 pm most everyone had arrived and set up. The next three hours were spent blithely shooting the breeze with a shotgun. Jack Zeiders began by trying to simulate a light sabre with his high-intensity lamp. He then played the obligatory star party anthem; the theme from Star Wars. Pete Manly tried to keep time to the music with his WWV radio. This didn't quite work out. Phil Hermsmeyer, Debbie Moore, and company munched out on bownies. As usual, Jack and Pete volleyed barbed comments. Fortunately, I didn't set up between them. The cross-fire was terrible.

Once the eclipse was underway, cameras replaced eyepieces and shutters began to click. Most of us were contented with watching or taking run-of-the-mill eclipse pictures. Pete Manly decided to try a multiple exposure with good results.

Post eclipse festivities were conducted at the Los Gatos Sambo's. Pete and Jack resumed their verbal fencing which eventually resulted in Pete's surrender. I nearly fell asleep several times. Breakfasts arrived and conversation died out as people inhaled their food. By 7:00 am we were heading for the door and off to work or bed. I was one of the lucky ones. I went home and poured myself into bed.

Dave Ambrose

## Eliminating Subjectivity in Zonal Testing

### Stage 1

If we start with the familiar Foucault set up, (pin hole at right, knife edge at left) and a mirror of known perfect quality in the rack, we can try some different ideas for zonal testing to prove or disprove their validity.

### So assume:

1. A 16" F6.25 on test
2. The knife edge placed inside focus far enough to form a sharp shadow edge.
3. An "Everest pin stick" in front of the mirror with a pin of the proper size<sub>2</sub> at the center.

With full illumination of the mirror, the pin will appear as a dark silhouette. When the knife edge is moved in from the left until the shadow edge meets the pin silhouette, it is instantly illuminated by diffraction. This can be repeated, gradually moving the knife edge back towards the center of curvature, at the center of curvature the shadow edge is no longer distinguishable, but the pin is illuminated as before.

### HYPOTHESIS

THE ON-OFF EFFECT DEFINES THE SHADOW EDGE, EVEN WHEN IT CANNOT BE DISTINGUISHED DIRECTLY. IF TRUE, WE NO LONGER HAVE TO TRY TO INTERPRET INDEFINITE SHADOWS, INSTEAD WE OBSERVE THE ON-OFF DIFFRACTION EFFECT AND SUBJECTIVITY HAS BEEN ELIMINATED.

By adding pins at the 70% zones we observe that all three pins light up simultaneously when the knife edge is at the 50%  $r^2/2R$ .

### Stage 2

The difficulty of interpreting widely separated shadows when using zonal masks is well known. If we stop thinking of a mirror divided into zones and instead think of a series of concentric mirrors; i.e., at the center of the 16" F6.25 there is a 4" F25, which is part of a 6" F16.6, which is part of a 8" F12.5, etc; then zonal testing as such can be eliminated.

So we cut out a annular diaphan stop with a 4" hole, across which is a pin stick with pins at 70%, center, and 70% (of 4"). When the knife edge is at 50%  $r^2/2R$  (for this 4" mirror) the pins will light up simultaneously and the knife edge position for the 70% zone can be recorded even though no shadows can be seen at all due to the high focal ratio.

Similar stops are used for testing the different concentric mirror sizes and their 70% zones measured and recorded. Beyond the 70% zone of the full mirror a plain stick is used with pins at 70% of an 18', of a 20" and of a 22", etc, as needed. When transferred to graph paper the measurements will be found to represent a perfect parabola. (Remember we started with a perfect mirror). Thus the hypothesis has been proven and this method can be used to test other mirrors without ever having to estimate a shadow or (directly) test a zone.

Notes: 1) ATM, Vol 2, p. 21

- 2) The proper pin size is determined empirically and varies with the radius of the curvature of the mirror, and the resolving power of the testor's eye. It should be as thick as possible, however not so thick as to appear as a dark line with two illuminated edges, but rather as a single illuminated line.

Jack K. Meyer  
1415 Lost Acre Dr.  
Felton, Ca. 95018  
(408) 325-7218

The Constellations

by Doug Buettner

Have some fun and test your knowledge of the sky by unscrambling the following constellations: (hint: they're in the autumn sky)

MOREDADNA

CREATAL

VLUPEACUL

QURIUSAA

YARL

The brightest stars

IERAS

MUIPOCSOCRIM

IRISUS

SUNORCIRPAC

SSUAGEP

ANOPCUS

SISOPEAIAC

PSEUSER

CETNUARI a

HUESPEC

PONIHEX

AEGU

TEUSC

SCIESP

ELLPAAC

GUSNYC

PISICS UASTIRNUS

RTCUURSA

DINLUPSHE

TATIGAS

IEGLR

QUULEUSE

CUPITORS

PORCYON

USRG

LEETSCPPOIUM

AHERNCAR

NUSDI

TINARGLUUM

answers next month....

---

Mailing list: Additions, subtractions, and corrections

Add:

New members

Charles Chew  
393 So. 3rd. Street  
San Jose', Ca. 945112

Jeff Owen  
3539 Constance Dr.  
San Jose', Ca. 95117

Change of Address

Brian Day  
1475 Koch Lane  
San Jose, Ca 95125  
266-8690

George Cook  
3160 Santa Maria Ave.  
Santa Clara, Ca. 95051  
246-7847

Jack Meyer  
1415 Lost Acre Dr.  
Felton, Ca. 95018  
335-7318

Mark Geoffrey Yatabe  
16320 Barten Rd.  
Los Gatos, Ca. 95030  
356-5229

New Phones #:

Ron Cunha  
209-928-3203

Walt Schoendorf  
552-0257

Jay Freeman  
P.O. Box 4374  
Berkeley, Ca. 94704

John Clement  
1230 Orange Ave.  
Menlo Park, Ca 94025  
854-3538

Dan Smith  
1216 Serene Valley Ct  
San Jose, Ca. 95120  
268-6354

Charles Ingebretsen  
865 So. 8th St  
San Jose', Ca 95112

The San Jose Astronomical Association

and

The Rosicrucian Planetarium and Science Museum

presents

"PROJECT PIONEER-SATURN"

Dr. John H. Wolfe, chief Pioneer-Saturn project scientist with the National Aeronautics and Space Administration Ames Research Center, will discuss the preliminary scientific findings of Pioneer 11's Saturn flyby.

The lecture will be held on Saturday, October 6, 1979 at 7:30 p.m. in the Francis Bacon Auditorium (in Rosicrucian Park near the planetarium and the Egyptian Museum), corner of Park and Naglee Avenues in San Jose. Admission is FREE.

The Pioneer 11 spacecraft, after its visit to Jupiter in 1974, crossed the solar system to pass by Saturn and its rings on September 1 of this year. Dr. Wolfe will summarize the five year mission, and describe what we now know about Saturn from this first visit.

Dr. Wolfe, as project scientist, is responsible for the overall scientific planning and coordination of the Pioneer mission. In addition, he has been principally concerned with experiments measuring the interplanetary solar wind and its interactions with planetary bodies.

You are invited to attend and we would like to encourage you to invite your friends. For more information call 732-0202, area code 408.

Note: this lecture is also the monthly meeting of the San Jose Astronomical Association but is being co-sponsored by the Rosicrucian Order to help bring this important lecture to the public.

PLEASE POST!