

THE SAN JOSE ASTRONOMICAL ASSOCIATION



EPHEMERIS

MARCH 1985

* MARCH 30TH GENERAL MEETING *
* NASA PROJECT MANAGER NICK VOJVODICH WILL *
* PRESENT A PROGRAM ON THE GALILEO/JUPITER *
* ORBITING PLANETARY MISSION *

MARCH	2	Los Gatos Red Cross Building. Indoor star party. Doors open at 8 pm. Don Machholz will be giving an informal talk on the up coming Messier Marathon's, March 15, 16 and the 23rd.
MARCH	9	Board meeting 8 pm at Robert Fingerhut's home. If you want to attend, please give Bob a call for directions to his house.
MARCH	15/16	Messier Marathon Part I at Loma Preta observing site. For additional information please call Don Machholz at: (408) 448-7077
MARCH	23	Messier Marathon Part II at Grant Ranch county park.
MARCH	30	General meeting 8 p.m. at the University of Santa Clara Alumni Science building. Nick Vojvodich, NASA's project manager for the Galileo space probe, will be our guest speaker. This should be a most informative talk about one of NASA's last planetary probes to Jupiter this century.
APRIL	6	Los Gatos Red Cross build. Indoor star party. Doors open at 8 p.m.
APRIL	12	Board meeting at Chris Pratt's house. 7 p.m. "POT LUCK"
APRIL	13	Fremont Peak Field Expedition for astronomical observation. Dusk till Dawn.
APRIL	20	Second Annual star party at Henry Coe State Park. Dusk till Dawn.
APRIL	27	ASTRONOMY DAY!

ASTRO ADS

New, never used Celestron 5.5" f/1.65 Schmidt Camera. With standard and filter film holders. Adaptors for mounting to C8, C11, C14. 6 deg. by 9 deg. field coverage. Great for Halley's comet! List \$1065 Selling for \$700 Save \$305!!!! Contact: John Gleason (415) 790-9250

Excellent condition Celestron 11x80 Giant Binoculars. New modes with extra front hinge for strength and ridigity. Great for comet Halley! Celestron list price: \$364 Selling for \$200 Save \$164!!!! Contact: John Gleason (415) 790-9250

TUCSON 85'

BY: DAVID LEVEY

Go west, stargazer, the clarion calls as Tucson prepares to host the 1985 Astronomical League convention that promises something truly special. Beginning on the new moon which is Tuesday, June 18 and continuing through Saturday the 22nd, the five day convention will consist of tours, paper sessions, outings, dinners, parties and contests.

TOUR OF KITT PEAK

We all know this observatory as one of the largest and most important in the world, a place where galaxy-breaking research is done on state-of-the-art equipment. We'll get a chance to look at some of that during the convention.

MMT

The Multiple Mirror Telescope, the forerunner of what will likely be a whole series of specially designed and productive telescopes, will also be on our tour list. But because the facility and its access road can't handle large numbers of visitors, this tour is limited to those who register early.

OBSERVING SESSIONS

June is traditionally one of Tucson's driest months, and the warm, dry, mosquito-free evenings offer phenomenally clear skies. We're planning observing sessions at a number of sites, both outside and inside the city. Visitors will also be able to see some of the unique telescopes belonging to the collections of some of our local astronomers.

CONTESTS

This year we are planning but one contest. You can bring telescopes, astrophotographs, observing projects, writing material, or anything else you wish. If your entry meets the standards that will be set by our panel of judges than you may win a prize!

For further information about Tucson 85', contact: David H. Levey, Chariman, Tuscon Convention Committee, Rt 7, Box 414, Tuscon, AZ. 85747

UNIVERSE MAGAZINE

Man has always looked to the heavens with curiosuty. We know more about outer space today than when Galileo first focused his telescope on the Milky Way, but there is still so much to learn. Now, you can explore our world and beyond on the KCBS Universe Magazine.

The Universe Magazine is an interview/call-in program that seeks to provide listeners ready access to scientists and their discoveries. In the nineteen months that it has been in existence, a wide range of topics from dinosaurs to the search for extraterrestrial intelligence have been discussed.

You can hear it on Saturday evenings from 6:00 PM to 8:00 PM. on KCBS AM radio.

DEEP SKY NOTES - MARCH BY: STEVE GOTTLIEB

Sandwiched between the prominent constellations of Gemini and Leo is the inconspicuous grouping of Cancer. Though containing no stars brighter than mag. 4, Cancer is nevertheless an attention-grabber in dark skies because located near its center is the bright, large, naked-eye cluster M44. Besides splashy M44 and the rich, ancient cluster M67 found 9 deg. south, Cancer contains numerous lesser known galaxies, many appearing in pairs and groups. These multiple galaxy groupings were recently explored using my 13.1" on December 22, 1984 in the Sierra foothills near Fiddletown and at Fremont Peak on the weekend of January 18-19, 1985.

NGC 2535: The brighter member (Mp 13.5) of an interacting pair, NGC 2535 can be found by locating mag. 6, 14 Cancri and offsetting 22' SSE. I recorded this face-on Sc galaxy as faint, fairly small, round and diffuse. I probably only observed the brighter central region.

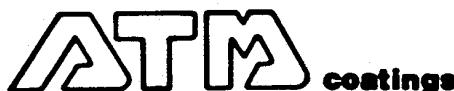
NGC 2536: Just 2' SE of NGC 2535 I found a small and very faint companion (Mp 14.8) nearly in contact. An excellent photo of this system appears in Timothy Ferris' GALAXIES on page 146. In this shot, NGC 2536 appears to be located at the tip of one of the spiral arms of NGC 2535.

NGC 2608: Plotted on the Tiron SKY STLAS 2000 in northern Cancer, this barred spiral was elongated ENE=WSW, moderately large, and fairly diffuse (Mp 13.2) but contained a condensed core. Photographs reveal a double nucleus or a centrally located superimposed star.

NGC 2619: Located 33' ENE in the same low power field, this spiral appeared as a slightly fainter (Mp 13.6) twin of NGC 2608. Though the size of NGC 2619 was similar to NGC 2608. The elongation was NE=SW and the surface brightness was smoother.

NGC 2672: This small elliptical galaxy is plotted on the Tiron Atlas 2 deg. SE of M44, just 1/2deg. NW of a mag. 6 star. At 166x, it appeared small, roundish, moderately bright (Mp 13.4) with a small condensed nucleus. Switching to 220X, a companion was visible close to the east edge of NGC 2672. Appearance on the Palomar Observatory Sky Survey is very compact.

NGC 2752: The last member of the NGC 2749 group which I located was another marginal object (Mp 14.8) found 5.4' ENE of NGC 2749. Though I recorded no details due to a distracting close, bright double star just NE of NGC 2752, it appears as a small edge-on spiral on the POSS print.



15022 BROADWAY TERRACE, OAKLAND, CA 94611

Specializing in Aluminum Coatings with silicon monoxide over-coating for telescope mirrors.

Secondaries, when sent with primary mirror, free.

To remove old coatings \$3.00. Minimum charge \$8.00.

Include postage and insurance for return mail.

Mirror will be shipped in container received.

4½"	\$8.00
6"	\$12.00
8"	\$16.00
10"	\$20.00
12½"	\$24.00
14½"	\$28.00
16"	\$50.00

FROM THE EDITORS DESK

BY: JOHN GLEASON

A special thanks to those of you who responded to my call last month for telephone numbers. In this issue you will find the 1985 Membership Roster. Additional copies are available for new members. Extras will be available from Jim Van Nuland and Bob Fingerhut.

I understand that there are a number of members who get their Ephemeris nearly 2 weeks after the mailing. And, then there are those members who get the Ephemeris a day after I mail it. All of this has to do with the 3rd class bulk rate zip code presort. Many members do not fall into an identical 5 digit sort, nor a 3 digit sort. These members get an all state bundle which is probably the reason for the delay. But, you're getting this months Ephemeris a little later than usual due to a major computer crash which locked up my March Ephemeris files for 7 days! So much for modern technology.

The 5th ANNUAL ASTRONOMICAL AUCTION will be held on Saturday May 4th at the Los Gatos Red Cross Building. Doors will be open at 2 p.m. This is one of the biggest astronomical events in the bay area. Plan now to attend. Pre-registration information is in this months Ephemeris.

Your editor is still looking for star party reports. I have heard that the last two star parties were well attended and that the weather was excellent for this time of year.

107 EVENTS OBSERVED ON GRAZE EXPEDITION BY A SINGLE OBSERVER

BY: SHIELA MACDOUGAL, SJAA

On the evening of 30 February (29 February UT) the star Gamma Globulin was scheduled to be occulted by the local Moon. Gathering the pieces of my trusty Alfred Clark refractor together, I headed out to the graze site using the map drawn by the expedition leader who has no sense of direction and cannot make a straight line even with a ruler. When I finally arrived, the graze team members were busily hunting for station markers buried earlier by the expedition leader. I assembled the Clark, noting for the first time by the inscription that the lens blanks appeared to have been cast by the Coca Cola Corporation. As the graze moment approached, most of the fighting over choice sites had subsided and we started gazing into the sky looking for the Moon (the expedition leader had not provided us with finder charts as previously promised). It was all rather academic anyway due to the heavy cloud layers building up, causing an estimated 6 magnitudes of visual extinction (on top of 1 magnitude of extinction due to local mosquitos).

Undaunted, I searched with the Clark until I could just barely make out the full Moon. I tried calling out to the other nearby stations that I had discovered the Moon but the melodious tones of WWV masked my screeching. A few accurately tossed rocks got their attention. Finally we all settled down to watching the Moon but I never did see the 21st magnitude star. I could hear the cries of "OUT", "IN", "BLINK", "MISS" and "FLASH" all up and down the observing line as we recorded the passage of clouds over the Moon. In all, it was an exciting time and it was over all to soon. It would have been a much better graze, if that bright Moon hadn't been so close to the star.

I look eagerly to the next graze expedition and have been pestering the expedition leader for more details on when it is and where my observing station will be. Finally he relented and said, "Why don't you just go out beyond Yuma someplace in July, about Noon some day"? I have it marked on my calendar.

SAN JOSE ASTRONOMICAL ASSOCIATION 1985 MEMBERSHIP

Ahl	Tom	1260 Butterfly Dr.	San Jose, CA. 95120	(408) 997-1383
	Bill	P.O. Box 307	Pahala, HI. 96777	
Albrecht	Norris M.	1337 Carlos Ave.	Burlingame, CA. 94010-2	(415) 344-9683
Allen Jr.	Dave & Mary	816 Everett Dr.	El Cerrito, CA. 94530	(415) 524-0869
Ambrose	Cliff	221 Easy St.	Mt. View, CA. 94045	(415) 964-6084
Anderson	David & Vilma	35747 Ellmann Pl.	Fremont, CA. 94536	
Anderson	John	17 Maple Dr.	Colts Neck, NJ. 07722	
Bally	David	190 Mc Peak Ct.	Tracy, CA. 95376	(209) 863-1021
Barosso	Richard	1520 Santa Maria	San Jose, CA. 95125	(408) 264-4320
Barrett	Paul	14666 Berry Way	San Jose, CA. 95124	(408) 377-0148
Barton	Gene	1245 Snow St.	Mountain View, CA. 94041	
Bateman	Jim	912 ElCamino Real #3	Burlingame, CA. 94010 (415)	347-2267
Baumgardt	Trudy	11 W. Riverside Dr. Suite 14M	New York, NY. 10023 (212)	874-4025
Bell	Richard L.	3379 Brittan #2	San Carlos, CA. 94070 (415)	592-4253
Bennett	Richard	693 Valley Way	Santa Clara, CA. 95051 (408)	241-6923
Berrito	Pat	585 Dartmouth Ave.	San Carlos, CA. 94070 (415)	592-2166
Black	Robert H.	12345 El Monte Rd.	Los Altos, CA. 94022	
Bonneau	Lee	20840 Scenic Vista	San Jose, CA. 95120	(408) 268-7890
Bowman	Matt	2271 Mesa Verde	Milpitas, CA. 95035	(408) 946-0144
Bradley	Thomas O.	814 S. Saratoga Ave.	San Jose, CA. 95129	(408) 249-4019
Braniff	Fred	Ralph	Sunnyvale, CA. 94086	(408) 730-8639
Breitling	Thomas & Carol	#201 W. California Ave. #1407	Cupertino, CA. 95014	(408) 252-7073
Bridge	Carl D.	10395 Judy Ave.	Sunnyvale, CA. 94087	(408) 735-0244
Brown	Tony	777 S. Matilda Ave. #282	Cambell, CA. 95008	(408) 378-4716
Bueno	Robert	1590 Peacock Ave.	Sunnyvale, CA. 94087	(408) 245-3762
Caldwell	Ron	6106 Cecala Dr.	San Jose, CA. 95120	(408) 268-3199
Carmichael	Gary	1250 Fremont Ave.	Los Altos, CA. 94022	(408) 969-6370
Cervo	Richard&Carrie	692 Bolivar Dr.	San Jose, CA. 95123	(408) 227-3924
Chelberg	William	367 - 21 ST Ave.	San Francisco, CA. 94121	(415) 752-9420
Cherrington	William	5357 Taft Dr.	San Jose, CA. 95124	(408) 358-2978
Chestnut	Tak Kee	8G Mcfarland House	Stanford, CA. 94305	(415) 857-1789
Cheung	Michael	12400 Maybury Rd.	San Jose, CA. 95123	(408) 923-0675
Christopherson	John & Jane	756 Reseda #2	Sunnyvale, CA. 94087	(408) 732-5578
Cincotta	Eugene	15840 E. Alta Vista Way	San Jose, CA. 95127	(408) 923-6800
Cisneros	Craig	1638 Glenhurst Dr.	San Jose, CA. 95124	(408) 448-4434
Congdon	George	1950 Cooley Ave TH-2	Palo Alto, CA. 94303	(415) 325-0305
Cook	David E.	3830 Magnolia Dr.	Palo Alto, CA. 94306	(415) 858-0327
Cooper	Paul	5744 Pontiac Dr.	San Jose, CA. 95123	(408) 225-5506
Cooper	Joe	160 Santa Rita Ave.	Palo Alto, CA. 94301	(415) 327-1105
Copson	Ray	22018 Ybarra Rd.	Woodland Hills, CA. 91364	
Coutchie	Peter	Box 4684	Berkley, CA. 94704	(415) 540-8978
Curzon	Pat	1701 W. Griffith Way	Fresno, CA. 93705	
Daniels				

Day 1475 Koch LN. (408) 266-8690
Bruce & Maria 7130 Point Dunes Ct. (408) 266-8690
George 12272 Via Roncole (408) 257-6658
John 2410 Woodland Ave. (408) 296-8559
William 5271 Dupont Ave. (415) 792-9206
Frank 710 Georgia Ave.
Daniel B. 1128 Alliston CT.
Gary 1475 Lewis ST.
Nick 2-2811 Eastcliff Dr. #4
Paul F. 301 Tradewinds DR.
Owen 4980 Pacheco Blvd.
Steve 4800 Oak Grove
Gregory 41 Ventura ST.
Mathew 594 Hickory PL.
James 1562 Parkview Ave.
Herman 23533 Treeview Trail
David 1703 Eisenhower Dr.
Bob P.O. Box 5754
Sam 340 Rio Verde Pl. #4
Andy 6045 Cheshbro Ave.
David D. 1290-24th Ave.
Bob 4668 Mossbrook Cir.
Sam 6858 Burnside Dr.
Richard 623 Giant Way
Jay P.O. Box 60357
Rick P.O. Box 1110
Clarence 5790 E. Tarpey Dr.
Funk 5716 Logan CT.
Kenneth 1486 Medallion Dr.
William H. John P.
Gimple 5361 Port Sailwood Dr.
Gleason 2113 Bohannon Dr.
Goodwin 1123 Villa ST.
Gottlieb 155 San Carlos
Peter 10870 Stelling Rd. #30A
Richard 5624 Rudy Dr.
Daniel 422 Concord Dr.
Steven P.O. Box 292
Steve 10310 Broadview Dr.
Andrew 10310 Broadview Dr.
Joseph A. 5405 Entrada Cedros
Wolf & Martha 1815 Cleveland Ave.
Ronald L. 10941 Miguelita Rd.
Gary 1106 Alliston Way

San Jose, CA. 95125 (408) 266-8690
San Jose, CA. 95139
Saratoga, CA. 95070 (408) 257-6658
San Jose, CA. 95128 (408) 296-8559
Newark, CA. 94560 (415) 792-9206
Sunnyvale, CA. 94086
San Jose, CA. 95120 (408) 266-8690
Santa Clara, CA. 95050 (408) 244-3245
Santa Cruz, CA. 95062 (408) 262-0209
San Jose, CA. 95123 (408) 226-3538
Pacheco, CA. 94553
Pasadena, CA. 91109
Half Moon Bay, 94019 (408) 728-3286
Santa Clara, CA. 95051 (408) 985-2232
San Jose, CA. 95130 (408) 374-5491
Los Gatos, CA. 95030 (408) 353-3933
Santa Clara, CA. 95054 (408) 988-8369
San Jose, CA. 95150 (408) 723-8000
Milpitas, CA. 95035 (408) 263-4455
San Jose, CA. 95123 (408) 225-0504
San Francisco, 94122 (415) 661-8660
San Jose, CA. 95130 (408) 866-4658
San Jose, CA. 95120 (408) 268-6844
San Jose, CA. 95127 (408) 259-9645
Palo Alto, CA. 94306 (415) 321-3150
San Juan Bautista
Fresno, CA. 93727
Sunnyvale, CA. 94087 (408) 245-0802
San Jose, CA. 95120 (408) 268-7967
Newark, CA. 94560 (415) 790=9250
Santa Clara, 95050 (408) 248-1854
Mt. View, CA. 94040
El Cerrito, CA. 94530 (415) 524-4678
Cupertino, CA. 95014 (408) 973-8167
San Jose, CA. 95124 (408) 269-7028
Menlo Park, CA. 94025 (415) 322-5080
Livermore, CA. 94550 (415) 443-6638
San Jose, CA. 95127 (408) 272-7975
San Jose, CA. 95123
San Jose, CA. 95126 (408) 998-0861
San Jose, CA. 95127 (408) 258-0449
San Jose, CA. 95120 (408) 997-7657

Herrell Jr. James M.
Herschkorn Jr. John A.
Hethcoat Gary D.
Hodges J.C.
Holland Frederic
Horne Jeff
Horton Alfred
Howell Jerry
Jensen Evan A.
Johnson Benard V.
Jones Gerald L.
Jones Dennis
Jones Patrick
Kinney Edward
Kissinger Steven M.
Klausner David
Klein Fred
Kuhlman Howard
Lechner George
Leitner Harry O.
List David A.
Lohnmann James L.
Long Aloysius
Loos Jim
Lumley Art
Machholz Don & Laura
Malm Richard
Malm Robert
Mancuso Paul
Mandel Steve
Mangan Roland
Manly Peter L.
Marling Jack
Marlowe Marshall B.
Marrotte Gary
Massey Connie
McCardle Doug
McKelvey Kim
McMahon James H.
Medlock Kevin & Denni
Merrell Peggy
Metz Joseph

828 Opal Dr. #2
1255 Echo Valley Dr.
1559 Wolfe Rd.
856 Jasmine Dr.
17345 Grosvenor Ct.
5051 Longford Rd.
792 Wildose LN.
1489 San Marcos Dr.
2260 Tioga Dr.
365 Manila Dr.
1014 Katrine Ct.
#13 Gainford Gardens Mosten
1495 DE Rose Way #214
22408 Balsterol CT.
1575 Tenaka Pl K-5
1671 McBain Ave.
12225 Magdalena
311 Duarte CT.
389 Sposito Circle
425 Hazelwood Dr.
5829 Laguna Seca Way
788 Coffeewood Ct.
344 2nd Lane
13680 Rossmere Ct.
8158 White Rd.
5234 Camden Ave.
1556 Monteval LN.
299 Langton Ave.
1665 Arizona Ave.
235 Auburn ST.
2420 Pacific Dr. #45
1533 W. 7th Street
891 Laguna St.
13268 Via Rancho Ct.
3363 Methillhaven LN.
1 Weatherly Dr. #307
1576 Hallenbeck Ave. #7
684 S. Garland Terrace
P.O. Box 1783
15022 Boradway Terr.
182 Nat Sci.11, UCSC
150 Milmar Way

San Jose, CA. 95117
San Jose, CA. 95120 (408) 997-0434
Sunnyvale, CA. 94087 (408) 730-9781
Monte Sereno, CA. 95030
Huber Heights, OH. 45424 (513) 237-0816
Blackfoot, ID. 83221 (208) 785-0721
San Jose, CA. 95132 (408) 258-3312
Menlo Park, CA. 94025 (415) 854-3798
San Jose, CA. 95119 (408) 972-0535
Sunnyvale, CA. 94087 (408) 732-3397
Manchester, England M109GM
San Jose, CA. 95126 (408) 297-9330
Cupertino, CA. 95014
Sunnyvale, CA. 94087 (408) 737-0846
San Jose, CA. 95125 (408) 264-8015
Los Altos, CA. 94022 (415) 948-5398
Milpitas, CA. 95035 (408) 262-6348
San Jose, CA. 95136 (408) 226-7262
So. San Francisco 94080 (415) 583-9444
San Jose, CA. 94080 (408) 227-9403
San Jose, CA. 95120 (408) 997-2653
So. San Francisco (415) 952-8660
Saratoga, CA. 95070 (408) 867-1264
Sabastapol, CA. 95472
San Jose, CA. 95124 (408) 448-7077
San Jose, CA. 95120 (408) 268-3461
Los Altos, CA. 94022 (408) 941-1343
Milpitas, CA. 95035 (408) 946-0738
Santa Cruz, CA. 95060 (408) 425-0930
Santa Clara, CA. 95051 (408) 984-7628
Tempe, AZ 85281 (602) 966-3920
Livermore, CA. 94550 (415) 447-9570
Saratoga, CA. 95070 (408) 867-1569
San Jose, CA. 95121 (408) 238-6523
Mill Valley, CA. 94941
Sunnyvale, CA. 94087 (408) 749-8509
Ridgecrest, CA. 93555
Oakland, CA. 94611 (415) 654-6796
Santa Cruz, CA. 95064
Los Gatos, CA. 95030 (408) 984-8100

Miller	Bob	3060 Dryden Ave.	Gilroy, CA. 95020	(408) 926-7377
	David	987 Shadow Brook Dr.	San Jose, CA. 95120	
	Brian	2828 Poindexter Ct.	San Jose, CA. 95133	251-8419
	Rita	7764 Hazenut PL.	Newark, CA. 94560	(415) 797-9916
	Jim	8149 Park Villa CL.	Cupertino, CA. 95014	(408) 255-7030
	Molinari	5336 Harwood Rd.	San Jose, CA. 95124	(408) 269-7466
	Moore	622 Iroquois CT.	San Jose, CA. 95123	(408) 225-6762
	Moshier	1765 Constock LN	San Jose, CA. 95124	(408) 269-4097
	Mund	2239 Bikini Ave.	San Jose, CA. 95122	
	Munro	1060 Terra Nobel Way	San Jose, CA. 95132	251-6816
	Nafarrate	190 Rose CT.	Campbell, CA. 95008	(408) 378-4488
	Neinchel	680 Alberta Ave. #L	Sunnyvale, CA. 94087	(408) 749-1176
	O'Brine	20832 Greenleaf Dr.	Cupertino, CA. 95014	(408) 446-3450
	Olson	14896 Standish Dr.	San Jose, CA. 95124	(408) 377-1092
	Page	2355 Pilot Knob Dr.	Santa Clara, CA. 95051	(408) 246-5678
	Palmer	2600 Sente Rd. #3	San Jose, CA. 95111	(408) 286-1343
	Parker	27 Morning Sun Ave.	Mill Valley, CA. 94941	
	Parlette	Ralph	Santa Clara, CA. 95050	(408) 241-0663
	Parmeter	Larry	Saratoga, CA. 95070	
	Pecora	Vince & Deanne	San Jose, CA. 95134	
	Peña	P.O. Box 2426	Milpitas CA. 95035	(408) 262-1457
	Peterson	4271 N. 1st St. #124	San Jose, CA. 95129	(408) 252-3609
	Pini	1840 Yosemite Dr.	Cayucos, CA. 93430	
	Pinheiro	1356 Longfellow Way	San Jose, CA. 95129	262-1457
	Poulos	332 Montezito Dr. #A	San Jose, CA. 95129	
	Peterson	1840 Yosemite Dr. #A	San Jose, CA. 95123	252-2105
	Pratt	5353 Lassen Ave.	San Jose, CA. 95123	
	Pinni	Cathy	San Jose, CA. 95111	(408) 629-2994
	Poulous	Ernest W.	130 Cracker Dr. L201	972-0184
	Poulos	Darwin	1510 Van Dusen LN.	(408) 378-5392
	Pryor	Chris & Shea	4158 Rosenbaum Ave.	
	Pryer	Joseph F.	1018 Harlan Court.	
	Quignon	Ernie	5 South Pueblo St.	
	Rands	Donald	4200 Farm Hill Blvd.	
	Rattley	Richard D.	18312 NE 25th ST.	
	Reis	Gerald W.	1833 Redwood Ave.	
	Rhodes	Rick	Redwood City, CA. 94061	(415) 366-6705
	Rice	John D.	Vancouver, WA. 98664	
	Rivera Jr.	Gary & Jackie	Redwood City, CA. 94061	
	Roemer	Thomas	San Jose, CA. 95112	(408) 251-4524
	Rose	1328 Old Park PL.	Santa Clara, CA. 95051	
	Rosing	3398 Creighton PL.	San Jose, CA. 95112	293-6611
	Roth	Phyllis	Los Gatos, CA. 95030	(408) 354-2507
	Russo	Wayne&Jo-Anne	San Jose, CA. 95123	578-4768
	Ryan	James P.	Fremont, CA. 94539	(415) 791-2706
	Schneer	Robert	1001 Sioux CT.	
	Sanford	Michael T.	Santa Clara, CA. 95051	
		David & Joy	Sunnyvale, CA. 94087	
		John	Orange, CA. 92667	
			2215 Martha Ave.	
			1352 Kingfisher Way #31	

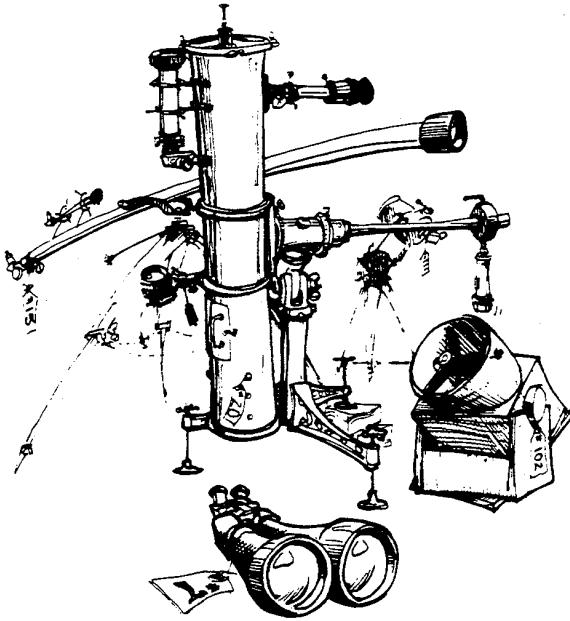
Schell	Ed	P.O. Box 1345 22449 Cupertino Rd.	Los Gatos, CA. 95030 Cupertino, CA. 95015	(408) 356-7498 (408) 446-4265
Schiffmann	Mary	Apt c-125 344 Westline Dr. 14327 Corvallis ST.	Alameda, CA. 94501 San Leandro, CA. 94579	(415) 523-8431 (415) 352-2327
Schoendorff	Walt	P.O. Box 6	Los Altos, CA. 94022 La Honda, CA. 94020	(415) 967-6049 (415) 851-3493
Schumacher	Fred	Star RT.2 Box 408	Oakland, CA. 94618 Santa Clara, CA. 95050	(415) 547-6523
Seefried	Helene	5248 Lawton Ave.	San Jose, CA. 95133 San Jose, CA. 95129	(408) 251-3808 (408) 257-0947
Seefried	Ronald	2201 Monroe St. #404 392 Ann Darling Dr.	Moraga, CA. 94556 San Jose, CA. 95111	(415) 376-3007 (408) 244-8693
Sperling	Norm	4949 Englewood Dr.	San Jose, CA. 95148 Richmond, CA. 94804	(408) 238-5530 (415) 235-9513
Spoecker	Robert R.	731 Camino Ricardo	Richmond, CA. 94804 San Jose, CA. 95129	(415) 235-9513 (408) 252-8016
Stavolone	Thomas	E-206 3915 Seven Trees Blvd.	Santa Clara, CA. 95050 Cupertino, CA. 95014	(408) 241-2125
Steps	Steven&Diana	3883 Balcom Rd.	San Jose, CA. 95124 Los Altos, CA. 94022	(408) 371-1307
Stone	Donald	5916 Orchard Ave.	Palo Alto, CA. 94301 San Jose, CA. 95124	(415) 327-3158 (415) 574-1621
Sunseri	Joseph	1037 Harlan Dr.	Menlo Park, 94025 San Lorenzo, 94580	(415) 325-4166 (415) 278-3335
Sutorius	Michael	2492 Karen Dr. #23	Hayward, CA. 94545 San Jose, CA. 95124	(415) 786-2967 (408) 267-4133
Takahashi	Allen	21250 Stevens Creek Blvd.	26638 Jamaica Lane 387 Hedge Rd.	(408) 629-8712
Tanner	Eve	3509 Calico Ave.	1671 Via Rancho 1671 Via Rancho	(408) 244-7610
Thometz	Alan	885 Laverne Wy.	26638 Jamaica Lane 5291 Eirose Ave.	
Trejo	Paul	168 Waverly #7	3914 Leigh Ave.	
Van Nuland	James	3914 Leigh Ave.	387 Hedge Rd.	
Vann	Marvin	168 Waverly #7	1671 Via Rancho	
Vanzant	Donald E.	387 Hedge Rd.	26638 Jamaica Lane	
Waldee	Stephen R.	1671 Via Rancho	5291 Eirose Ave.	
Wallace	Donald G.	26638 Jamaica Lane	365 Madison Dr.	
Walton	Ron	5291 Eirose Ave.	609 N. Genevieve LN.	
Watts	Earl	365 Madison Dr.	Mike & Jeani	
Webster	Larry	609 N. Genevieve LN.	J.D. Box 1528	
Weinberg	Edward	Mike & Jeani	Box 9651	
Weisenstein	Daniel L.	J.D.	7557 Orange Blossom Dr.	
Welch	Wells	Box 9651	33050 LK. Wawasee ST.	
Wild	Norman	7557 Orange Blossom Dr.	2193 Hogan Dr.	
Williams	Dale W.	33050 LK. Wawasee ST.	800 Richmond Ave.	
Witkowski	Jim	2193 Hogan Dr.	2961 #3 Magliocco Dr.	
York	David O.	800 Richmond Ave.	21260 Glenmont Dr.	
Zeiders	Jack	2961 #3 Magliocco Dr.		
Zimmer	Jerry W.	21260 Glenmont Dr.		

New Members and Late Renewals

Belleville	Logan M.	13201 NE. Salmon Creek Ave.	Vancouver WA. 98665
Damisch	Peter W.	1045 Mazzzone Dr.	San Jose, CA. 95124 (408) 997-2657
Pura	Dave	494 Irving Ave.	San Jose, CA. 95128 (408) 292-8977
Rappaport	Fred	236 Manley Ct.	San Jose, CA. 95139 (408) 629-8146

THE
SAN JOSE ASTRONOMICAL ASSOCIATION'S

5TH
ANNUAL



ASTRONOMICAL AUCTION

SATURDAY MAY 4

6:00 PM

DOORS WILL OPEN AT 2:00 PM

THE LOS GATOS RED CROSS BUILDING
16011 Los Gatos Saratoga Road

TELESCOPES, EYEPIECES, MOUNTINGS, MIRRORS, LENSES, CLOCK DRIVES, BOOKS, CAMERA EQUIPMENT, STAR CHARTS, FINDERS, TUBES, DIAGONALS, PHOTOGRAPHS, SPACE ART - everything you need to make your hobby more enjoyable. You name it - it's likely to be there. Check your garage and closets for anything astronomical you would like to sell. Complete the pre-registration information form on back and save time and trouble. Anyone can buy and sell! It's fun and it's easy!

SEE YOU AT ONE OF THE BIGGEST AND MOST FUN ASTRONOMICAL EVENTS IN THE BAY AREA!

PRE-REGISTRATION INFORMATION

The 5th Annual Bay Area Astronomical Auction is approaching so now is the time to start looking around for those items not earning their space, or brought back from Riverside, or whatever is astronomical or telescope-making related that you would like to earn some \$\$ from.

Pre-registration by mail makes it easy. Fill out the form or a copy of it. List each different item you have. If you have several identical items, use a single line and put in the quantity. Give a minimum price, even if you are willing to let it go really cheap. Indicate the percentage of the selling price to go to the SJAA (minimum 10%). If you didn't pay much for it anyway you may wish to make it an outright donation. Thank you. All proceeds from the auction go to further public education in astronomy.

Next, and MOST important, mail the form, with a SASE, to Jim van Nuland, 3509 Calico Ave, San Jose, CA. 95124. You might keep a copy of it, too. Jim will assign your bidder/seller and item numbers, and will get the form back to you quickly. That's a promise.

You will then have the numbers to label everything before the day of the auction. Use stickers given to indicate the item number, at least. If you have large stickers sent back, include the minimum bid, too. It helps the auctioneer work smoother.

If you find another box of things, just send in another form. Include the bidder number from the first one. If you find more of something you'd already registered, give the number of the first, indicate the number to be added, and give the same description.

If you don't include the SASE, Jim will assign the numbers and hold the form. You can pick it up when you arrive at the auction and then get busy labeling your goodies then.

In any case, Jim will have all the stuff hammered into the computer before auction day, so there will be no backlog and, for those who pre-register, no delays. Priority on auction day will be given to assigning bidder numbers, ---item registration will be done as time permits. So get the forms to Jim.

Directions to the auction:

Take Hwy 17 south towards Santa Cruz. Take the Highway 9 (Los Gatos-Saratoga Rd) exit and continue onto Los Gatos-Saratoga Rd. Travel about a mile to Rose Avenue and turn right. Turn right immediately into the Red Cross buildings parking lot. (16011 Los Gatos-Saratoga Rd). Plenty of parking and easy loading and unloading access!

Doors open at 2 PM for registration of items and bidders. There will be no item registration past 5:45 PM. Auction starts promptly at 6 PM. Items may be paid by cash or check. There will be a \$1 bidder/seller registration fee at the door. Refreshments will be available!

COMET COMMENTS

BY: DON MACHHOLZ

No new comets have been discovered, nor returning comets recovered during the past month. Two comets are visible, though: Comet Levy-Rudenko is now in the evening northern sky and Comet Shoemaker (1984f), discovered nine months ago, is finally brightening in the morning sky.

Two fainter comets are visible too: Periodic Comets Tsuchinshan (1984p) and Schaumasse (1984m). They are growing dimmer at roughly magnitude 11, call me if you want positions for them.

As I mentioned in December 1984 of this column, the "Past Discoveries" installments of 1983 and 1984 were being updated (five comets added) and (tripled in size), and would appear in booklet form soon. This is now available from me, the cost is \$8.00, ppd. (without postage it's \$7.00) It runs 115 pages and covers comets discovered by amateur astronomers between 1975 and 1984.

DATE R. A. (1950) DEC. ELONG. MAG.

Comet Levy-Rudenko (1984t)

02-24	09h 03.9m	+59° 16'	128°	9.8
03-01	08h 40.9m	+51° 43'	129°	10.1
03-06	08h 26.1m	+45° 03'	128°	10.5
03-11	08h 20.9m	+39° 22'	126°	10.9
03-16	08h 17.0m	+34° 36'	123°	11.3
03-21	08h 15.3m	+30° 36'	119°	11.6
03-26	08h 15.0m	+27° 15'	115°	12.0
03-31	08h 15.9m	+24° 23'	111°	12.3
04-05	08h 17.5m	+21° 56'	107°	12.7

This comet is pulling away from the sun (1.6 to 2.0 AU this month) and from the earth (0.8 to 1.4 AU). It may be slightly brighter than indicated. This will be our last chance to see this comet.

Comet Shoemaker (1984f)

02-24	16h 08.8m	-24° 05'	90°	11.8
04-06	16h 03.1m	-26° 08'	101°	11.5
03-16	15h 53.4m	-28° 24'	112°	11.3
03-26	15h 38.8m	-30° 50'	124°	11.0
04-05	15h 18.2m	-33° 18'	137°	10.8

This comet is 3.2 AU from the sun and 2.7 AU from the earth at mid-month. It moves from near M 80 through S. Libra. It should brighten to mag 10.3 in May as it moves further south.

WHAT GOES AROUND COMES AROUND

This month we'll cover several aspects of Halley's comet. It is slowly brightening in the evening sky as it continues to move towards the sun while the earth moves away from it. These distances are listed below in millions of miles. The comet will be equidistant from the earth and sun on March 11.

The comet remains near the border of Orion and Taurus, and, since the 11th until late July. It will move only about 2 degrees all month.

DATE R.A. (1950) DEC. DIS. TO SUN AND EARTH

02-24	04h 58.2m	+13° 24.2'	443.9	418.9
03-01	04h 56.0m	+13° 35.4'	439.4	422.7
03-06	04h 54.2m	+13° 47.0'	434.9	426.6
03-11	04h 52.9m	+13° 59.0'	430.4	430.5
03-16	04h 51.9m	+14° 11.3'	425.8	434.3
03-21	04h 51.3m	+14° 23.8'	422.0	438.0
03-26	04h 51.1m	+14° 36.6'	416.6	441.5
03-31	04h 51.2m	+14° 49.4'	412.0	444.6
04-05	04h 51.6m	+15° 02.4'	407.3	447.4

As for its brightness, some sources state that it should be 16th magnitude by mid-month. This implies a fully-active coma, or head, of the comet. Latest observations, however show the comet to be quite small, about 25 seconds of arc across, with the coma reflecting more light than it is emitting. Estimates in early Feb. place it at roughly magnitude 20, but this varies by about 2 magnitudes over a period of roughly a day. This variability may be due to rotation, possibly also it's due to comet behavior we don't yet understand. As the comet warms the coma will brighten tremendously, becoming mag. 13 by this August. By then Halley's Comet will be in our morning sky and visible in amateurs' scopes.

For those of you with computer programs for comet ephemerides, here are the orbital elements for Halley's comet from IAU Cir. 3767, determined by D. Yeomans.

Peri date: 1986 Feb. 09.44394
Arg. of Peri: 111.84804 deg.
Inclination: 162.23930 deg.
Aphelion (a): 17.94104 AU.
Peri. Dis. (q): 0.5871045 AU.
Ascending node: 58.14538 deg.
Eccen.: 0.9672759

For magnitude, Norris and Bortle suggest:

Absol. Mag. 3.1, "n"=3.1

It is not too late to become involved in gathering data on Halley's Comet for use in a world-wide study. International Halley Watch can be reached at:

Steve Edberg
Jet Propulsion Laboratory
Calif. Institute of Technology
4800 Oak Grove Drive
T1166 B4
Pasadena, CA. 91109

Some additional sources of information are available for those interested in comets. Each serve a different purpose, all are quite useful.

The INTERNATIONAL COMET QUARTERLY is published four times a year and contains comet observations, articles and ephemerides. It is yours for \$8.00 a year (payable to INTERNATIONAL COMET QUARTERLY) from:

Daniel Green
Smithsonian Observatory
60 Garden St.
Cambridge, Mass. 02138

The International Astronomical Union issues about 80 circulars each year, these transmit data on comets, astroides, novae, and deep space astronomy. They cost \$39.00/100 issues (payable to "central Bureau for Astronomical Telegrams") and you can get them from:

Central Bureau for Astronomical Telegrams
Smithsonian Astrophysical Observatory
Cambridge, Mass. 02138

Then there's the "Comet News Service", quarterly newsletters with interesting reports about new comets and articles on comets in general. You can get this for \$5.00/yr. (Payable to "Comet News Service") from:

Comet News Service
P.O. Box TDR, No. 92
Truckee, Calif. 95734

SPACE PROGRAM UPDATE

BY: BOB FINGERHUT

SHUTTLE MISSION 51-C COMPLETED

After a one day delay, due to an ice build up caused by the weather, Discovery was launched on Jan 23. After launch of its Department of Defense payload, it returned to land at the Kennedy Space Center on Jan 27. The IUS, which was used to boost the payload, was said to have performed well.

SHUTTLE MISSION 51-E DELAYED TO MARCH 3

The mission has been delayed to allow additional time for replacement of thermal insulation tiles. The tiles were removed for repair of the screed, which is used to smooth the surface of the orbiter. When Challenger flies, United States Senator Jake Garn will be aboard. He has been added as a payload specialist and will participate in studies of space sickness and the shuttle toys, physics education demonstration. Also aboard will be the second Tracking and Data Relay satellite and the Telesat-I communications satellite.

SHUTTLE ORBITER FLEET TO GROW

The orbiter, Atlantis, is scheduled for delivery to Kennedy Space Center in April. The orbiter Columbia is being updated and will be returned in early July.

DISCOVERY SCHEDULED FOR ANOTHER LAUNCH MARCH 19

The mission, 51-D, is to deploy the Syscom iv-3 communications satellite and retrieval of the Long Duration Exposure Facility.

JAPANESE HALLEY MISSION LAUNCHED

MS-T5 was launched toward Halley's comet on Jan 8th. Its purpose was to test the new Nissan Motors MU-35-2 launch vehicle. It will also provide solar wind data when near Halley's comet. The primary Japanese Halley spacecraft, Planet-A, will be launched on the same type of booster on August 14, 1985.

EUROPEAN NATIONS APPROVE A 10 YEAR SPACE PROGRAM

The program includes development of a heavy lift Ariane launcher and participation in the U.S. space station. The heavy lift booster, Ariane 5, will use the HM60, large cryogenic engine which ESA is developing. ESA's contribution to the U.S. space station project will be the Spacelab that will orbit with but separate from the station. The Hermes mini-shuttle was not approved, but the French were told to keep ESA informed of progress so that it could be approved as soon as it is feasible.

EXTREME ULTRAVIOLET EXPLORER SATELLITE INITIATED

NASA began this project last August. Its objective is to develop the first all-sky map in the extreme ultraviolet band of the electromagnetic spectrum.

NASA BUDGET SENT TO CONGRESS

The budget request includes money for development of a Mars Geoscience/ Climatology Orbiter and a new start for an Orbital Transfer Vehicle. The Mars mission would be launched in 1990.

**SJAA EPHEMERIS
3509 CALICO AVE
SAN JOSE, CA 95124**

**BULK RATE
U.S. POSTAGE PAID
PERMIT NO. 5381
SAN JOSE, CA. 95125**

**TIME VALUE-DATED
NEWS MATERIAL**