SAN JOSE ASTRONOMICAL ASSOCIATION

SJAA

EPHEMERIS

AUGUST 1984

FROM THE EDITORS DESK

BY: JOHN GLEASON

I want to extend my appreciation to those members who have given me positive feedback on the new Ephemeris. Would you believe that the club saved nearly 50% the printing cost over the June issue by using the new format!

Special thanks to those of you who submitted articles this month; Steve Gottlieb, Jim Van Nuland, Don Machholz, Bob Fingerhut.

There is a special event to take notice of this month. In light of the summer vacation season, the board members have decided to have a special star party at Marriott's Great America on August 4th. This will be a day long affair to include solar observing during the day and lunar and planetary observing during the evening hours. If you would like to attend and bring a telescope, you will need to contact Frank Dibble at (408) 735-9597. If you are wondering what it is like to spend 14 hours at Marriotts with a telescope, then please read this months article on Great America.

In last months editorial I mentioned experimenting with Fujichrome 400 in the cold camera and then processing it as a negative. This was done to see if it compaired to hypersensitized filmed processed in the same manner. The first results with the cold camera are quite phenomenal! There will be a complete report in an up-comming issue of the Ephemeris.

GREAT AMERICA

July 7th found 12 members of the SJAA set up with telescopes in Hometown Square at Marriott's Great America. With attendance of around 25000 by late afternoon, the SJAA had demonstrated their astronomical expertise to about 5000 interested people who came by to look through and talk telescopes. Probably the most ask question of the day was; How much was that telescope?. By the end of the day C14's were going for $10,000 and Questar's for around $5,000. I personally enjoyed the comments from people about how much better the view was through the Questar over the views through those "Orange" telescopes, despite the comments from Frank Dibble about "toy" telescopes. Most people could not believe what they were seeing and thought we had pictures inside the telescopes. There will be another opportunity for SJAA members to set up their telescopes for the public at Great America on August 4th. If you are interested in participating then please contact Frank Dibble at (408) 7359597. Also, the club owes special thanks to Frank for doing the footwork in organizing these star parties at Great America for the past 2 years.

LAST CALL FOR MEMBERSHIP RENEWALS

If you have not renewed your membership yet, than this will be your last Ephemeris. Please send renewal form, remittance, and if you want to renew Sky & Telescope, thier white notice card, to: Bob Fingerhut, Treasurer, SJAA, 340 Rio Verde Pl. #4, Milpitas, Ca. 95035. (408) 263-4455. Thanks!

EVENTS CALENDAR

AUGUST 4

This will be a special star party at Marriott's Great America. If you are interested in attending, than you will need to contact Frank Dibble who will need to make up a list of people attending. (see editorial/article)

AUGUST 11

Indoor star party at the Los Gatos Red Cross building. (see map)

AUGUST 18

SJAA Board of directors meeting at the Los Gatos Red Cross building. (see map) All members welcome to attend.

AUGUST 25

Summer star party at Fremont Peak state park. (see map) Enjoy a warm evenings observing under dark skys at the Bay Area's "Astronomy Park". You can usually find 50 - 100 amateur astronomers and as many telescopes at these summer star parties. This is an excellent opportunity for beginners to check out and use various types of telescopes before making the big purchase for that Takahashi Fluorite Refractor!

SEPTEMBER 1

Star party at Grant Ranch county park. (see map) This is a first quarter moon and planet party. This will be a good opportunity for members to check out this new observing site if they have not already. The park is close to the San Jose area, and the SJAA is considering this location for an observatory site

SEPTEMBER 8

Equipment and slide night at the Los Gatos Red Cross Building. This usually well attended function allows members to show off recent astrophotos, slides of astronomical events, and telescopes. There will be telescopes set-up in the parking lot for observing. Ed. note: I personally encourage members to bring and show off their equipment and astrophotos. These are the kind of meetings that get beginners turned-on to astronomy. I can remember the first equipment night that I attended, the rest is history.

ASTROMART

FOR SALE: C8 with coatings, tripod/wedge, dual-axis drive corrector, offaxis guider, cold camera, and much more. $800/offer
CONTACT: Gary Hethcoat (408) 730-9781, evenings.

SPACE UPDATE

BY: BOB FINGERHUT

NEXT TWO SHUTTLE MISSIONS COMBINED

The first launch of the shuttle orbiter Discovery is now planned for August 24. In order to put the program back on schedule, Discovery's first two missions will be combined into one. The manifest will include a Leasat communications satellite, an experimental solar panel, and a miniature drug factory from the original first flight, and two communications satellites from the second.

Postponed are the flight of a large Earth-mapping camera, the Spartan astrophysics observatory, and a second Leasat setellite. The Leasat will be added to an October flight.

The first day that Discovery's launch was cancelled has been traced to a liquid contaminant on a transistor in one of the computers. The cause of the shut down, four seconds before launch the next day is still under invistigation. The number 3 engine, whose main fuel valve failed to open, has been replaced with the one removed from Discovery June 15, due to a delaminated heat shield. It has been repaired. The number three APU was also removed due to a leak in one of the pump fillings which had worsened since the flight readiness firing on June 2.

NOAA-8 TUMBLES OUT OF CONTROL

The NOAA-8 weather satellite launched in March 1983 has been tumbling since June 30 and can no longer be controlled. The problem is with onboard clock interruptions which allow its stabilizing gyroscopes to desyschronize. Its weather environment monitoring functions have been transferred to NOAA-6. The failed NOAA-8 also carrries a Sarsat search and rescue payload.

SPACE PRODUCT GOES TO MARKET

NASA has signed an agreement to supply the National Bureau of Standards with uniform latex spheres produced on several previous space shuttle flights. The 10 micrometer polystyrene spheres will be used to determine relative sizes of objects under microscopes and to calibrate filters, particle counters, and porous membranes. The Bureau of Standards will sell the spheres in packages of 15 million for $300 to $400.

GIOTTO SENT TO FRANCE FOR TESTING

The Halley's comet intercept spacecraft, Giotto, has completed electromagnetic and antenna pointing tests at Bristol England. It was shipped June 3 to Toulouse France to undergo Solar simulation, thermal vacuum, vibration, and acoustic tests. It will be shipped in early 1985 to Noordwijk Holland for final adjustments and then to Guiana Space Center for launch in July 1985.

DEEP SKY NOTES

BY: STEVE GOTTLIEB

Well placed for viewing in August is Delphinus, the dolphin, a small but obvious kite shaped asterism located east of Aquila. Though skirting the eastern border of the Milky Way, the Burnham Celestial Handbook and the Tirion Sky Atlas list only 4 deep sky objects. 2 planetary nebulae and 2 globular clusters. But referring to the more extensive RNGC and the Uppsala General Catolog of Galaxies (UGC), I found the region of Delphinus East of the Milky Way peppered with faint galaxies below the Burnham magnitude limit of 13. So, armed with a list of deep sky targets, I went hunting in this appealing region on June 29 in the Sierra foothills near Fiddletown, and tracked down a total of 11 objects within the borders of Delphinus.

NGC 6891: This mag. 10 planetary is very small (15"x7") but has a fairly high surface brightness and takes high power well. In the C8 at 100x, it appeared only as an out of focus blue star, but 200x clearly resolved the disk of this planetary.

NGC 6905: The second planetary in Delphinus is much easier to identify in this rich stellar region as its dimensions are 44"x38". In the C8 I recorded 6905 as moderately bright, uniform in surface brightness and slightly extended North - South. It is located along one side of a small isosceles triangle of stars.

NGC 6934: This small globular (1.5') is bright enough at mag. 9 to be visible in my 10x50 binoculars! At 200x, it was very mottled in the C8 and on the verge of resolution. Switching to my 13.1" Odyssey, 220x partially resolved the outer regions into 15 faint stars, mainly South of the core.

NGC 7006: At a distance of 185,000 light years from Earth, this globular lies at a distance comparable to the Magellanic Clouds. Because of the high degree of stellar concentration, it was still moderately bright in the 13" at mag. 11.4

The following table gives information on the objects not listed in Burnham's Celestial Handbook:

NAME	R.A.	DEC.	Mp	SIZE
NGC 6928	20h30.4'	09 45'	13.7	2.2'X0.6'
NGC 6930	20h30.6'	09 42'	14.3	1.2'X0.5'
NGC 6944	20h35.9'	06 49'	14.6	0.35'
NGC 6954	20h41.5'	03 02'	14.2	0.9'X0.5'
NGC 6956	20h41.6'	12 20'	13.5	1.7'X1.6'
UGC 11620	20h41.8'	12 14'	14.5	0.7'X0.4'
NGC 6972	20h47.6'	09 43'	14.3	1.2'X0.5'

The only person to respond to my query last month about IC 1257 in Ophiuchus was Herman Fast, who mentioned that it was faintly visible in a 16" telescope at Henry Coe Park 5 years ago.

Steve Gottlieb (415) 524-4678

THE UPCOMING PERSEID METEOR SHOWER

BY: Don Machholz

This year's installment of the annual Perseid meteor shower peaks in the early morning of Sunday, Aug. 12. Unfortunately the Moon will be Full just hours before and its moonlight will drown out all but the brightest meteors. Do not dispair, however, the mornings prior to Aug. 12 will have moonless moments when meteors should be more easily visible.

Late July and early August are full of meteor showers, and they are better seen in the morning sky. July 8 is the center of the Capricornids shower, this streatches until late August, and features slow, bright meteors. They seem to come from the constellation Capricorn. The hourly rate is 5-30 meteors.

July 29 is the center of the Delta Aquarids, a massive, spread-out meteor shower; it begins in mid-July and continues until late August. This continues until mid-September. The hourly rate is between 10 and 25.

When you add all these meteor showers to the Perseids, you end up with a lot of observable meteors. So beginning in early August and lasting until Aug. 11, get out there and observe these meteors. Not all will be from the famous Perseid stream, but, does it really matter anyway?

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.

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

SAN JOSE ASTRONOMICAL ASSOCIATION MEMBERSHIP APPLICATION

Name _____

Address _____

_____

Telephone (____) _____

Please bring this form to any SJAA meeting, or send to:
Jim van Nuland, Secretary
San Jose Astronomical Association
3509 Calico Avenue, San Jose, CA 95124

[Phone: (408) 371-1307]

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?

_____

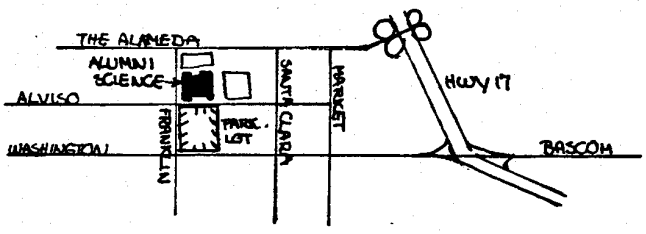
Is there any specific area of astronomy that you feel qualified to help others with? _____

_____

_____

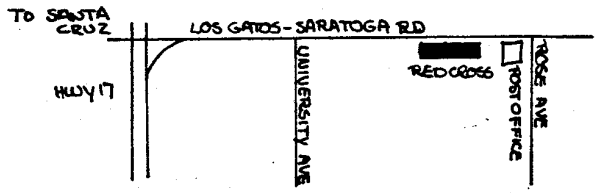
GENERAL MEETINGS:

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.



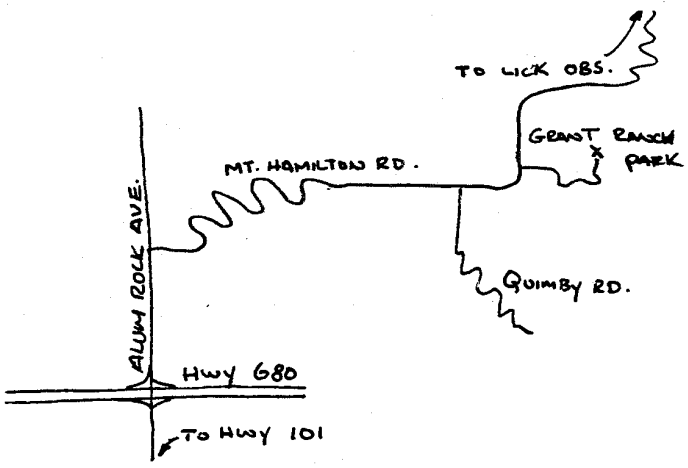
INDOOR STAR PARTIES:

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.



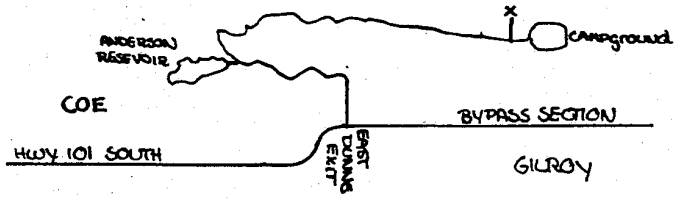
GRANT RANCH COUNTY PARK:

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.



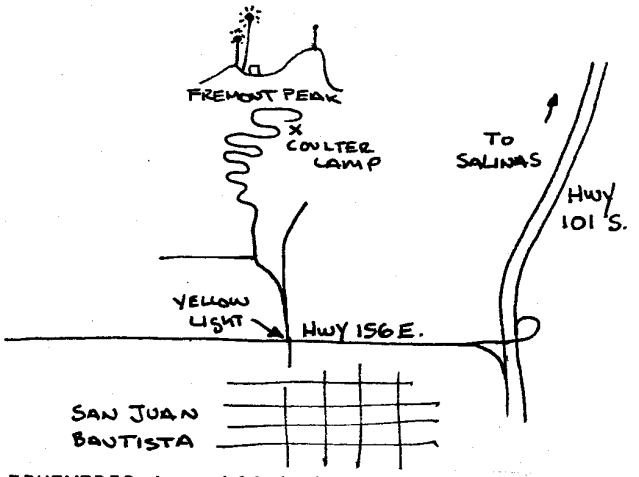
HENRY COE STATE PARK:

Take Hwy 101 south towards Gilroy and take the East Dunne exit. Continue east towards the hills (past Anderson Reservior) for about 12 miles to the park. Past the park entrance you will see old ranch buildings on the right and a horse trough. The gate is locked but the club combination is 4565. Always lock the gate after yourself. If arriving after dark, please park outside the gate and hike in first to find an observing site before driving in. Parking lights only after dark, please.



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.



EPHEMERIS is published monthly by the San Jose Astronomical Association, 3905 Calico Ave., San Jose, Cas, 95124

OFFICERS:

PRESIDENT	Dave Ambrose 816 Everett St., El Cerrito, CA. 94530 (415) 524-0869
Vice-Pres	Denni Medlock 15022 Broadway Terrace, Oakland, CA. 95124 (415) 654-6796
Sec.	James Van Nuland 3509 Calico Ave., San Jose, CA. 95124 (408) 371-1307
Treas.	Robert Fingerhut 340 Rio Verde Place, #4, Milpitas, CA. 95035 (408) 263-4455

BOARD OF DIRECTORS:

Paul Mancuso (408) 946-0738, Steve Greenberg (415) 443-6638, Tom Ahl (408) 997-1383, Gene Cisneros (408) 923-6800, Joe Sunseri, Chris Pratt (408) 629-2994

EPHEMERIS EDITOR: John Gleason 5361 Port Sailwood Dr.,Newark, CA. 94560

A.B. GREGORY AWARD

At the July board meeting nominations were taken and voted on for the Dr. A. B. Gregory award. The award is to be presented to a club member who has contribuited much to the SJAA in the past year. This years winner is Jim Van Nuland.

Jim has been a long time member of the SJAA. He has been our club secretary for many years and continues to be a driving force behind the senes for the SJAA. Jim is also well known for setting up the now famous SJAA Occultation star parties, and is a avid promoter of the apodizing screen for telescopes to improve astronomical "seeing". Jim is also a regular contribuitor to the SJAA Ephemeris. His Calico Observatory articles appear each month and cover a wide range of topics. CONGRADULATIONS JIM!

CALICO OBSERVATORY

JUPITER'S RED SPOT EPHEMERIDES

The critical requirement for successful Spot-watching continues to be seeing. With very steady air, the Spot is readily seen with an 8-inch, and probably with smaller instruments. Please drop me a card indicating your results. Include telescope size, magnification, seeing conditions, and a few words about your results.

Great Red Spot on Meridian -- PDT

da	mo	d	h	m		da	mo	d	h	m	
W	8	1	10	21	pm	Sa	8	18	9	26	pm
F	8	3	11	57	pm	M	8	20	11	4	pm
M	8	6	9	31	pm	Th	8	23	8	29	pm
W	8	8	11	3	pm	Sa	8	25	10	7	pm
Sa	8	11	0	48	am	M	8	27	11	45	pm
Sa	8	11	8	31	pm	Th	8	30	9	15	pm
M	8	13	10	17	pm	Sa	9	1	10	53	pm
W	8	15	11	55	pm	Tu	9	4	8	24	pm

Great Red Spot on Meridian -- PDT

da	mo	d	h	m		da	mo	d	h	m	
Sa	9	1	10	57	pm	F	9	21	7	31	pm
Tu	9	4	8	26	pm	Su	9	23	9	10	pm
Th	9	6	10	5	pm	F	9	28	8	16	pm
Tu	9	11	9	11	pm	W	10	3	7	31	pm
Su	9	16	8	28	pm	F	10	5	9	3	pm
Tu	9	18	10	4	pm	W	10	10	8	19	pm

Clear Skies,
Jim Van Nuland

COMET COMMENTS

BY: DON MACHHOLZ

A bright comet has recently been discovered, and two faint returning comets recovered in the past few weeks. The discovery is the second one by amateur astronomers for 1984, the average number of such discoveries each year since 1975 is three. We'll make a quick check on the position of Halley's Comet, I'll also give the positions for some faint periodic comets visible to those with large-aperture telescopes. Finally, in our Past Discovery dept. we'll look at some of the periodic comets found among the 28 comets discovered by amateurs between 1975 and 1983.

Periodic Comet Wolf-Harrington (1984g): This comet was recovered by J. Gibson of Palomar Observatory on June 4. He was using the 48" Schmidt and the comet was then in the morning sky, in Aries, near its predicted position, at magnitude 17. It is closest the Sun in late September, and is not expected to get brighter than mag. 13.

Periodic Comet Faye (1984h): J. Gibson also recovered this one with the 48" telescope at Palomar on the morning of June 9, the comet appeared mag. 16 and was 34 degrees from the Sun. Two weeks later amateur astronomer Charles Morris from Southern California also observed it, still a difficult object at mag. 12.5 with a 10" reflector. The comet was at perihelion July 10 (at 1.6 AU) and will get no brighter than mag. 12.5 as it moves away from the Sun.

Comet Austin (1984i): In early July, Rodney Austin of New Zealand discovered this 8th mag. object in the morning sky. The comet was found roughly 70 degrees from the Sun, near -38 deg. declination. At astronomical twilight the comet was 45 degrees high in his eastern sky, for those of us in the midnorthern latitudes it was still 25 degrees below our eastern horizion. We can see what a 75 degree change in latitude does to the position of a comet! At this time (July 11) I have no further information on this comet, but I hope to have positions by the end of July.

Halley's Comet on Aug. 15th: RA: 06hr 37.7m; Dec: +13deg45.8'. Distance from the Sun: 6.48 AU. Distance from the Earth: 7.19 AU. Magnitude: 19.9

DATE	R. A. (1950)	Dec.	Elon.	Mag.
Comet Austin (1984i)				
07-29	10h 05.9m	+00° 29′	30°	6.9
08-03	10h 10.8m	+04° 30′	24°	6.4
08-08	10h 07.0m	+08° 28′	16°	5.7
08-13	09h 55.2m	+12° 42′	7°	5.6
08-18	09h 39.6m	+16° 41′	4°	6.4
08-23	09h 25.1m	+20° 00′	13°	7.5
08-28	09h 12.3m	+22° 48′	22°	8.5
09-02	09h 00.7m	+25° 19′	30°	9.2
09-07	08h 49.5m	+27° 45′	38°	9.8
09-12	08h 37.7m	+30° 12′	46°	10.3
09-17	08h 24.5m	+32° 47′	54°	10.6

PAST DISCOVERIES:

In the early days of comet hunting many of the discoveries were of periodic comets - those with orbital periods of under 200 years. Nowadays we see that the professional astronomers find most of the periodic comets, many of these being faint (mag 15-18) ones in near-circular orbits just past the asteroid belt. Yet between 1975 and 1983 three of the 28 comets discovered by amateurs were periodic and three more had periods of between 200 and 500 years. We also find that some of the comets had low inclinations (i = near 0 deg. or near 180 deg.), and four of the six are in a direct (direction) orbit. These two conditions help a comet to be captured by planets, which aids in keeping them in the Solar System.

Conversely, six of the 28 comets have hyperbolic orbits, meaning that they will never return to the inner Solar System. It is possible that such a comet picked up energy from a planet while traveling through the Solar System, entered the system with excess energy, and/or was influenced by nongravational forces (out-gassing "jets" from the nucleus).

The remaining 16 comets have near-parabolic orbits, meaning they will return in over 1000 years, but they will return eventually. Don Machholz (408) 448-7077

Commercial ads are priced according to size and may be placed by contacting:
Gene Cisneros at (408) 923-6800.

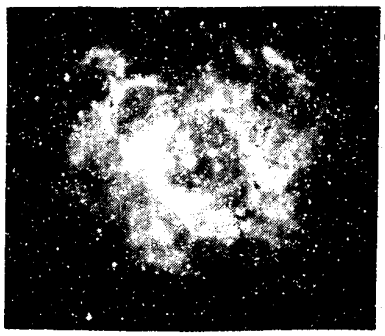
ATM coatings

15022 BROADWAY TERRACE, OAKLAND, CA 94611

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

4¼"	$8.00
6"	$12.00
8"	$16.00
10"	$20.00
12½"	$24.00
14¼"	$28.00
16"	$50.00

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.



Rosette Nebula NGC2237 in Monoceros. This faint nebula is seen best visually with a LUMICON UHC Filter. Photo by Dr. J. Marling from his backyard in Livermore using a LUMICON DEEP-SKY Filter. 60 min exp on hypered 2415 film prepared in a LUMICON Model 300 HYPER-KIT; 8"/4.5 telescope using a LUMICON Newtonian EASY-GUIDER.

LUMICON®

"Innovation In Astronomy"

Visit or call LUMICON for the most complete selection of IN STOCK Telescopes and Accessories in the West.

WORLD CENTER FOR ★ ASTROPHOTOGRAPHY ★

(415) 447-9570
2111 Research Dr #5E,
Livermore CA 94550

Periodic Comet Faye (1984h)

07-29	05h 18.6m	+19°13′	46° 12.5	A faint comet climbing away from
08-08	05h 47.9m	+18°52′	48° 12.5	the Sun in the morning sky, it
08-18	06h 16.0m	+18°11′	51° 12.6	will probably be brighter than
08-28	06h 42.8m	+17°12′	54° 12.7	Predicted. I've given you three
09-07	07h 08.0m	+15°59′	58° 12.8	faint comets, try to find all of
09-17	07h 31.3m	+14°35′	62° 12.9	them as you Practice for Halley's.

Hyperbolic Comets

Comet Name	Incl.	Dir.	Eccen.	Per Dis(AU)
Bradfield (1979c)	136.2°	Retro.	1.00006	0.413
Kobayashi-Berger-Milon (1975h)	80.8°	Direct	1.00009	0.426
Machholz (1978l)	130.6°	Retro.	1.00042	1.772
Meier (1978f)	43.8°	Direct	1.00084	1.137
Sato (1975q)	94.0°	Retro.	1.00121	0.864
Bradfield (1975d)	55.3°	Direct	1.00141	1.217

Periodic Comets

Comet Name	Period (yrs)	Incl.	Dir.	Eccen.	Per Dis(AU)
Haneda-Campos (1978j)	5.97	6.0°	Direct	0.665	1.101
Denning-Fujikawa (1978n)	9.01	8.7°	Direct	0.820	0.779
Boethin (1975a)	11.0	5.9°	Direct	0.780	1.094
Bradfield (1979l)	293.0	148.6°	Retro.	0.988	0.545
Meier (1979i)	391.0	67.1°	Direct	0.973	1.432
Suzuki-Sai.-Mori(1975k)	446.0	118.2°	Retro.	0.986	0.838

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