SAN JOSE ASTRONOMICAL ASSOCIATION

SJAA

EPHEMERIS

OCTOBER 1984

FROM THE EDITORS DESK

In order to continuously improve our monthly Epehmeris. I am currently looking for bulletin contributors. I would like to have a wide range of subjects covered from month to month that would be of interest to our membership and to potential members.

Product reviews, book reviews, star party coverag , local astronomical events, upcomming eclipses, meteor showers, occultations, observing techniques, astrophotography methods and telescope making articles would be nice.

Articles do not have to be long. In fact short, concisely written articles are just what I am looking for.

Please submit all materials to the editor before the 15th of each month. If there is not room for your article then it will appear in the following months bulletin. I will give priority placement for time value material. If enough people contribute, I will probably expand the current Ephemeris to 8 pages.

Renewals or group rates for Astronomy and Telescope Making run Jan. - Dec. 85'. If you are currently getting one of these periodicals as part of your SJAA membership then send your subscription renewals to Jim Van Nuland. For more information please call Jim at (408) 371-1307.

KAUFMANN LECTURES ON ASTRONOMY
BY: BILL DELLINGES

For the past few years Dr. William Kaufmann has offered stargazing seminars at Lake Tahoe's Sierra Nevada College using their CELESTRON - 22.

Now Dr. Kaufmann will offer a similar experience this Fall at the Monterey Institute for Research in Astronomy (M.I.R.A.) using their 36" reflector. The observatory site is 40 miles southeast of Monterey on a 5000 foot mountain. Staff there state the telescope mirror is better than 1/38 wave and that observatory conditions are superior to that of Cerro Tololo, Chile. The class size shall be limited to ten persons for each of the six (6) one - night sessions; the cost is $200.00 per person.

Dates are:

SESSION IV	OCT. 18	(THURSDAY NIGHT)
SESSION V	OCT. 21	(SUNDAY NIGHT)
SESSION VI	OCT. 23	(FRIDAY NIGHT)

For enrollment information, write:
Dr. William Kaufmann
385 Paraiso Drive
Danville, Calif. 94526

Or call (415) 836-9286

(Ed. note)
A guy could have a pretty good weekend in Vegas for $200.

DEEP SKY NOTES

BY: STEVE GOTTLIEB

A few years ago at Fremont Peak with my C8. I examined a pair of mag. 12 galaxies in Pegasus - NGC 7619 and 7626. In Walter Scott Houston's Deep Sky Wonders column, he had mentioned that over a dozen NGC and IC galaxies were nearby and sure enough I spotted a faint system just 10' north of the brighter pair. Unfortunately, my reference sources, including Burnham's Celestial Handbook did not catalogue the fainter members in this galaxy cluster. So, the following weekend I went to the U.C. Berkeley Astronomy library and found a wealth of galaxy catalogues to aid me in identification.

The first important modern catalogue was by Harlow Shapely and Adelaide Ames; A Survey of the External Galaxies Brighter Than The 13th Magnitude (1932). This list of 1249 galaxies gives photographic magnitude, diameter and Hubble type and forms the basis for the galaxy listings in Burnham's 3 volume work. An update of this catalogue titled; A Revised Shapely-Ames Catalogue of Bright Galaxies (1981), by; A. Sandage and G.A. Tammann gives recent photometric data as well as many photographs of the various Hubble types.

A more extensive work is the Reference Catalogue of Bright Galaxies (1964), by Gerard and Antoinette de Vaucouleurs. This catalogue extends the Shapley-Ames work to 2599 entries, many of which do not appear in either the NGC or IC. This catalogue was also updated in 1976 as the Second Reference Catalogue of Bright Galaxies and contains detailed information including: surface brightness, color indexes, various classification types and radial velocity on 4364 systems.

A reference I find very useful is the Uppsala General Catalogue of Galaxies (1973) by Peter Milson which contains information on 12,921 galaxies larger than 1' diameter. The data includes cross referencing to the NGC, IC and MCG, diameters, position angle, type, magnitude and extensive descriptive information.

Finally a most impressive work is the 6 volume Galaxies and Clusters of Galaxies (1961-1968) by Fritz Zwicky and co-workers at Cal Tech, Pasadena. It lists positions and magnitudes for 31,350 galaxies down to photographic magnitude 15.7 and also 9,700 clusters of galaxies. I find it very helpful that all of the listed galaxies and many brighter stars are accurately plotted on finder charts each covering one of 559 fields from the Palomar Sky Survey.

Incidently, I identified my find in the C8 as NGC 7623 with a Mp: 13.9, size: 1.6' x 1.0', position angle: 175 deg., Hubble type SO and learned it was a member of the Pegasus I galaxy cluster of more technically, Zwicky cluster 2320.o+0845. Since then I have observed 8 galaxies in the central 1 degree core down to Mp 15.0 with my 13.1", including NGC 7611,7612,7619,7623,7626,7631,7634 and IC 5309. The 1950 coordinates for NGC 7619 are 23h18m +7deg.55' and this region provides fertile hunting grounds for larger scopes.
STEVE GOTTLIEB (415) 524-4678

EVENTS CALENDAR

SEPTEMBER 29

Fremont Peak star party.

OCTOBER 6

General Meeting at the University of Santa Clara. This months guest speeker is Norman Sperling who will tells us about and give us answers to the "Four Great Questions of Astronomy". Meeting begins at 8 PM.

OCTOBER 13

Board meeting and indoor star party at the Los Gatos Red Cross building. Meeting begins at 8 PM.

OCTOBER 20

Grant Ranch Star Party. Dusk till dawn. Several members will also be testing observatory site seeing conditions.

OCTOBER 27

Fremont Peak Star Party. Dusk till dawn. Members will also be looking at site locations for a permanent observatory.

NOVEMBER 3

Indoor Star Party at the Los Gatos Red Cross building. Begins at 8 PM.

NOVEMBER 10

General Meeting at the University of Santa Clara. Speeker to be announced. If the membership can recomend anyone to the SJAA who would like to give a talk on any subject matter pertaining to astronomy or space science, please contact Dave Ambrose at: 415-524-0869.

ASTRO MART

17.5" Coulter Mirror with 2 diagonals, new in box - $625
C100 refractor on heavy duty equatorial mount, quartz electric drive - $1,200
12.5" Dobsonian, f/5 Parks mirror, 1/10 wave or better. Novac components, low profile focuser. Phenolic tube with one 2" eyepiece and nebula filter, 60x15 finder, real beauty, $650 or best offer.
4.25" RFT, f/5, with optical window, 2" focuser - $150
6" f/5 Coulter mirror, reflector tube assembly - $150
Celestron 11x80 binoculars - $150
CONTACT: Phyllis Rose, 620 North 10th Street, San Jose CA. 95112, PH: (408) 293-6611

Rotating rings for 12" dia. tube - $35.00
Lumicon piggyback camera adapter also for 12"dia. tube - $20
Novak 2" dia. short focuser for Newtonian type telescopes - $35
CONTACT: Jim Baumgardt at (415) 579-3621 days or (415) 347-2267 evenings and weekends.

Black Super C8 with Starbright coatings, all standard accessories plus vairable speed declination motor, illuminated bubble level and setting circle LED, dew cap, T-ring and Accu-Trac single axis corrector. $1200.

Santa Cruz, CA. 95062 (408) 462-0209

FOUND: Binoculars left in Jim Van Nulands bus at the May 84' Grant Ranch Star Party. Call Jim at (408) 371-1307

BOOK REVIEW
BY: DON MACHHOLZ

"THE LIGHT-HEARTED ASTRONOMER"
AUTHOR: KEN FULTON
PUBLISHED BY: ASTROMEDIA CORP, P.O. BOX 92788
MILWAUKEE, WI. 53202
PRICE: $6.95

Ken Fulton has written an enjoyable, clever "beginner's guide" for the amateur astronomer. While reading the book recently I found myself amused by his humorous, colloquially-written insights.

Fulton has been involved in astronomy for a couple of decades and has gained considerable experience in observing the heavens (with the Moon his favorite), dealing with mail-order firms, and teaching people about some of the pits in the "jungle" of amateur astronomy. His sense of humor adds gentleness, yet clarity to his instruction, while his experience allows him to cover a very wide variety of topics. This book contains no star maps, charts, drawings or photographs, but Fulton's colorful writing holds the reader's attention and paves the path for anyone wishing to walk the ways of astronomy. This path, he points out, is not always easy, but the rewards are great for those who stay the course. The rewards of which he writes are not money or prestige, but the on-going pleasure and satisfaction of being a confident observer impressed by a beautiful universe.

The sixteen chapters fill 115 easy-reading pages. The book can be read in one sitting, although I'd suggest that one slows down and appreciate Fulton's style. The beginning astronomer will learn a lot, which would normally take years of mistakes to acquire. The experienced observer will be nodding in agreement and chuckling at Fulton's perceptions.

I particularly found the chapter "Observing in the Wilds" to be entertaining and true-to-life. The unique section entitled "Living with a Non-Astronomer Spouse" provides some sensible, sensitive suggestions. On the other hand, in the chapter "The Ads", the author, without naming names, alludes with humor to a serious argument which occured between two giant telescope manufactures in early 1982. I feel that author could have more skillfully disguised the incident since he presents it as a fictional example. My second complaint is that while females are strongly encouraged to observe, Fulton does seem to cast them into a stereotyped mold. Some readers, not sensing Fulton's humor, may find this degrading.

This unique book, "The Light-Hearted Astronomer", is published by Astro Media Corp., which also publishes "Astronomy" magazine. Ken Fulton has written for that periodical, some of those articles are included in this book.

In my opinion it's a fun book to read, educational for the beginner and whimsical for the experienced amateur astronomer.
Don Machholz (408) 448-7077

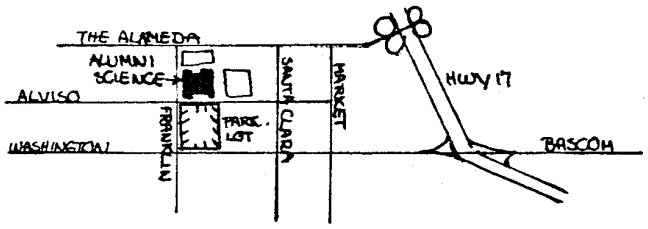
COMET COMMENTS

BY: DON MACHHOLZ

Two returning comets have recently been recovered while two brighter comets remain visible in our skies. One, Comet Austin, had been about two magnitudes brighter than predicted, and it displayed two tails through early September. We'll look at the azumith/altitude positions of comets at the moment of discovery and compare the discovery time to the local astronomical twilight time.

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.

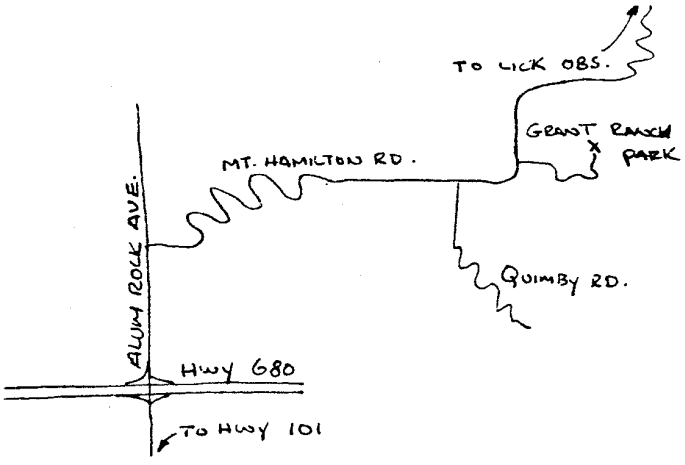


INDOOR STAR PARTIES:

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.

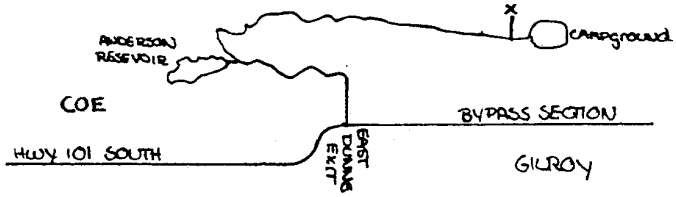
GRANT RANCH COUNTY PARK:

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.



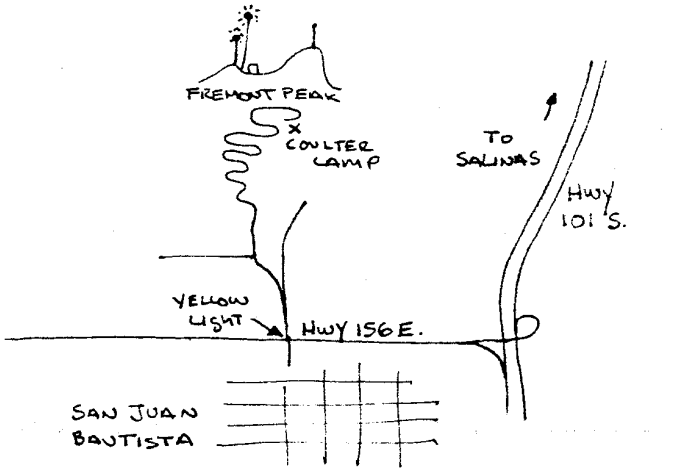
HENRY COE STATE PARK:

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.



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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.

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:
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? _____

_____

_____

PERIODIC COMET AREND-RIGAUX (1984k)

J. Gibson used the 48" Schmidt instrument to recover this comet on August 7. The comet was magnitude 18.5 and in the constellation Taurus. It's orbital period is 6.8 years and it will be closest the Sun (1.4 AU) on Dec. 1. At that time it will be eleventh magnitude in the morning sky. I'll print it's ephemeris next month.

PERIODIC COMET GEHRELS 3 (19841)

J. Gibson recovered this comet too, a couple of hours after the previous comet, which was only 25 degrees away. It will be closest the sun (a distant 4.0 AU)m in early June 1985. It is presently magnitude 20, but is not expected to get brighter than mag. 16. It's orbital period is 8.1 years.

HALLEY'S COMET ON OCTOBER 15:
RA: 06hr 44.9m, Dec: +12deg. 35.3'. Distance from the Sun: 5.97 AU. Distance from the Earth: 5.73 AU. Magnitude: 19.1

DATE	R. A. (1950)	Dec.	Elong.	Mag.
Comet Austin (1984i)				
09-27	07h 49.7m	+38°27′	72°	8.3
10-02	07h 24.9m	+41°37′	82°	8.5
10-07	06h 52.5m	+44°46′	93°	8.6
10-12	06h 10.6m	+47°32′	105°	8.8
10-17	05h 18.8m	+49°16′	117°	9.0
10-22	04h 21.0m	+49°16′	130°	9.2
10-27	03h 24.9m	+47°20′	141°	9.5
11-01	02h 37.3m	+43°56′	150°	9.8
11-06	02h 00.3m	+39°50′	154°	10.2
11-11	01h 32.9m	+35°44′	153°	10.5

Fading in the morning sky, this comet approaches, then receeds from the Earth this month as it pulls away from the Sun. Try to get out and see this one before its gets away! It may appear about 4' across and diffuse as it races into the evening sky by early November.

Periodic Comet Takamizawa (1984j)				
09-27	21h 17.0m	-24°37′	130°	11.5
10-02	21h 20.8m	-24°25′	126°	11.7
10-07	21h 25.1m	-24°09′	122°	11.9
10-12	21h 29.8m	-23°43′	119°	12.0
10-17	21h 34.9m	-23°24′	115°	12.2
10-22	21h 40.4m	-22°56′	111°	12.4
10-27	21h 46.1m	-22°26′	108°	12.5
11-01	21h 52.1m	-21°52′	104°	12.7
11-06	21h 58.4m	-21°17′	101°	12.9

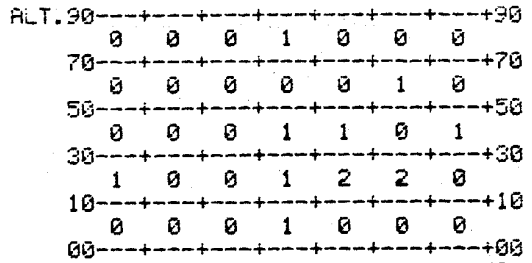
This comet is pulling away from the Earth and Sun. The mag. est. may be off a bit, because the comet seems to be unstable and another outburst may occur at any time.

PAST DISCOVERIES

We often picture new comets being discovered just above the horizon at astronomical twilight. While it is true that comets are in greater supply near the Sun than away from the Sun (as seen from Earth), a study of the 28 comets discovered by amateur astronomers between 1975 and 1983 show that many are found high in the sky. Additionally, they are usually found at times far removed from astronomical twilight, when the sky is quite dark.

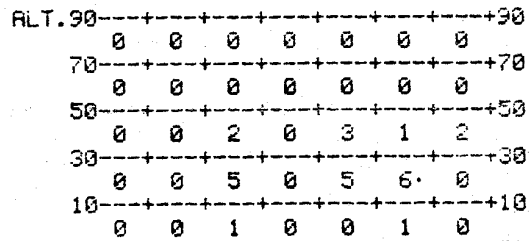
Here are the results of a study on the 38 discoverer's of these 28 comets. The astronomer's longitude, latitude and discovery time were entered into a computer, along with the comet's position. The printout, summarized here, shows the azumith and altitude of the comet at discovery as seen from the discoverer's location. The difference between the time of discovery and the time of astronomical twilight (when the Sun is 18 deg. below the observer's horizion) is given in minutes.

EVENINGS



Ave. Azumith: 254.0°
Ave. Altitude: 31.9°
Ave. time after Ast. Twi.: 77.5 minutes.

MORNINGS



Ave. Azumith: 099.3°
Ave. Altitude: 24.2°
Ave. time before Ast. Twi.: 44.7 minutes.

SPACE UPDATE

BY: ROBERT FINGERHUT

DISCOVERY COMPLETES FIRST FLIGHT

The space shuttle Discovery, was launched on aug. 30 and returned to Earth Sept. 5. Discovery is in excellent condition after its landing at Edwards AFB. All mission objectives were fulfilled. Three communications satellites were deployed. Two used the payload assist module (PAM-D) upper stage. demonstrating its return to reliability. The Navy Leasat was launched using a new "Frisbee" deployment technique. A 102 ft solar array was also tested. The array, which could produce 12.5 KW of power for future missions or a space station was tested for its structural stability. An unidentified hormone was produced in a continuous flow electrophoresis unit. This experiment was saved after automatic equipment failed by the payload specialist. He was one of the designers of the equipment and he made repairs and operated it on manual. The drug produced will remain confidential until human testing begins in 1985. A high school students project was used to check a new fluids experiment apparatus (FEA) which will be used to perform industrial and commercial space processing. The FEA uas used to purify an indium crystal using float zone processing in which an annular heater is moved along a rod continually melting a section and pushing impurities along in front of it. An IMAX camera was also carried on this flight for preparation of a film by the Smithsonian Institution.

TEACHER TO FLY ON THE SHUTTLE

President Regan has announced that the first person selected for the shuttle flight participant program will be an elementary or secondary school teacher. The teacher will fly on the space shuttle by late 1985 or early 1986.

SPACE UPDATE

CHALLENGER SCHEDULED FOR OCT. 1 LAUNCH

The shuttle Challenger's next flight, 41-G is scheduled for a pre-dawn liftoff with a crew of 6 and a duration of 8 days. It will feature a variety of Earth viewing payloads and a space walk to practice for Novembers satellite retrievals. The flight crew will be Robert Crippen, Commander; Jon A. McBride, Pilot; Mission Specialist's Kathryn D. Sullivan (she will make a space walk), Sally K. Ride and David D. Leestma; and payload specialist's Marc Garneau from Canada and Paul D. Scully-Power, a U.S. Navy civilian.

DISCOVERY'S SECOND FLIGHT SCHEDULED FOR NOV. 2

On this flight, 51-A, Discovery will take up one communication satellite, Telesat-H and several scientific payloads. It will also retrieve the Palapa B-2 and Westar-VI satellites which were put into the wrong orbit by PAM-D failures on mission 41-B. It will carry a crew of 6 for a duration of 6 days. The crew will include Frederick H. Hauck, Commmander; David M. Walker, pilot; and Mission Specialist's Anna L. Fisher, Dale A. Gardner and Joseph P. Allen.

EUROPE OFFERS "COLUMBUS" TO U.S. SPACE STATION

A German and Italian company have formed a partnership to produce the Columbus module. The module is a free-flying version of the European Spacelab that would orbit in parallel with a space station. European nations want to build the Columbus module rather than subcontract for actual space station components. It would offer them more independence for the U.S. and to develop technology that could eventually allow them to launch their own space station.

CALICO OBSERVATORY

BY: JIM VAN NULAND

As the Jupiter-watching season draws to a close, the Spot is quickly going. I've included the few times for which it is available next month; this will be the final article until next year when Jupiter comes around again.

The broken record continues: Good, steady seeing is still mandatory for seeing the Spot. Despite the somewhat faded condition, Paul Maxson of Phoenix was able to photograph it on August 11. So have hope, go give it a try. Let me know of your results. See you next year.

Clear Skies, Jim Van Nuland

Great Red Spot on Meridian -- PDT/PST

da	mo	d	h	m		da	mo	d	h	m	
W	10	3	7	29	pm	Sa	10	27	7	29	pm
F	10	5	9	11	pm	Th	11	1	5	33	PST
W	10	10	8	15	pm	Th	11	8	6	30	pm
M	10	15	7	29	pm	Tu	11	13	5	37	pm
M	10	22	8	15	pm	Su	11	25	5	35	pm

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