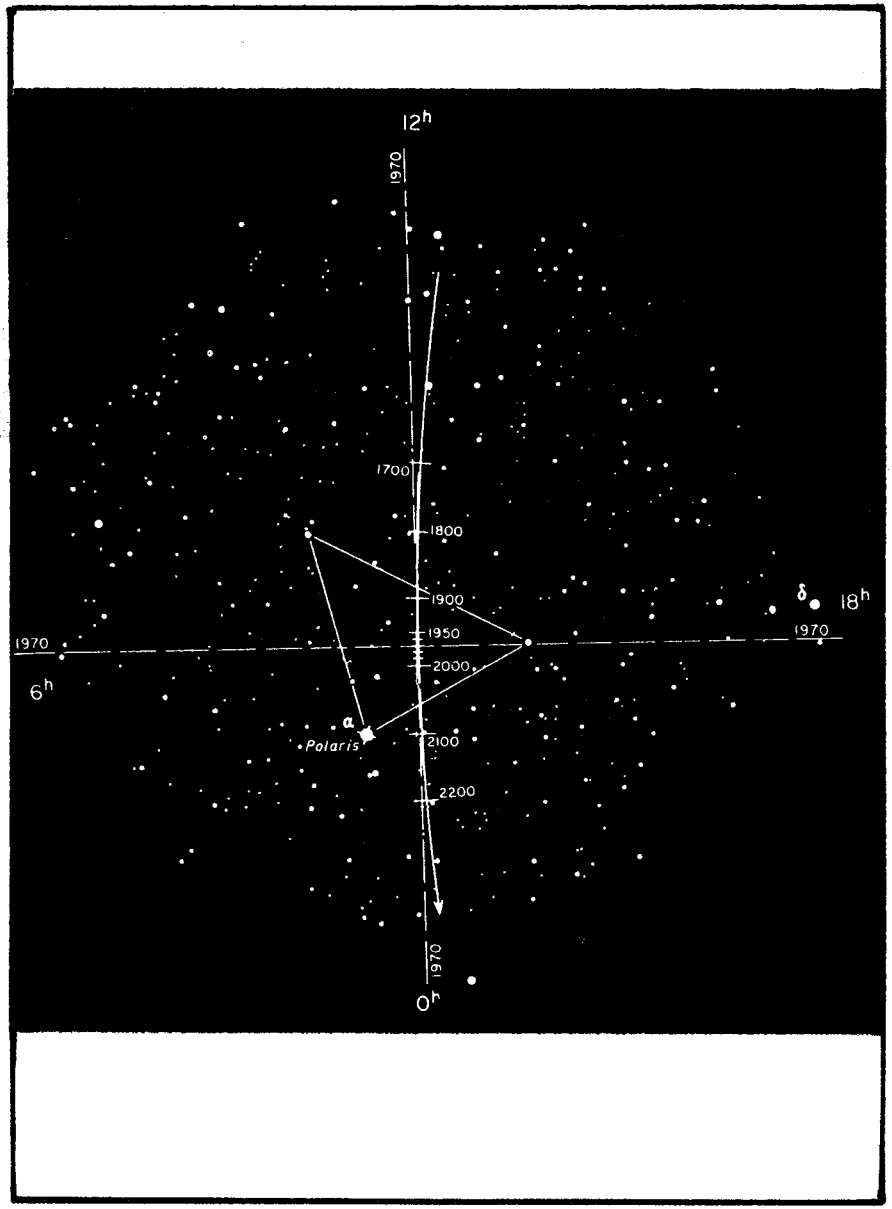
EPHEMERIS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1970
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1970
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Polaris

CALENDAR

APR 2 INDOOR STAR-PARTY, LOS GATOS RED CROSS 7:30 PM
APR 2 OCCULTATION OF JUPITER 4:43 AM

APR 8 BOARD OF DIRECTORS MEETING, FRANK DIBBELL, HOST 8:00 PM

APR 9 3'RD QUARTER STAR-PARTY, FREMONT PEAK STATE PARK

APR 16 STAR-PARTY HENRY COE PARK

APR 23 ASTRONOMY DAY, SITES AT U OF S.C., FREMONT PEAK

APR 30 AUCTION, REGISTRATION STARTS AT 1 PM, AUCTION AT 7:00 PM

MAY 7 STAR-PARTY, HENRY COE PARK

MAY 14 STAR-PARTY, FREMONT PEAK STATE PARK

MAY 21 GENERAL MEMBERSHIP MEETING, U of SANTA CLARA, RM 102
JOHN GLEASON, "ASTROPHOTOGRAPHY" 8:00 PM

MAY 28 INDOOR STAR-PARTY, LOS GATOS RED CROSS, 7:30 PM ON
ALL ARE WELCOME, BRING SCOPES, QUESTIONS, SLIDES...

MAY 27-30 RIVERSIDE TELESCOPE MAKERS CONVENTION

QUESTION OF THE MONTH:

WOULD YOU LIKE MORE PUBLIC EVENTS?

EPHEMERIS, is published monthly by the San Jose Astronomical Association. 3509 Calico Ave, San Jose, Ca. 95124 (408) 246-6189
All contributions are welcome and must be receiced by the 15th of the preceeding month. Please type to a width of 6.5", if this is not possible, handwritten contributions are welcome,
EPHEMERIS also welcomes your black and white photos of astronomical interest. 8x10 prints > 5x7 print min
All submissions may be sent to SJAA EPHEMERIS editor c/o Jack Zeiders 2961 Magliocco Dr #3, San Jose, Ca. 95128 (408) 246-6189

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APRIL COVER:where is north? Adapted from a chart published in Dec. 1971 "Sky and Telescope" magazine.

OBSERVATIONS

BY D. MEDLOCK

NATIONAL ASTRONOMY DAY

What's enthusiastic and unstopable, and looks like the Salvation Army standing on streetcorners spreading the news? It's the SJAA on Astronomy Day, but instead of with drums and hymns, we share our hobby with telescopes and slide shows. Once a year, nation-wide, the poor, unsuspecting public gets swooped down upon in parking lots and shopping malls, and inundated with views of the Moon, Venus, Jupiter, and yes -- stranger than life --the rings of Saturn. And you know, most of them enjoy it. Some of them have been known to jump up and down at the top of 15' telescope ladders (at risk of limb and telescope) when seeing their first view of the Moon and planets. Many go home, starry-eyed, and return with family and friends. And (heavens above!) a few have even become converted and joined the SJAA! (*GASP*)

When does this revelation take place? April 23rd (evening of, though the Sun is an interesting star in its own right to show off).

Volunteer telescope station manners (that is, people who man a telescope station) are now being sought. Telescopes are optional but definitely helpful to have when showing Jupiter or Saturn.

The SJAA will probably entrench at Fremont Peak State Park and the University of Santa Clara. If you can think of other populated areas we can invade for the evening, give me a call (415) 654-6796. ONWARD! UPWARD! - Denni

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On the more serious side of business -- as you all know, April 30th is the annual auction and this year it appears to be bigger than ever before. While the major duties, such as auctioneer and computer runners, have been delegated, we will probably need another 3 - 5 volunteers to help with the general registration, item handling, paper shuffling and confusion that can happen when 100+ people descend on the Red Cross Building. Basic duties will probably be giving directions, sparing people from other jobs for a break, and helping move equipment up to the auctioneer.

Other volunteer very much needed are all the great munchy cooks in the club. Refreshments will be made available, as usual, and we need people to bake all those cookies and snacks. Costs will be reimbursed by the SJAA if you save your receipts. If you are interested in being a general volunteer, give me or one of the board members a call. If you want to bring something edible for refreshments, no need to sign up. It will be appreciated at the auction. Set up time will be from approximately 4:30 pm on, registration starts at 1:30, and the auction starts at 7:00. Thanks!

CLUB TELESCOPE

The club's 12" Dobson telescope is now with Tom Stravolone (408-277-4711), and will next be available for borrowing after May 7th. I hope he has better luck with the weather than its last borrower, Bob Black, did!

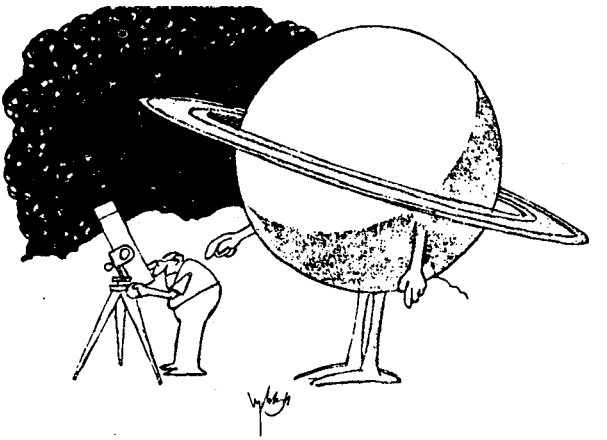
Club telescopes (there's a disabled 6" running around, too) are available for borrowing by any members. The time period is 2 months, arrangements for borrowing must be made between the person who has it and the person who wants it, and if no one wants it when your two months are up, you can keep it until someone does.

I ran across this cartoon in a Science '82 magazine a few months back and laughed myself silly at everything it could imply. What it really needs is a caption, so we're going to have a caption contest for this month.

Come up with something that fits and give it to me or one of the board members by the May board meeting. The prize is a 10-meter telescope T-shirt (hopefully, they will still be available by then) from the UC Berkeley-Lawrence Laboratory group.

The resulting entries will be published in the June Ephemeris.

- Denni



JUPITER OCCULTATION

The morning of April 2 will see an occultation of Jupiter by the waning gibbous moon. South of a line across the California-Oregon-Nevada border, a total occultation will be seen.

Immersion occurs on the bright limb with the planet high in the south at 4:43 am.

Emersion on the dark limb, but with the planet setting in a brightening sky, occurs at 5:29 am. Each event will last about 4 minutes.

The Galilean satellites will be close to the planet, but I do not have times for their events.

Northern observers will see a graze on the bright cusp about 5:08.

A daylight occultation of Mars will occur July 9, too near the sun to observe. Rather better than either of these is a twilight occultation of Saturn early on Dec. 29.

Clear Skies,
Jim Van Nuland

COMET COMMENTS

BY DON MACHHOLZ (408) 448-7077

A faint comet has been discovered during the past month, it will not get much brighter than magnitude 16. There is one comet brightening in the morning sky, it was recovered in December and will become as bright as magnitude 9.5 in July. Positions for this comet are included below. In our "Past Discoveries" department, we take a look at the first comet ever discovered by an observer in Canada.

Periodic Comet Bowell-Skiff (1983c): This is a comet discovered by Edward Bowell of the Lowell Observatory; he found it on a photograph taken by Brian Skiff. At the time of discovery the comet was in western Leo, a few degrees south of galaxy NGC 2903. At that time (Feb. 11) it was approaching both the Sun and the Earth, it is presently moving away from both. Then at 16.2 magnitude, it is also getting fainter. We now know that it's orbital period is 15.2 years, it hugs the eclipical plane, and swings from just outside Mars' orbit to slightly beyond Jupiter.

Periodic Comet Kopff (1982k)

Date (1983)	R.A.	Dec.	Mag.
03-27	15h 38.5m	-11° 36'	12.2
04-06	15 43.8	-11 17	
04-16	15 46.5	-10 50	11.4
04-26	15 46.3	-10 18	
05-06	15 43.4	-09 46	10.6

This comet is slowly approaching the earth and Sun as it remains nearly stationary in central Libra.

Data from IAU Circular 3779.

PAST DISCOVERIES

Comet Meier (1978f) Discovered on the evening of Wed., April 26 by Rolf Meier of Ottawa, Canada, this comet was then at magnitude 10.4. This was Rolf's first comet discovery, he has since found two more. He was using a 16", f/5 reflector, with an eyepiece giving 56 power and a 1¼ degree field of view. Meier had searched for about fifty hours over three years time. It was found after 15 minutes of searching on April 26, at 8:55, and confirmed the next evening.

At the time of discovery the comet was at 07hr 19m; Dec: +54° , in a rather barren part of the sky in Lynx. It was roughly 3.0 AU from both the Sun and the Earth, moving closer to both. As seen from Earth the comet was 68 degrees from the Sun, from 40° North Latitude the comet was about 50 degrees high in the NW sky at evening astronomical twilight, hardly a horizon-hugger! The moon was two days before Last Quarter, this was the third evening for comet hunting since the moon had left the evening sky.

Pre-discovery positions show this to be a very ordinary evening-sky comet. It creeped very slowly across the sky, toward the sun, and brightened very slowly too. Three months before discovery Comet Meier was magnitude 11.7 and 126 degrees from the Sun and not far from M 81 and M 82. A month later it was at magnitude 11.2 and in late March the comet was magnitude 10.8 and 95 degrees from the Sun. For Northern Hemisphere observers the comet was discoverable for at least two months, yet it remained unseen. Obviously the poor weather during this time of the year contributed to this.

Comet Meier became a rather bright and massive sight, passing behind the Sun in early Sept., and closest the Sun two months later (at 1.13 AU). It then continued south to -45° declination before moving northward and fading out more than a year after discovery.

GREAT RED SPOT EPHEMERIDES

BY JIM VAN NULAND

Continuing poor weather has prevented further observation of the Spot on the west coast.

In Arizona, Gerry Rattley was able to obtain a timing on March 9. He reports some difficulty due to seeing, but supplied a sketch corresponding well to what I had seen in January.

He states that "the Spot was wedged in between two very broad bands, with a dent in the belt below (north) of it".

His reported time was about 15 min. earlier than predicted, so begin observing early to be certain. See last month's bulletin for some observing tips. Let me know what you see.

GREAT RED SPOT on Meridian PST

da	mo	d	h	m		da	mo	d	h	m	
SA	4	2	4	16	AM	Su	4	24	2	24	am
Tu	4	5	1	40	am	Tu	4	26	3	60	am
Th	4	7	3	25	am	Tu	4	26	11	51	pm
Sa	4	9	5	1	am	F	4	29	1	26	am
Su	4	10	0	52	am	Su	5	1	3	12	am
Tu	4	12	2	28	am	Su	5	1	11	1	pm
Th	4	14	4	9	am	W	5	4	0	35	am
Th	4	14	11	58	pm	F	5	6	2	14	am
Su	4	17	1	32	am	Su	5	8	3	49	am
Tu	4	19	3	19	am	Su	5	8	11	46	pm
F	4	22	0	43	am	W	5	11	1	17	am

ANNOUNCEMENTS

NOTICE OF MEMBERSHIP / RENEWAL 83/84 CHANGES.
THE NEW MEMBERSHIP OPTIONS ARE AS FOLLOWS:

MEMBERSHIP WITH SKY AND TELESCOPE; $21.00

JUNIOR MEMBERSHIP-UNDER 12- $15.00 INCLUDES SKY AND TEL.

MEMBERSHIP ONLY $8.00 (FORMERLY BULLETIN SUBSCRIPTION)

SJAA MEMBERSHIP APPLICATION/RENEWAL

NAME _____

ADDRESS _____ CITY _____

PHONE _____ STATE _____ ZIP _____

AREA OF INTEREST _____

MEMBERSHIP/S&T ☐ $21.00 JUNIOR (UNDER 12) ☐ $15.00

MEMBERSHIP ONLY ☐ $8.00

REFRACTOR VS. REFLECTOR

BY DON MACHHOLZ

During the latter half of 1982 I had the opportunity to compare a 6-inch refractor telescope to the 10-inch reflector I have owned and used for several years. The refractor was on loan from Robert Gardner of Pasadena, California. He had bought the optics, tube and pedestal from A. Jaegers, then he assembled it. This well-made telescope was made even sturdier with braces running from the legs to the pier.

Characteristics of each telescope·

6-inch refractor: Focal ratio of f/5. Baffled tube, painted flat black. Eyepieces used: Giant Jaegers Eyepiece, 41.5 mm focal length yielding 18.6 mag., 3.76° field of view, 8.2mm exit pupil. The other eyepiece, used most of the time: Edmund Kellner #42770, a two-lens eyepiece. 31.6 mm focal length, 24.1 mag., 2.94° field of view, 6.3 mm exit pupil.

10-inch reflector: Focal ration of f/3.8. Diagonal size: 2.14" minor axis. Baffled tube, painted flat black, overlaid with flock paper. The eyepiece holder, a pipe flange, is inset into the tube, the focal plane of the primary mirror is only 5.3" from it's axis...providing a large "fully-illuminated field", Eyepiece used: Homemadd eyepiece, 27.7 mm focal length, 35.1 mag., 2.83° field of view, 7.3 mm exit pupil.
The telescope is mounted on a homemade, altazumith pipe mount.

Performances of each telescope

High Magnification Observing: The 6-inch refractor out-performed the 10-inch reflector in this area. The images at 180 power were sharper and had more contrast in the 6-inch. The images near the edge of the field were sharper too. Not inherent to the optics, however, was some vibration in the 6-inch unit, the scope would wiggle somewhat after being touched, this would take several seconds to die down.

Low Magnification Observing: A "split decision" on this. The 6-inch refractor provided slightly sharper images at the edge of the field, it also had more contrast---the background was darker. The 10-inch reflector was able to pick up fainter objects, some galaxies and nebula not visible in the 6-inch were seen in the 10-inch. This occured under both dark skies and light-polluted skies.

Comet Hunting: The 6-inch was used for 23.00 hours of comet seeking during the last seven months of 1982, the 10-inch for 134.00. While the 6-inch would pick up all the Messier objects plus a few of the brighter NGC objects, the 10-inch instrument gathered more, observing about 1.2 to 1.5 times more deep-sky objects than the 6-inch scope. This reflects a magnitude grasp of roughly 0.7 to 1.0 over the 6-inch refractor. While sky objects in the 6-inch were more beautiful, they were less numerous.

Summary

This particular 6-inch refractor performed better than the 10-inch reflector for high powers and for low-power observing of brighter stars and nebula. Additionally, the contrast was better and the images crisper. For observation of faint and very faint objects, the 10-inch performed better. These things seem to hold true for both dark-sky and moderate light pollution conditions. Reasons for these differences seem to be these: diameter of objective, magnification, focal ratio, light loss of each system, and the obstruction of the secondary mirror (or lack there of).

ASTROPHOTO 5

BY BOB FINGERHUT

Every two years the Ventura county Astronomical society and the Orange County Astronomers sponsor a one day astrophotographic seminar. It wasQ held on March 5th this year, and attended by four SJAA members, Jack Peterson, Eugene Cisneros, Steve Greenberg, and myself.

There were presentations on Tri-color, developing slide film as a negative, new films, solar eclipse and comet photography, filters, and light polution to name a few.

The Reverend Ronald Royer presented a complete color tour of the Milky Way, much of it taken in brillient tri-color with spectacular views of the southern Milky Way. As always I left with a dozen new ideas I want to try out.

ADDS

FOR SALE:
CAVE 6" F/4 RFT. FIBERGLASS TUBE, TRIPOD SOCKET, AND WOODEN CASE. MIRROR AND DIAGONAL IN VERY GOOD CONDITION. SCOPE LOOKS LIKE NEW! BEST OFFER OVER $125.00 (408) 688-7804 eve 688-5211 day
Lawrence Huggins

Lou Lassabatere is trying to get together his own weather station and is looking for good, used equipment. If anyone has, or knows the whereabouts of such things as Barometers, Cupwheels, etc., please give him a call at (days) 408-395-3191. It would be much appreciated.

ANNOUNCEMENTS

ASTRONOMICAL SOCIETY OF THE PACIFIC

THE A.S.P. AND W.A.A. ARE COSPONSORING AN ASTRONOMICAL MEETING IN HAWAII FROM JUNE 13-19,1983.

THE CONFERENCE WILL INCLUDE A SYMPOSIUM ON NEW TECHNIQUES IN SPECTROSCOPY, PAPERS ON THE HISTORY OF ASTRONOMY, AN AMATEURS' PAPERS SESSION, A WORKSHOP FOR TEACHERS, A NON-TECHNICAL LECTURE SERIES OF NEW DEVELOPMENTS IN ASTRONOMY, SPECIAL TOURS OF THE MAUNA KEA OBSERVATORIES AND VOLCANOES NATIONAL PARK, AN AWARDS BANQUET, AND A HAWAIIAN LUAU.

COMPLETE DETAILS AND REGISTRATION FORMS MAY BE OBTAINED BY SENDING A SELF-ADDRESSED, STAMPED ENVELOPE TO:

HAWAII MEETING
A.S.P.
1290 24TH AVE.
SAN FRANCISCO, CA. 94122

KGO-FM (103.7) Sundays 11 am to 1 pm

Sunday, April 3 -- "Everything you've Wanted to Know about the Universe but Were Afraid to Ask": Host Andrew Fraknoi will answer listener's questions about astronomy.

Sunday, April 17 -- Nuclear chemist Helen Michel of Lawrence Berkeley Labs will discuss how an extraterrestrial impact may have caused the demise of the dinosaurs.

Sponsored by: THE RIVERSIDE ASTRONOMICAL SOCIETY

Dear Fellow Amateur Astronomer:

Plan now to attend the 15th Annual Riverside Telescope Makers Conference on May 27, 28, 29, and 30th, Friday afternoon through Monday morning. It will be held at Camp Oakes, which is located 5 miles east of Big Bear City on Highway 38 at Lake Williams Road. This location is 50 miles northeast of Riverside, high in the San Bernardino mountains. It is a clean mountain camp which is ideally suited for deep-sky celestial observing and photography. Camp Oakes is located at an elevation of 7300 feet.

WEEKEND LODGING: This year we are offering four meal plans.

1. Five meals and lodging (or camping)...$34 per person. Begins with the Saturday noon meal and ends with the Sunday evening meal.

2. Six meals and lodging (or camping)...$36 per person. Begins with the Saturday noon meal and ends with the Monday morning meal.

3. Seven meals and lodging (or camping)..$38 per person. Begins with the Friday evening meal and ends with the Sunday evening meal.

4. Eight meals and lodging (or camping)..$42 per person. Begins with the Friday evening meal and ends with the Monday morning meal.

You do not have to pay day use fees when you pay for lodging or camping.

CAMPING: If you elect not to take the meals, you may camp on the grounds with the following fee schedule:

$10 per person for one night.
$12 per person for two nights.
$14 per person for all three nights.

If you pay for one of the meal plans, but elect not to stay in one of the dormitories, you may camp on the grounds for free. There are 18-eight sleeper Adirondaks (three sided shelters) for your use scattered through-out the camp. Please bring your own bedding, none will be furnished. There are no picnic tables or fire pits and no open fires are allowed.

DAY USE FEE: For those attending the conference who do not plan to take meals or camping, there is a day use fee of $5.00 per person per day. This fee is not to be added to the meal plans or to the camping fees. All of the above mentioned fees include registration fees.

SNACK BAR: For those who do not want to take an entire meal plan, Camp Oakes will be operating a snack bar. They will be offering various foods and beverages and will be open all day. It will be set up near the telescope field.

ARRIVAL TIME: The conference grounds will open at 1:00 pm on Friday. Please do not arrive before that time as you will not be permit-ted on the grounds.

MOTELS: If you wish to reserve a motel in Big Bear, you must do so yourself. We recommend the following motels:

ROBINHOOD INN AND LODGE
P.O. Box 2826C, Big Bear Lake, CA 92315
(714) 866-4643

TIOLA PINES
P.O. Box 1746, Big Bear Lake, CA 92315
(714) 866-2720

MOTEL 6
1200 Big Bear Blvd, Big Bear City, CA 92315
(714) 585-3996

Note: You can still take a meal plan even if you stay in Big Bear.

MERIT AWARDS: This year, as in the past, merit award certificates and engraved plaques will be awarded for displays and telescopes with novel design, exceptional craftsmanship, and use of related equipment or accessories. The Warren Estes Memorial Award will again be awarded for the best telescope made from simple materials.

Please note: We request that all telescopes entered for Merit Awards be located on the telescope field. This is because the judges have a very difficult time locating telescopes which are scattered all over the campground. Your telescope may be missed reducing its chances of getting a Merit Award.

This year we will again be awarding the Clifford Holmes Award to the amateur astronomer who contributed the most to amateur telescope making. The award consists of a plaque and $100.

SPEAKERS: We are requesting abstracts of papers for presentation at the conference. The papers must be on the subject of amateur telescope making or related equipment. The abstracts will be reviewed and 12 papers will be selected for talks. Please include your time estimate required to present your paper. These presentations will be generally limited to 30 minutes.

We will again have an open forum conducted by an "experts panel" on telescopes and related equipment. We will have three workshops on Sunday Morning. One on telescope mounts in Coombes Lodge, one on optics in the main meeting hall, and one on astrophotography in the fire ring. If you wish to participate either as a speaker or a panel member, please contact Clifford Holmes at 8642 Wells Ave, Riverside, CA 92503, before April 30th.

GUEST SPEAKER: Our quest speaker this year will be Walter Scott Houston the well known contributing editor to Sky and Telescope.

SWAP MEET: The swap meet will held again this year. The swap meet starts at 1:00 on Saturday afternoon.

DOOR PRIZES: This highly popular activity will continue as before.

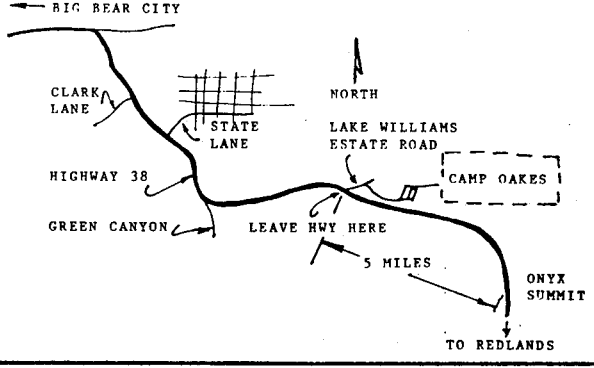
PROCEEDINGS: The proceedings of the Riverside Telescope Makers Conference will again be published by the Orange County Astronomers and will sell for $9.

COMMERICAL EXHIBITORS: Space will be available for commerical exhibitors to show and explain their astronomical products. All those planning to participate as a commerical exhibitor, must contact Jim Crum before May 1st at 5132 Sepulveda, San Bernardino CA 92404.

PETS: Please leave your pets at home.

NOTE: The pool and the boating lake will be open, so bring your swim suits.

THE CONFERENCE GOES ON....RAIN OR SHINE....OR SNOW !!



RIVERSIDE TELESCOPE MAKERS CONFERENCE
1000 CENTRAL NO. 1
RIVERSIDE, CALIF 92507

RTMC REGISTRATION FORM

NAME(S)_____

ADDRESS _____

CITY _____ STATE _____ ZIP CODE _____

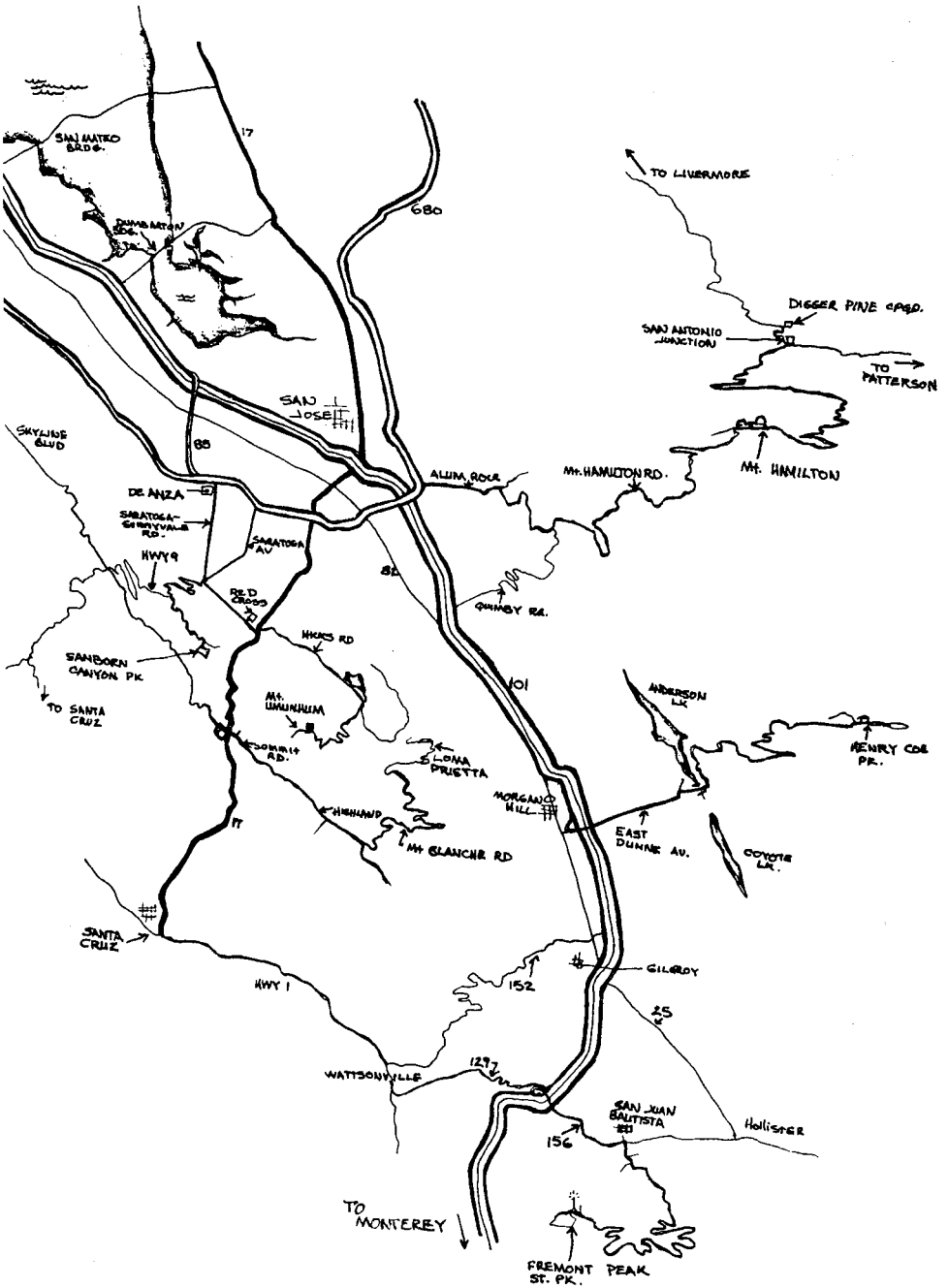
	# OF PEOPLE		AMOUNT
MEALS & LODGING - 5 MEALS	_____	X $34	_____
6 MEALS	_____	X $36	_____
7 MEALS	_____	X $38	_____
8 MEALS	_____	X $42	_____
CAMPING ..... 1 DAY (not neccesary with meals plans)	_____	X $10	_____
2 DAYS	_____	X $12	_____
3 DAYS	_____	X $14	_____
	# DAYS		
DAY USE	_____ X	_____ X $5	_____
(Not necessary with meals or camping)			
PROCEEDINGS $9 PER COPY	_____	X $9	_____
		TOTAL	=======

Make checks payable to: Riverside Telescope Makers Conference

Send to: Riverside Telescope Makers Conference
1000 Central Avenue #1
Riverside, CA 92507

Note: If you wish a receipt for your registration, send a self-addressed stamped envelope.

LOCAL ASTRONOMY SITES



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