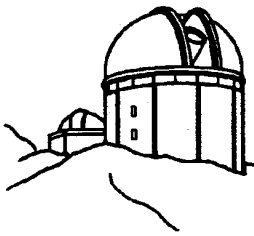

SJAA EPHEMERIS

Chasing The Mongolian Eclipse
by Ernie Piini

Never before, after 18 solar eclipses, have I chased one to its last fading moments. With a cloud cover that looked impossible to penetrate, most people would have stopped and said, "Forget it."

But miracles do happen, even with only 10 minutes left before totality. The prospect of seeing comet Hale-Bopp in the same sky with this eclipse drove us on. So why not go for it?

For four days before the big event it was surprisingly clear and cold in Ulan Batar, the capital of Mongolia. The evening before eclipse day, the entire group of 230 people from the British based Explorers Tours were thoroughly briefed with eclipse information by the knowledgeable and entertaining Dr. John Mason of England.

At the end of the briefing, and for the first time ever, we had to pay a $10 eclipse tax imposed upon us by the Mongolians. They would accept only US dollars, not Mongolian togrogs. This tells you something about the real value of the US dollar.

On eclipse day morning March 9, 1997 our caravan of 10 busses (one serving as a backup in case of an emergency) left our Hotel Bayangal at 1:50 a.m. for the five hour journey north to the city of Darhan just south of the centerline.

Our proposed destination (49deg. 53min. North lat.; 106deg. 15min. East long.) is a few kilometers north of the centerline, ill-defined as near "a bridge" at an altitude of 800 meters (2624 feet).

continued on page 3, see **Eclipse**

Activities Calendar

May

2 Houge park star party. Sunset 7:58 pm, 18% moon rise 4:17 am. Texas Star Party May 2 thru10, new site, new moon 6th.

3 Star Parties at Fremont Peak and Coe; HVAG at Grant Ranch. Sunset 7:57 pm, 10% moonrise 4:54 am.

10 Star party at Fremont Peak. Sunset 8:03 pm, 20% moon sets 11:48 pm.

16 Houge park star party, TAC at Fischer Middle School. Sunset 8:11 pm, 75% moon sets 3:25 am

17 General meeting 8pm, Dave Sworin on AAVSO. Open board meeting 6:30 pm.

23 Riverside Telescope Makers Conference thru 26th.

30 Houge park star party. Sunset 8:21 pm, 30% moonrise 2:55 am.

31 Star party, and Beginning Astronomy Class, both at Fremont Peak. Sunset 8:19 pm, 20% moon rises 3:32 am.

June

7 Star parties at Henry Coe and Fremont Peak. HVAG at Grant Ranch. Sunset 8:24 pm, 9% moon sets 10:27 pm.

13 Houge park star party, TAC at Fischer Middle School. Sunset 8:29 pm, 59% moonset 1:56 am.

14 Beginning Astronomy Class on telescopes. 8pm at Houge Park.

21 General meeting 8pm, Al Stern from the ASP. Open board meeting 6:30 pm.

27 Houge park star party. Sunset 8:32 pm, 43% moonrise 1:35 am.

28 Star partiy at Fremont Peak. Sunset 8:29 pm, 30% moonrise 2:12 am.

27-8 -- SJAA weekend at Yosemite National Park, Glacier Point.

24 hour News and Information:
SJAA Hotline: **408-559-1221**

Yosemite National Park Star Party
Jim Van Nuland

The SJAA weekend at Yosemite National Park comes early this year, June 27-28. Astronomically, it's not a good choice, as the nights are short: Friday a 41% moon rises at 1:24 am; Saturday a 30% moon rises at 2 am.

On the positive side, Yosemite should be excellent, with the falls still active. With the damage last winter, parking will be restricted, and you may not get into the park without a reservation.

Soooo, the star party gives you a reservation in the group camp at Bridalveil Creek Campground. And you get all of Yosemite for free. When you consider that many people travel 10,000 miles to see it, we can't complain.

Contact Jim Van Nuland by e-mail at <jim.van.nuland@sjpc.org> or phone 408.371.1307 from 11 am to 9 pm. I'll need a mailing address for the paperwork, or you can catch me at a meeting and save the postage.

School Star Parties
Jim Van Nuland

Unless I get some unusual requests, the star party program is recessed for the rest of the school season. May is impractical for grade schools, due to late sunset.

Thank you very much to all who participated, especially stalwarts Jim Bartolini, Terry Kahl, Gary Mitchell, Bill O'Shaughnessy, Paul Mancuso.... All are appreciated, even if you were able to help at just one or two events. The comments from teachers have been most favorable, and all are looking to have us come again.

Volume 8 Number 5 Official Publication of the San Jose Astronomical Association, May 1997

Refractors VS Reflectors

Jay Freeman

The relative performance of refractors and reflectors has been controversial for two hundred years, and one shouldn't go into the matter without acknowledging the history of the debate.

Most observers seem to agree that for lunar and planetary detail, a good refractor is better than a good reflector of the same aperture, but how much better?

Experienced planetary observers have often reported better views of low-contrast fine detail in refractors than in good Newtonian reflectors of several times the aperture, even in good seeing, with the additional caveat that in many places, the seeing is such that the larger apertures are rarely at their best.

On the other hand, I have also seen the statement that with a small-ish diagonal and thin diagonal support arms, the ratio of equivalent apertures is more like 6:5, again for fine detail.

My own experience has fallen more in the middle ground -- I would put that ratio at about 3:2, for fine detail, though I am not a terribly experienced planetary observer and so might miss subtler advantages of one telescope or another.

Furthermore, the side-by-side comparisons that I have done have generally involved 90 to 130 mm refractors versus 150 to 200 mm reflectors, or other obstructed telescopes. All the more reason why a test of larger apertures, with many observers, would be desirable.

For example, in comparison tests on Lunar detail (in good seeing for both instruments, and with both settled in thermally) the 8-inch Dobson blows the 90 mm Vixen fluorite clean out of the water. It's not even close -- for all its dazzling optics, the little fluorite is clearly out of its class when up against the 8-inch Newtonian.

The specific test I remember involved detail near the Straight Wall and in the Alpine Valley; I used the same 4 mm Meade Research-Grade orthoscopic in both telescopes -- it gave 202x in the Vixen and 254x in the Dobson.

In particular, the Dobson showed the rille at the center of the Alpine Valley for its full length; the Vixen showed no trace of it. (I'm not saying you can't see the rille in 90 mm -- perhaps a different sun angle would have improved its visibility.)

Celestial Calendar - Apr 1997

Richard Stanton

Lunar Phase	time (pdt)	date	rise	trans	set
NM	13:49	06	06:17	13:08	20:05
FQ	03:57	14	13:07	19:48	01:50
FM	02:16	22	20:32	01:06	06:26
LQ	00:52	29	01:41	07:31	13:28

Mercury Dist: 0.73 AU Mag: -1.7

date	rise	trans	set	RA	Dec
07	05:25	11:58	18:30	01:52.9	+09:30
17	04:59	11:32	18:05	02:04.9	+09:08
27	04:45	11:28	18:12	02:40.0	+12:08

Venus Dist 1.68 AU Mag -4.0

07	06:34	13:42	20:50	03:34.1	+19:01
17	06:35	13:53	21:12	04:25.3	+21:51
27	06:41	14:07	21:33	05:17.9	+23:41

Mars Dist 0.92 AU Mag -0.4

07	14:56	21:20	03:47	11:16.1	+06:37
17	14:26	20:46	03:10	11:21.5	+05:38
27	13:59	20:16	02:36	11:30.4	+04:19

Jupiter Dist: 4.89 AU Mag: -2.5

07	02:23	07:37	12:51	21:31.3	-15:20
17	01:46	07:01	12:16	21:34.8	-15:05
27	01:09	06:24	11:40	21:37.2	-14:56

Saturn Dist: 10.1 AU Mag: +1.0

07	04:48	11:03	17:18	00:58.0	+03:47
17	04:12	10:28	16:44	01:02.1	+04:11
27	03:35	09:53	16:10	01:05.9	+04:32

SOL Star Type G2V Intelligent Life in System ?

07	06:03	13:04	20:05	02:57.3	+16:51
17	05:54	13:04	20:14	03:36.6	+19:22
27	05:48	13:05	20:22	04:16.7	+21:19

Astronomical Twilight		Begin	End
JD 2,450, 575	07	04:23	21:46
585	17	04:09	22:00
595	27	03:59	22:12

Sidreal Time		
Transit Right	07	00:00 = 13:52
Ascension at	17	00:00 = 14:32
Local Midnit	27	00:00 = 15:11

Darkest Saturday Night:	03-May
Sunset	20:02 PDT
Twilight End	21:45 PDT
Moon Rise	03:20 PDT
Dawn Begin	04:28 PDT

Eclipse, continued from page 1

I was assigned to the eighth bus in line in the caravan.

We did not stay there for long because our bus driver had a little Genghis Khan blood in him, and the only position he would accept was first. Our ride could be classified as a "white knuckle" variety. The road was icy and full of chuckholes but that did not stop our driver from tailgating and passing other busses. It was only a matter of time before we were first in line, at the expense of some daring and scary moments.

At 4:10 a.m. the caravan stopped for a peek at comet Hale-Bopp, truly spectacular against a very dark sky. We hoped to see it again in a few hours 46 degrees above and to the north of the totally eclipsed sun. However, around 5:30 a.m. a weather front moved in and it began to snow. Jubilant faces soon turned gloomy.

Decision time. Do we turn around and go back south to where it had been clear (and hope that it would still be clear) and give up a minute or so of totality, or continue on in hopes that we will find it clear in Darhan? After much discussion the decision came to continue. First contact was to be at 07:49:45 a.m. and totality at 08:49:45 a.m.

Explorer's Tours had scheduled a breakfast stop in Darhan at 7 a.m. but the restaurant was not big enough or capable of handling 230 people in short order and have us back on the road again in a timely manner. Outside, the overcast sky was unpleasantly dark and gloomy.

The breakfast line I was in moved from a snow covered sidewalk and up a flight of stairs to the second floor in about 45 minutes. This was much too slow if we were to reach our site in time for totality, now less than an hour away. About ten percent of the group had been served, when word passed that we would forgo breakfast until after the eclipse; so, onto the busses again.

Like the Golden Horde, our driver "peeled rubber" and we were first out of Darhan, again leading the chase to the northeast.

Around 8:30 a.m. our hopes momentarily brightened when we saw the partially eclipsed sun trying to poke through the clouds, but it soon disappeared again behind thicker clouds. We continued our race northeastward, passing people along the roadside with cameras on tripods and Mongolians riding horses.

At about 8:40 a.m. we saw the sun trying to poke through once more, and this time a clearing was forming just a few degrees above where the sun would be during totality. We stopped, quickly got out of the bus onto the roadway, and set up what minimal equipment we would need to capture something from this eclipse.

The temperature was -27deg.C (-17deg.F). Not too cold when fully clothed with thermal underwear, two pairs of pants, snow mask, woolen cap, down jacket, inner and outer gloves, snow boots and three pairs of socks; that is, if you keep moving. But while standing in one spot for 3 minutes around totality my feet almost froze.

With the help of Michael Koop of the San Jose Astronomical Association, I had built heating blankets for my camera, camcorder and the 12-volt battery used to power the heaters. These were powered up about 30 minutes before totality to prevent my equipment from freezing. (I should have made a heat blanket for my feet.)

The highly elongated moon shadow moved over us like a tornado. While viewing the eclipse through my Canon ES-2000 camcorder's color monitor, I saw a mottled thin crescent vanish into totality at 08:49:26 a.m. local time. My time display was calibrated to within a second of Universal Time using my handheld GPS unit. The camcorder conveniently recorded the exact timing at 2nd and 3rd contact.

I could see traces of the corona along the periphery of the black disc of the moon. With about 20 seconds remaining, the display improved as the details of two streamers near the inner corona began to brighten. At 08:51:50 a.m. the "diamond ring" appeared signaling the end of totality.

The measured time of totality from my camcorder taping was 2 minutes and 24 seconds. This places the point where we stopped to view the eclipse at slightly north of the centerline at approximately 49deg, 35min N; 106deg, 05min. E. Again the wind ceased during the eclipse; a condition I have observed at 17 of the 18 eclipses I have had the good fortune to attend.

This wasn't a clean eclipse, but we did see something. Many of the 2500 people who flocked to Mongolia for this event saw nothing but clouds.

Disappointed? Not really, after all we still looked forward to seeing the Great Wall of China, Tianamin Square in Beijing, the Terracotta Army in Xian, the fabulous Li River boat ride out of Guilin and a visit to a very modern Shanghai. And how about Mongolia, better known as Genghis Khan country, with its Russian influence, gers (a mobile circular house tent) and yaks? I really enjoyed this trip.

There will be another eclipse next February 26, 1998, less than a year away in the Caribbean. No cold feet there.

Periodical Publication Statement

SJAA Ephemeris, newsletter of the San Jose Astronomical Association, is published monthly, 12 times a year, January through December.

San Jose Astronomical Association
5380 Pebbletree Way
San Jose, CA 95111-1846

SJAA Observing Sites

In informal canvassing for the SJAA site committee, some interesting ideas for observing sites and projects have come up. They seem to fall into four major categories, depending on distance.

It would also be great to see what other ideas you might have in mind for SJAA projects and sites; this list is only meant as a starting point to galvanize further ideas and actions.

1. In Town

It's common knowledge that some objects are well seen from "steady" in town sites due to their brightness, namely planets, the moon, double stars, and some other bright objects. Characteristically, these are well seen with substantial refractors.

There would be obvious advantages to an in-town site where a decent refractor could be permanently mounted both for public showing and amateur projects, particularly photo, CCD or vidcam in addition to visual.

2. Very Near Town

On weeknights or other occasions when people are short on time, a number of people have expressed an interest in having locations with very short driving distance.

Recent TAC events east of Palo Alto have drawn between 10-20 people on weeknights.

There are several lowcost or zero cost possibilities; I have already made contact with a few agencies, with particularly enthusiastic response from the county.

There is obviously a need for sites like this, and anyone with ideas or who would wish to help out would be appreciated.

3. Within About An Hour

Fremont Peak remains the favored location, though it is getting a bit bright for many photo people and galaxy hunters.

There has been some discussion of expanding the capacity at the peak by levelling some spots by the road leading to the observatory; Ranger Rick Morales said this is an idea the state park authorities have considered and would probably favor, if we wish to pursue such an operation.

The situation at Henry Coe is deteriorating, but observing is still possible from the auxiliary parking lot.

Other possibilities may workable and possible, if there is interest -- but it is questionable that the combination of access and relatively good coditions at the Fremont Peak will be greatly improved upon.

4. More Distant Sites

Already SJAA has one private location under consideration, possibly including the idea of improving the site with concrete pads etc. A site inspection and analysis is impending.

There are a few more southerly sites being inspected by members, as well as spots in the Sierras, but other than for occasional major trips (such as Yosemite or Lassen) it is open to debate whether this reasonably falls under the purview of a San Jose club.

Some projects would require funding, and there may also be creative ways to deal with this problem also. There is no reason, with sufficient interest, that we couldn't pursue all these ends and more.

Another suggestion was forming a subgroup of members interested in ATM and mirror grinding; though this is not strictly a "site" idea, it's a good thought, and the club would be more than happy to help coordinate such activities.

Please contact David North via email (North SJSU@aol.com) or telephone (297-5257) if you have further suggestions or wish to help out.

Directions to SJAA places

Houge Park is in San Jose, near Campbell and Los Gatos.

From Hwy.17, take the Camden Avenue exit. Go east 0.4 miles, and turn right at the light, onto Bascom Avenue. At the next light, turn left onto Woodard Road. At the first stop sign, turn right onto Twilight Drive. Go three blocks, cross Sunrise Drive, then turn left into the park.

From Hwy.85, take the Bascom Avenue exit. Go north, and turn right at the first traffic light, onto White Oaks Road. At the first stop sign, turn left onto Twilight Drive. You will now be passing the park. Turn right at the first driveway, into the parking lot.

Henry Coe State Park is east of Morgan Hill.
From Hwy.101, exit onto East Dunne Avenue. Continue for 12 miles, far past Andersen Reservoir, to the park, atop the ridge. The current SJAA site is the parking lot on the right about 1/2 mile before the main entrance. There is now a fee for use.

Fremont Peak State Park is south of the village of San Juan Bautista.
From Hwy.101, about 11 miles south of Gilroy, take the eastbound Hwy.156 exit. Run for 3.0 miles, to a traffic light, and turn right onto county Hwy.G-1. Follow G-1 for 12 miles into the park. Be careful to note the "left/right jog" about 1/4 mile after the turn; signs are posted. The park charges a $3 entrance fee.

Grant Ranch County Park is located on Mt.Hamilton Road, which is also Hwy.130, leading to Lick Observatory. From Alum Rock Ave. in San Jose, pick up Mt.Hamilton Rd. and go 7.7 miles to the park, on the right. Allow a half hour from the freeway. (ok, this is not really an 'SJAA place', it is where Halls Valley Astronomical Group has their star parties.)

Financial Report

Figures Supplied By Treasurer Bob Elsberry

Financial reports include the recent balance sheet, First Quarter 1997 report, and Full Year 1996 report including quarterly and annual numbers. It's easy to see the San Jose Astronomical Association is on a sound financial footing, with substantial resources in both the checking account and Observatory Fund.

SJAAMC Balance Sheet - Actual

As of March 29, 1997

ASSETS	
SJAA Checking account	3,910
Savings	
Gregory Fund	363
Observatory Fund	7,116
Total Savings 7,479	
TOTAL ASSETS	11,389
LIABILITIES	0
EQUITY General Fund	11,389
TOTAL LIABILITIES & EQUITY	11,389

SJAAMC Income and Expenses - Actual vs. Budget

January 1 through March 29, 1997

	ACTUAL	BUDGET	CHANGE
INCOME			
Bank Interest	29.71	46.97	(17.26)
Book Sales	224.00	195.70	28.30
Dues Receipts	1,623.00	1,174.19	448.81
TOTAL INCOME	1,876.71	1,416.86	459.85
EXPENSE			
Dues to organizations	0.00	19.57	19.57
Ephemeris	900.00	440.32	(459.68)
Miscellaneous	0.00	78.28	78.28
Monthly Speaker	25.00	73.39	48.39
Site Rentals-meeting	0.00	12.23	12.23
State Fees	0.00	9.78	9.78
Subscriptions	918.00	684.95	(233.05)
Telephone	30.64	48.93	18.29
Telescopes & Eyepieces	0.00	110.08	110.08
TOTAL EXPENSE	1,873.64	1,477.53	(396.11)

SJAAMC Income and Expenses – Total and By Quarter (January 1 through December 31, 1996)

	Q1	Q2	Q3	Q4	TOTAL
INCOME					
Auction Income	0.00	789.00	0.00	0.00	789.00
Bank Interest	42.77	45.52	47.00	47.17	182.46
Book Sales	198.00	0.00	0.00	0.00	198.00
Donations	0.00	100.00	5.00	600.00	705.00
Dues Receipts	1156.00	3466.00	984.00	1114.00	6720.00
TOTAL INCOME	1396.77	4400.52	1036.00	1761.17	8594.46
EXPENSE					
Auction Expense	0.00	63.50	0.00	0.00	63.50
Book Purchases	0.00	0.00	0.00	230.00	230.00
Dues to organizations	20.00	470.45	0.00	0.00	490.45
Ephemeris	422.00	760.00	0.00	250.83	1432.83
Liability Insurance	0.00	0.00	0.00	327.00	327.00
Miscellaneous	14.55	55.60	0.00	0.00	70.15
Monthly Speaker	75.00	75.00	25.00	50.00	225.00
Refund(Overpayment)	0.00	24.00	0.00	15.00	39.00
Site Rentals-meeting	0.00	25.00	0.00	25.00	50.00
State Fees	0.00	0.00	10.00	0.00	10.00
Subscriptions	696.00	1848.00	243.00	618.00	3405.00
Telephone	138.69	45.49	30.34	64.87	279.39
Telescopes & Eyepieces	120.42	(68.00)	0.00	(100.00)	(47.58)
TOTAL EXPENSE	1486.66	3299.04	308.34	1480.70	6574.74
NET INCOME (LOSS)	(89.89)	1101.48	727.66	280.47	2019.72

COMET COMMENTS

Don Machholz

Comet **Hale-Bopp** will be leaving the evening sky in early May as it moves south of the Sun. Southern Hemisphere observers will have some difficulty seeing it until it reappears in their morning sky in July. It also moves south of the ecliptic, where it will remain for the next 2,400 years. This will be the last view most Northern Hemisphere observers will have of the comet, although those in mid-Northern latitudes will be able to see it again this October and again in February 1998. More about that then.

Periodic Comet **Tempel-Tuttle** (= 55P = P/1997 E1) was recovered on March 4 by Karen Meech et. al. using the Keck II 10-meter reflector in Hawaii. This comet is responsible for the Leonid meteor shower which occurs every November. It should be visible in amateurs' scopes late this year, passing 0.36 AU from us early next year. By then it will be visible in binoculars in the northern polar region.

Comet Comments is a monthly column that I've been writing since 1978 to inform other amateur astronomers of new comet discoveries and provide information to find the brighter comets. Carried in only one newsletter (the San Jose Astronomical Association's "Ephemeris") for the first two years, the column is now carried in some three dozen newsletters.

It also appears on the Internet in America Online's Astronomy Club, and at http://members.aol.com/cometcom/index.html.

Comet Comments contains information about new comet discoveries, followed by comet news and observing tips for the comets currently visible. Next I provide ephemerides (predicted positions) for bright comets (usually all those brighter than magnitude 11) so that amateurs can find them. This is how to read these tables:

Date: This is the Universal Time for the comet's position. The positions are for 00 hours Universal Time (UT). The United States is a few hours earlier than this, so for a comet viewable in the evening, look for it on the night preceding the indicated date.

R.A. and Dec: Right Ascension and Declination in 2000.0 equinox coordinates. These can be plotted on a star chart and found by star-hopping, or by using setting circles.

El: The elongation of the comet; the number of degrees it is from the Sun as seen from the Earth.

Sky: Morning (M) or evening (E) sky.

Mag: The predicted magnitude or brightness of the comet. The brightness of a comet is difficult to predict so this is only a guess based upon past performance and comet theory.

Ephemerides -- Epoch 2000, 0h UTC

C/1995 O1 (Hale-Bopp)

Date	R.A.	Dec	El	Sky	Mag
00 UT	2000				
05-02	04h44.2m	+25°23'	31°	E	-0.4
05-07	04h59.2m	+22°25'	29°	E	-0.1
05-12	05h12.4m	+19°38'	28°	E	0.1
05-17	05h24.3m	+17°02'	26°	E	0.4
05-22	05h35.1m	+14°35'	24°	E	0.7
05-27	05h45.1m	+12°17'	23°	E	0.9
06-01	05h54.4m	+10°05'	22°	E	1.2
06-06	06h03.2m	+07°59'	22°	E	1.5
06-11	06h11.5m	+05°58'	22°	E	1.7
06-16	06h19.4m	+04°00'	22°	E	1.9

81P/Wild 2

Date	R.A.	Dec	El	Sky	Mag
00 UT	2000				
05-02	09h15.7m	+18°50'	94°	E	10.3
05-07	09h27.4m	+18°02'	92°	E	10.4
05-12	09h39.5m	+17°10'	90°	E	10.4
05-17	09h51.8m	+16°13'	88°	E	10.5
05-22	10h04.3m	+15°11'	87°	E	10.6
05-27	10h16.9m	+14°05'	85°	E	10.6
06-01	10h29.6m	+12°55'	84°	E	10.7
06-06	10h42.3m	+11°43'	82°	E	10.8
06-11	10h55.0m	+10°27'	81°	E	10.9

46P/Wirtanen

Date	R.A.	Dec	El	Sky	Mag
00 UT	2000				
05-02	06h02.5m	+29°54'	49°	E	11.5
05-07	06h25.7m	+30°14'	49°	E	11.7
05-12	06h48.4m	+30°18'	50°	E	12.0
05-17	07h10.4m	+30°08'	50°	E	12.2
05-22	07h31.6m	+29°46'	49°	E	12.4
05-27	07h52.0m	+29°13'	49°	E	12.7
06-01	08h11.4m	+28°31'	49°	E	12.9
06-06	08h29.9m	+27°41'	48°	E	13.2
06-11	08h47.5m	+26°45'	48°	E	13.4

Orbital Elements -- Epoch 2000.0

Object:	Hale-Bopp	P/Wirtanen	P/Wild 2
Peri. Date:	1997 04 01.135	1997 03 14.143	1997 05 06.62789
Peri. Dist (AU):	0.9141030 AU	1.0637469 AU	1.5826156 AU
Arg/Peri (2000):	130.59083°	356.34322°	041.77000°
Asc. Node (2000):	282.47069°	082.20387°	136.15458°
Incl (2000):	089.42936°	011.72255°	003.24276°
Eccen:	0.9950969	0.6567490	0.5402220
Orbital Period:	~2400 years	5.46 years	6.39 years
Reference:	MPC 28052	MPC 27080	MPC 28272
Epoch:	1997 03 13	1997 03 13	1997 04 22
Absol. Mag/"n":	-1.5/4.0	9.0/6.0	7.0/6.0

Astro Ads

Meade LX200 10 inch f/10, excellent condition, includes 3 eye pieces plus Barlow lens and accesories. $2,900.
Patrick (408) 269-7709
70262.1363@compuserve.com

Patrick Rodriguez
Brand new **Celestron C90** spotting scope model 81011 with special coating, 45 degree erect image diagonal, 25mm sma wide angle lens, and a celestron hard case $250.
Loran 408-733-1110

Celestron Firstscope 60 EQ: "like-new" condition (less than 3 months old). Recently bought a larger scope. 60 mm equatorial refractor. Includes 20 mm, 12.5 mm, and 2X .96" Barlow lens. Asking $90.
Mike (w)408-256-0881

Astro Ads are free to all noncommercial advertisers selling astronomically related products or services. Please send your ad directly to the Editor, (via e-mail to northsjsu@aol.com or a letter to 549 Arleta Ave, San Jose, CA 95128). Ads will run for one month and be automatically deleted unless you request an extension (hasn't sold yet) by the 10th of the previous month.

Telescope Loaner Program Status

Mike Koop

No.	Scope Description	Borrower	Due Date
1	4.5" Newt/P Mount	Nick Tucci	6/2/97
2	6" f9 Dob	John Paul De Silva	never returned
3	4" Quantum S/C	Michael Lagae	6/11/97
4	60mm refractor	Del Johnson	indefinite
5	60mm refractor	**available**	
6	8" Celestron S/C	Rudy Norvelle	5/11/97
7	12.5" Dobson	Tim Sanstrom	4/9/97
8	14" Dobson	Ramin Ghafouri	5/19/97
9	C-11 Compustar	Paul Barton	Indefinite
15	8" Dobson	Jack Kellythorne	6/2/97
16	Solar Scope	Jack Peterson	indefinite note 2
18	8" Newt/P mount	Ram Saxena	6/12/97
19	6" Newt/Polar mount	Gary Flint	4/19/97
21	10" Dobson	Clyde Janick	5/24/97
23	6" Newt/P mount	**available**	
24	60mm refractor	Ravi Tembhekar	5/24/97
26	11" Dobson	Alex Crichton	5/1/97
27	13" Dobson	Lee Courtney	6/5/97
28	13" Dobson	Bob Bootz	6/15/97
29	C8, Astrophotography	Scott Wade	6/11/97
30	7" f/9 Newt/pipe mount	Brian Ambrose	5/1/97

Waiting List
1 4.5" Newt/ P Mount Mike Bennett
Nctes:
2. Available for special occasions, call.
3. Does anyone know the whereabouts of John Paul De Silva?

All scopes are available to any SJAA member. To reserve a scope, please contact Mike Koop at (408) 473-6315 or via email at koopm@best.com.

Members are encouraged to submit articles for publication in the SJAA Ephemeris. Send articles to Dave North (via e-mail to North SJSU@aol.com. Articles received by the 10th will be put in the following month's newsletter. Please include your name and phone number.

Lassen Star Party Closed

Signups for the Lassen star party over the Fourth Of July weekend are now closed since all available space has been filled. – *Mark Wagner*

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Telescope Loaner Program

Mike Koop 446-0310

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San Jose Astronomical Association Membership Form

New __ Renewal ___
Membership - $15 ___
Junior (younger than 18 years old) - $6 ___
Sky and Telescope - add $27 to membership
(Sky & Tel will not accept multiyear subscriptions)

Make checks payable to "SJAA"

Bring this form to any SJAA Meeting
or send (along with your check) to
Bob Elsberry, Treasurer
San Jose Astronomical Association,
5380 Pebbletree Way
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