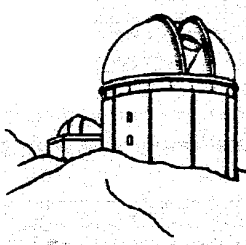

SJAA EPHEMERIS

Benoit On CCD's

David North

Last month's meeting was graced by a one of the foremost amateur CCD shooters in the US, Benoit Schillings, who told us everything there is to know about amateur adaptive optics in the guise of explaining CCD's. But it made perfect sense, as that's the aspect of CCD use Benoit has been working on for the past few years.

It started with a challenge from an Internet buddy to take the resolution to the limit and beyond, the kind of challenge Benoit apparently can't resist. His immediate solution was not to fuss with the CCD itself, but work on getting the guiding and imaging tighter. It seemed logical to get a couple of speaker cores, a mirror, a couple of nails, glue the whole mess together, and program it into an adaptive optical guiding system. So he did.

But it didn't look pretty, so an engineer friend cobbled together Mark II, which looked much better (and apparently worked so well that SBIG gobbled it up and is selling it with their cameras).

His objective was to get a modest aperture amateur instrument to deliver images with sub-arcsecond resolution. He's come fairly close already, by improving sampling rates, the hardware, and writing all manner of software refinements to bring an ever tighter result.

See **Benoit**, p. 2

JULY

3 Houge park star party. Sunset 8:32 pm, 72% moon sets 2:26 am.

11 General Meeting at Houge Park, 8 pm. Open board meeting 6:30 pm.

17 Houge park star party. Sunset 8:27 pm, 42% moonrise 1:56 am.

18 Star party at Fremont Peak. Sunset 8:23 pm, 23% moonrise 2:39 am.

25 Star party at Fremont Peak, Coe. Sunset 8:20 pm, 7% moonset 9:47 pm.

31 Houge park star party. Sunset 8:25 pm, 85% moonset 3:53 am.

AUGUST

1 Beginning Astronomy class "Planetary Observing" with Rich Neuschaefer. Houge Park, 8 pm.

8 General Meeting at Houge Park, 8 pm. Jose Olivarez, former Jupiter recorder for ALPO and now scientific director for Chabot Planetarium will present "The Wonders of Jupiter". Open board meeting 6:30 pm.

14 Houge park star party. Sunset 8:05 pm, 45% moonrise 11:40 pm.

15 Star party at Fremont Peak. Sunset 8:03 pm, 34% moonrise 12:27 am.

22 Star parties at Fremont Peak, Coe. Sunset 7:54 pm, no moon.

28 Houge Park star party. Sunset 7:46 pm, 40% moon sets 10:30 pm.

Please note that SJAA insurance only covers SJAA members at SJAA sponsored events.

24 hour News and Information:
SJAA Hotline: (408) 559-1221
Web Address: http://www.seds.org/billa/sjaa/sjaa.html

The Celestial Tourist Speaks

Jay Freeman

On 3C273:

I chased down 3C273 in the early 1980s, with my Celestron 14, and had rather similar reactions to viewing it. One thought was that — depending on your view of cosmology and which value of the Hubble Constant you think is right — I was looking at an object that was something like fifteen to thirty percent of the way back to the beginning and/or out to the edge, and that the light that reached my eyes had originated at a time when probably all the multicelled creatures that now live on Earth had a single common ancestor, which was a species of bacterium.

As the line from the book version of "2001: A Space Odyssey" states, "It goes on forever... and it's full of stars..."

On Deep Impact:

There's good news and there's bad news. The bad news is that the movie is not excellent science fiction, but the good news is that it is in fact pretty good. The movie is a dramatization of a global effort either to divert a major impactor — a comet — or to plan to survive and rebuild after it hits. The effort is better orga-

See **Tourist**, p. 2

Volume 9 Number 7 Official Publication of the San Jose Astronomical Association. July 1998

Perseis, from p. 1

But such heady results are not necessarily the effect most amateurs are seeing. Since the adaptive head works independently of the mount, it has the side effect of correcting some of the slop in cheaper mounts — and the longer the exposure, the more it can come into play. As a result, some folks who were previously getting spreads as bad as six arcseconds are now doing half that, with nothing more than the addition of the adaptive optic guider.

His talk was very thorough, very clear, and very easy for everyone present to understand. Unfortunately for those who are interested in lunar and planetary CCD imaging, those exposures are usually too short to get much help from this guiding system. On the other hand, he's been cobbling up a program to "sample" the results of a series of short images, toss out the ones that happened in poor seeing, and save the good ones for later manipulation . . . stay tuned!

Overall, it was up to Benoit's standards of excellence: he speaks well, employs ample wit and charm, and covers his subject as few people can (few amateurs are as familiar with CCD work as he is; you may have seen his photos in SBIG ads).

We'd all like to once again extend our thanks for his excellent presentation.

Tourist, from p. 1

nized and more successful than I think likely, given the short time and the difficulty of the task, and I am not sure I agree with all of the technical details of the plan — in particular of the proposed means of American survival and the geology of its location. Nonetheless, the guts of what you would probably try to do, and of the many ways in which it might go wrong, are there, and are presented in a way most viewers will understand. Hugo Gernsback would have approved.

Science details ranged from poor to excellent, with the average pretty good. Most of the scientific lapses were for dramatization, and forgivable; many others were unimportant. There was nothing that had me laughing hysterically in scenes that were supposed to be dramatic and exciting. Poor science in a movie sometimes affects me much the same way that rubbing a balloon does others; the worst experience of that kind in this movie was an exploding jeep in an early sequence. That's not bad for professional science fiction cinema, which has all too often failed to advance its standards of scientific accuracy much beyond Ed Wood.

The Shallow Sky

Akkana Peck

July: The Return of Jupiter and Saturn!

Mercury is almost lost in the sun's glare, and will only be visible with great difficulty in the evening sky. It reaches greatest eastern elongation on the night of the 16th.

Venus is visible in the morning sky, rising about two hours before sunrise. Mars emerges from the sun's glare and will be visible with some difficulty a bit below Venus, an hour or two before sunrise.

The big news for July is that Jupiter is back! Our large neighbor rises around midnight at the beginning of July, and by 10pm at month's end. It begins retrograde motion on July 18th. On the morning of July 20, observers who stay up until 3:24 am can watch for a double moon shadow transit, of Io and Callisto.

Saturn, too, will be observable this month; it rises near midnight. The ringed planet reaches western quadrature on July 26, which means that for the next few months the shadow of the planet on the rings should be particularly noticeable even in a small telescope.

The dim outer planets are all fair game for telescope users this month. Uranus and Neptune are in Capricornus. Pluto is near the Scorpius-Ophiuchus border. Neptune reaches opposition on July 23, and should appear as a 2.5 arcsecond diameter disk.

The Delta-Aquarid meteor shower peaks on July 29 (two days before the first quarter moon), with a predicted rate of up to 20 meteors/hour.

To Subscribe to/Unsubscribe from the SJAA Mailing List send mail to
sjaa-request@seds.org
with a blank subject line followed by a single text line that says "subscribe" or "unsubscribe"

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, California 95111-1846

RTMC

David North

I thought I'd drop a few notes about RTMC, as the SJAA nonprofit representative who attended.

The short and sweet of it is: go. It's fun, there are some neat scopes to see, and you'll meet just about everyone in the U.S. who fools around with telescopes, makes them, sells them, fixes them, whatever. Ideas and inspiration abound.

It's held up in the mountains nowhere near Riverside, but rather at a camp outside Big Bear east of LA.

The first thing you notice is the dirt roads all over the place, and a layer of dust about four inches thick. Everywhere. (Also that they want $15 a head per day, which is pretty stiff if you're cheap like me.)

The dust turns out to be thematic. Walking anywhere near the main road is risking permanent silicon deposits in your lungs, so we found ways to cut across the countryside to get to the convention from where we had to park (there is hardly any parking available, so it's basically a question of finding some patch of off-road where you can leave your car — usually a modest 5-10 minute hike from the convention, so take what you need when you leave your car).

At the exhibition field, a gust of wind can blow grit in your eyes, and there is a constant drift of "fines" in the air.

I simply can't imagine setting up a machine-driven telescope in this environment. You'd have to be *very* motivated to let other folks look at it, as there is a good chance the primary will be dirt covered after even an hour. Grit in bearings... ack! But worry not: just take something small and simple, because the place is rotten with aperture and you'll have no problem seeing things. I wasn't there at night, but the skies were clear and the seeing apparently killer on Friday night (before I got there).

There are other places away from the road and foot traffic, with some grass or other vegetation, and maybe a little wind shelter... where it doesn't seem so bad. This might explain why you wander off the road into various fields and see all manner of cool scopes set up where nobody would ever see them without some odd side-trips.

There is also a grass field near a horse stable (phew) that had a lot of scopes, but it's right next to a dust "loop" road that gets a lot of traffic. Almost all the scopes were well covered, but there was so much crud in the air it was hard to tell how effective the covers were.

As a result, some of the coolest stuff was nowhere near the well-traveled areas. And there certainly was a lot of innovation to check out.

Temperatures were moderate on Saturday (only there one day) and very pleasant. Mostly sunny with some clouds. The people who ran the snack bar were very efficient, and the food was okay. I was surprised they sold cold sodas for only 50 cents, so overall you have to hand it to them for "the food thang."

Since the greatest fraction of attendees were middle aged guys (like me) the Boy's Rooms were always crowded, but the Lady's Rooms were wide open. This was kinda fun in that we got to see what this complaint was like (I hear it a lot from women).

As a result, for this reason alone I can definitely recommend this as a place for women to go.. quite literally.

Among the amateur innovations present was an f/40 (roughly) refractor with about a 4.5-inch aperture. He had also made a collection of eyepieces. Overall, I couldn't see a dang thing through it, but couldn't figure out how to focus it either, so who knows? It looked cool. You moved it in azimuth by dragging a desk around, and altitude had a "fine" adjustment on the desk and a "coarse" adjustment by cuckoo clock weights. Lotsa fun.

There was a very, very nicely built split ring made of wood and aluminum, with every aspect well-designed and finished. There were several small Dob's, including one from the young lady who made last year's "erector set" scope. Being small (about six inches) she had the usual elevation bearing problem, but solved it by putting Velcro between the Teflon pads. The action was very smooth and positive.

Another interesting scope was a large Dob where the alt bearings were so large they extended beyond the box, so there was no real rocker box. The shroud used a "duct tape" holding method that really looked neat.

The Yard Scope was there.

Also notable was a curved-screw barn door mount with an incredibly stable crutch tripod that will track (according to the builder) at very high accuracy for over an hour.

Not on general exhibit, but throughout the campground (hidden in trees etc.) were a whole selection of other gems. Of particular interest were a two- tube design on a six inch f/4 (this is one of the most portable scopes I've ever seen) and a 10-inch f/5.3 with tube and mount build entirely by the owner. It was a nicely made GEM that made me think this is what Cave would

See **RTMC**, p. 4

RTMC, from p. 2
be making now if they were still in business. Very straightforward, solid and smooth.

And that's just the tip of the iceberg. Of course, almost every scope there had some small or not-so-small innovation. The best way to see the details is, of course, to go.

There were tons of commercial vendors, including Celestron, Meade, Astrophysics, Starsplitter, Orion, Pocono, Joe Sunseri, Bill Vorce, Teletrade, Protostar, Mountain Instruments (incredible mounts!) and our own Crazy Ed Optical of course.

Most interesting to me were Starsplitter (a very nice 4.5 with a good mount and a chance to look at their scopes, which I seldom see) and Celestron (showing their new cheapie mounts, which do not look all that good at first glance). Pocono was showing a series of refractors they will someday import, and they looked interesting.

Joe Sunseri gets my award for neatest layout, but Ed (along with Bryan Greer) gets my nod for Most Fun Place To Hang Out.

Overall, it was fascinating to meet all these folks and see their inventory firsthand. Definitely useful for the ATM in all of us.

Lunacy

David North

...and there will be a good Moon on the Fourth of July aphelion when you can see the smallest Moon of the year (a joy for some, a tragedy for others)... which I will celebrate by running the 30-inch at Fremont Peak, five days short of full Moon.

Speaking of full Moon, this one's a humdinger — don't miss it. The libration of the western limb toward us is at maximum that day: five degrees. If the terminator cooperates sometime during the night , you'll get a look at the mountains and craters of Mare Orientale. This is a rare opportunity to see one of the most amazing impact sites mere amateurs can "tune in."

It's a little tricky, though. The full Moon is officially on the 9th, but early in the morning. This means the best views will be late in the evening on the 8th, or very possibly in the wee morning hours of the ninth. Any time after midnight should be very good, though. After about 4-5 am, I expect the terminator might be a bit close to the edge, but it would be interesting to hear from anyone who rises that early (or stays up that late).

Those of you who took last month's advice to check in on the 8th got a real treat: a sharp view all the way to Montes Rook. This month should be much better.

On the 14th, Jupiter will make a close approach (daytime), and on the 16th, Saturn will do the same (night).

To some extent, this month's "star" is the first quarter Moon: the month both begins and ends with it. Both the first and 31st have first quarter Moons. As far as I know, there is no term for the second first-quarter Moon in a single month, but I guess we could just call it "terrific."

July isn't the very best month for the new Moon, but it isn't bad. This means the Moon will be high in the sky as the lunation begins, so it's a good time to get a look at the eastern features such as Mare Crisium, Endymion, and the Gang Of Four (Langrenus, Vandelinus, Petavius and Furnerius). There is a lot to see in the east, and it will be accessible twice (both at new and just after full) making this a good opportunity to compare "sunrise" views with "sunset" views later in the month. It's fun; they really do look different.

Editor's Extras

David North

Mark Wagner recently made some comments that reflect my own prejudice, so of course I want to repeat them: "I decided to try my new observer's eye patch. After a bit of feeling silly (sillier) at looking like a pirate at a cannon in my own backyard, I became accustomed to the patch, and began enjoying the sensation of observing with both eyes open. I can see how this is effective in relaxing the observing eye. So sorry if I look like Long John Silver at star parties from now on, but if you get one of these inexpensive observing aids, I think you'll join the pirate crew too!" Argh, Matey!

News from the FPOA: After a day of rebuilding the clutches, reattaching finders, moving mirrors and a fair amount of grunting while lifting the truss assembly back onto the mounting, the Fremont Peak Observatory's 30" Challenger Telescope was finally made ready for the sky again. In a couple of weeks the new custom-made focusers will be finished and installed along with the light baffles so we can go back to observing Venus in the day and faint galaxies at night (that is if those dratted clouds stay away). Thanks were extended to all who helped out, including a number of SJAA members. Now that the 30-inch is back in operation, a certification class will be scheduled and announced in the near future. Incidentally, the new color scheme is red and cream.

I'm putting the "board meeting notes" in my own column this month since there really wasn't one. Four of us showed up for the June meeting (Ed Erbeck, myself, Mike Koop and Terry Kahl) but that did not constitute a quorum. All the other members called to say they could not or might not make it, so we stayed around in the event one of the maybes became a "show." No luck. As a result, there was no official action, and all matters are deferred until next month, when hopefully there will be enough board members to make a quorum.

Some of you may have noticed John Gleason was scheduled to present astrophotography at the Beginning Astronomy Class this month, but it didn't work out. Please note it has been rescheduled for September. There will be a "summer break" in July; no session will be held.

Comet Comments

Don Machholz

Several faint comets have been discovered recently, they will remain dim. Meanwhile Comet Stonehouse is fainter than magnitude twelve and Comet SOHO fades in the southern sky.

Jean Mueller discovered a new comet while conducting the second Palomar Sky Survey. Comet 1998 K1 (Mueller) was found in the northern evening sky at magnitude sixteen and will not get closer to the sun than 3.7 AU's.

The Lincoln Laboratory searches the sky for asteroids and is quite successful in finding them. Within the past month it found three asteroidal objects which upon close inspection reveal a tiny coma. Often these comae are only a few arc-seconds across. One object showed no coma at all, but a tail 19 arc-seconds long. These three comets are designated C/1998 K2 (LINEAR), C/1998 K3 (LINEAR), and C/1998 K5 (LINEAR).

COMET HUNTING NOTES: At what declination (number of degrees north or south of the equator) do amateur astronomers visually discover comets? The finds range from +72 degrees to -62 degrees. From 1975 to the present, of the 43 comets found in the Northern Hemisphere, seven were found north of +45 degrees. Sixteen were between +20 and +45 degrees and the remaining 20 were found between the celestial equator and +20 degrees. As for the 34 southern comets, five were found south of -45 degrees while 16 more were between -20 and -45 degrees. The remaining 13 Southern Hemisphere comets were found between the celestial equator and -20 degrees.

DonM353259@aol.com.
Web Page: http://members.aol.com/cometcom/index.html
CC234XT 01-07-98 Don Machholz (530) 346-8963

Ephemerides (for 0h UT)

C/1997 J2 (Meunier-Dupouy)

Date (00UT)	R.A. (2000)	Dec.	El.	Sky	Mag.
07-01	22h23.4m	+26°58'	106°	M	11.4
07-06	22h20.2m	+26°08'	111°	M	11.3
07-11	22h16.5m	+25°09'	116°	M	11.3
07-16	22h12.2m	+24°03'	122°	M	11.3
07-21	22h07.5m	+22°48'	127°	M	11.3
07-26	22h02.4m	+21°24'	132°	M	11.3
07-31	21h56.9m	+19°51'	137°	M	11.3
08-05	21h51.3m	+18°10'	143°	M	11.3
08-10	21h45.6m	+16°21'	147°	M	11.3

C/1995 O1 (Hale-Bopp)

Date (00UT)	R.A. (2000)	Dec.	El.	Sky	Mag.
07-01	06h21.4m	-50°44'	74°	M	10.4
07-06	06h26.3m	-51°06'	74°	M	10.5
07-11	06h31.2m	-51°30'	74°	M	10.5
07-16	06h36.0m	-51°57'	74°	M	10.5
07-21	06h40.8m	-52°26'	75°	M	10.6
07-26	06h45.5m	-52°58'	75°	M	10.7
07-31	06h50.0m	-53°33'	76°	M	10.7
08-05	06h54.4m	-54°10'	76°	M	10.8
08-10	06h58.7m	-54°49'	77°	M	10.8

C/1998 J1 (SOHO)

Date (60UT)	R.A. (2000)	Dec.	El.	Sky	Mag.
07-01	08h28.1m	-39°23'	68°	E	10.3
07-06	08h44.3m	-41°33'	69°	E	10.7
07-11	08h59.8m	-43°27'	70°	E	11.1
07-16	09h14.9m	-45°11'	70°	E	11.5
07-21	09h29.5m	-46°46'	70°	E	11.8
07-26	09h43.7m	-48°13'	70°	E	12.2
07-31	09h57.6m	-49°35'	70°	E	12.5
08-05	10h11.2m	-50°52'	70°	E	12.7
08-10	10h24.6m	-52°05'	69°	E	13.0

Orbital Elements

Object:	Hale-Bopp	Meunier-Dupouy	SOHO
Peri. Date:	1997 04 01.1347	1998 03 10.4365	1998 05 08.6168
Peri. Dist (AU):	0.914008 AU	3.051015 AU	0.153218 AU
Arg/Peri (2000):	130.5787 deg.	122.6755 deg.	110.5431 deg.
Asc. Node (2000):	282.4653 deg.	148.8429 deg.	351.6653 deg.
Incl (2000):	089.4268 deg.	091.2731 deg.	62.9286 deg.
Eccen:	0.995085	1.000760	1.0
Orbital Period:	~2500 years	Long Period	Long Period
Ref:	MPC 30738	MPC 30738	MPEC 1998-L07
Epoch:	1997 12 18	1998 03 08	1998 05 08
Absol. Mag/"n":	-1.0/4.0	4.0/4.0	8.0/4.0

SUBMIT

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

Celestial Calendar July 1997

Richard Stanton

Lunar *(all times PDT)*

Phases	Time	Date	Rise	Trans	Set
FQ	11:43	01	12:17	18:23	00:05
FM	08:01	09	19:35	00:48	05:05
LQ	07:13	16	00:16	06:03	12:36
NM	05:44	23	05:17	12:26	19:31
FQ	04:05	31	12:51	18:27	00:33

Mercury 0.84 A.U. Mag. 1.4

Date	Rise	Trans	Set	R.A.	Dec.
07	07:51	14:57	22:02	08:48.8	+18:50
17	08:13	15:01	21:48	09:33.5	+13:46
27	08:09	14:42	21:15	09:55.5	+09:36

Venus 1.45 A.U. Mag. 4.1

Date	Rise	Trans	Set	R.A.	Dec.
07	03:48	11:04	18:21	04:56.4	+21:22
17	03:56	11:16	18:37	05:47.9	+22:34
27	04:08	11:29	18:51	06:40.2	+22:44

Mars 2.5 A.U. Mag. +1.5

Date	Rise	Trans	Set	R.A.	Dec.
07	04:44	12:10	19:36	06:02.8	+24:02
17	04:34	12:00	19:25	06:32.2	+23:55
27	04:26	11:49	19:13	07:01.2	+23:28

Jupiter 4.44 A.U. Mag. -2.7

Date	Rise	Trans	Set	R.A.	Dec.
07	00:04	06:01	11:58	23:54.4	-02:01
17	23:22	05:22	11:19	23:55.1	-02:00
27	22:42	04:42	10:39	23:54.7	-02:06

Saturn 9.4 A.U. Mag. +0.8

Date	Rise	Trans	Set	R.A.	Dec.
07	01:35	08:10	14:45	02:04.0	+10:01
17	00:58	07:33	14:08	02:06.2	+10:10
27	00:20	06:55	13:31	02:07.9	+10:16

SOL Star Type G2V Intelligent Life in System?

(HOD = Hours of Darkness)

HOD	Dt	Rise	Trans	Set	R.A.	Dec.
05:32	07	05:51	13:13	20:34	07:05.1	+22:36
05:50	17	05:57	13:14	20:30	07:45.8	+21:13
06:14	27	06:05	13:14	20:23	08:25.6	+19:14

Astronomical Twilight		Begin	End
JD 2,451,001	07	03:58	22:27
011	17	04:09	22:18
021	27	04:21	22:07

Siderealtime

Transit Right	07	00:00 =	17:52
Ascension at	17	00:00 =	18:31
Local Midnit	27	00:00 =	19:11

Darkest Saturday Night	25-Jul-98
Sunset	20:24
Twilight End	22:09
Moon Set	21:51
Dawn Begin	04:18
Hours Dark	06:09

Activities Through Other Clubs

TAC has reserved the Montebello site for every Wednesday, more or less indefinitely (weather permitting). It's a good idea to check TAC's web-page at **http://www.rahul.net/resource/TAC/** (mailing list archives) before going. There must be a permit holder present to use the facility. To get there, take Page Mill Road off 280 (or get to it via El Monte Road) until you're near the top. Montebello's sign will be visible on the left.

First quarter Friday star parties have become a "mobile" event, and checking their web page (**http://www.rahul.net/resource/TAC/**) is the best way to get times. Third quarter Friday star parties are at Van Meter school when the skies cooperate.

PAS opens Foothill Observatory for public viewing every clear Friday evening from 8:30 p.m. until 11:00 p.m. PAS operates a 16-inch reflector and a 6-inch refractor. Solar viewing is also held every clear Saturday morning from 10:00 a.m. until noon with a very nice filter setup. Both of these programs are outstanding, and all SJAA members are encouraged to check them out.

July

10 PAS General Meeting "Instruments Night" 7:30 pm at Foothill College

15 PAS Board Meeting 7:30 pm Foothill College Observatory

August

14 PAS General Meeting 7:30 pm at Foothill College

19 PAS Board Meeting 7:30 pm Foothill College Observatory

In addition, PAS will be having a series of star parties at Foothill Park this year. As in past years, anyone bringing a "telescope" gets access to the park for free, and the Palo Alto residency requirement is waived.

May 30 (1st quarter moon)
June 20 (new moon)
July 25 (new moon)
August 29 (1st quarter moon)

These are all Saturday evenings. Start time is at or before sunset; come early, bring supper, and enjoy the view. End time is around 11 pm; the park rangers will make the call (sometimes they decide to hang around and look through the scopes themselves). Setup is on Vista Hill, with parking for astronomers on the inner/upper loop, which is blocked off to the public. The public parks on the outer/lower loop.

If you want to participate, just show up at the gate to Foothill Park (up Page Mill Road from 280) with your telescope and the ranger at the gate will let you in.

Stanford Seminars

There is a series of presentations on New Science and Technology in the Aerospace Age throughout the summer on Thursdays, 8:00 pm at Terman Auditorium, Stanford University. All SJAA members are invited, there is no charge for admission & reservations are not required. For more information call: (650) 723-3328. (Not to single anyone out, but some folks around here will find the July 30 talk of particular interest.)

7/2 G. Scott Hubbard, Associate Director, Space; NASA Ames Research Center "The Lunar Prospector Mission: Concept & Early Results"

7/9 Dr. Edwin Erickson, Research Scientist, Astrophysics Branch; NASA Ames Research Center "The Decade(s) of Infrared Astronomy"

7/16 Dr. Dallas Denery, Deputy Chief of Air Traffic Management; NASA Ames Research Center "The Future of Air Traffic Management"

7/23 Dr. Christopher McKay, Research Scientist, Planetary Systems Branch; NASA Ames Research Center "The Search for Life on Mars and Beyond"

7/30 Dr. Frank Drake, President, The Search for Extraterrestrial Intelligence Institute "The Search for Extraterrestrial Intelligence"

8/7 Dr. Michael Carr, Chief, Astrobiology Branch; The United States Geological Survey "Early Results from Mars Global Surveyor"

Officers and Board of Directors

Pres Ed Erbeck 379-5413
VP David North 297-5257
Sec Jim Van Nuland 371-1307
Tres Bob Elsberry 226-4483
Dir Bill Arnett 650-780-9645
Dir Terry Kahl 629-0563
Dir Mike Koop 446-0310
Dir Bill O'Shaughnessy 984-3985
Dir Mark Taylor 737-9135

Ephemeris Staff

Editor David North 297-5257
Circulation Bob Brauer 292-7695
Lew Kurtz 739-7106
Layout Mrs. Crazy Ed
Proofing Bill Arnett

Mentoring Program Chairman

Ed Erbeck 379-5413

Activities Committee

Bill O'Shaughnessy 984-3985
Dave Smith 978-5503

Observational Astronomy Teacher

Jack Zeiders 281-0220

Observatory Committee

Bob Brauer 292-7695
David North 297-5257

School Star Party Chairman

Jim Van Nuland 371-1307

Telescope Loaner Program

Mike Koop 446-0310

Web Page

Bill Arnett billa@znet.com

TELESCOPE LOAN PROGRAM STATUS

Mike Koop

All scopes are available to any SJAA member. To reserve a scope, please contact Mike Koop at (408) 473-6315.

Current Scope Loans

These are scopes that have been recently loaned out. If you are interested in borrowing one of these scopes, you will be placed on the waiting list till the scope becomes available after the due date.

No.	Scope Description	Borrower	Due Date
6	8" Celestron S/C	Ravi Tembhekar	7/26/98
8	14" Dobson	Ralph Seguin	6/23/98
15	8" Dobson	David Kingsley	6/14/98
21	10" Dobson	Ann Hastings	7/3/98
23	6" Newt/ P Mount	Alexander Koczur	6/14/98
24	60mm Refractor	Marlene Nylander	7/17/98
27	13" Dobson	Jeff Crilly	6/28/98
28	13" Dobson	Mark Stalions	8/3/98
29	C8, Astrophotography	Michael Lagae	7/17/98

Extended Scope Loans

These are scopes that have had their loan period extended. If you are interested in borrowing one of these scopes, we will contact the current borrower and try to work out a reasonable transfer time for both parties.

No.	Scope Description	Borrower	Due Date	
1	4.5" Newt/ P Mount	Mark Cousins	5/24/98	
2	6" f/9 Dob	John Paul De Silva	?	Note 0
4	60mm Refractor	Del Johnson	Indefinite	
7	12.5" Dobson	Nick Tucci	6/11/98	
9	C-11 Compustar	Paul Barton	Indefinite	
16	Solar Scope	Mike Koop	6/13/98	
18	8" Newt/ P Mount	Cecelia Yarnell	4/18/98	

Available Scopes

These are scopes that are available for immediate loan, stored at other SJAA members homes. If you are interested in borrowing one of these scopes, please contact Mike Koop by email or at (408) 473-6315 for a scope pick up at any of the listed SJAA events.

No.	Scope Description	Stored At:	
3	4" Quantum S/C	Lew Kurtz	
19	6" Newt/P Mount	Marlene Nylander	
26	11" Dobson	David Manley	
30	7" f/9 Newt/Pipe Mount	David Manley	
31	8"/f8 Dobson	Paul Barton	Note 1

Notes:

0 If you know how to contact John Paul De Silva please call or send mail to Mike Koop.

1 Doug Pena of San Jose has donated a 8"/f8 Reflector to the Loaner Program. Paul Barton has "Dobsonized" it for easy beginner use. It comes complete with a 6x25 Right Angle Finder and a Copperhead Gunsite (Red Dot) finder. Be the first to check out this new addition to the Scope Loaner Program. Thank you, Doug and Paul.

Do you have some space to store a scope or two? Please E-mail Mike Koop, koopm@best.com. Thanks

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
San Jose, CA 95111-1846
Telephone: (408) 226-4483

Name: _____

Address: _____

_____

Phone: _____

e-mail address: _____

SAN JOSE ASTRONOMICAL ASSOCIATION
5380 PEBBLETREE WAY
SAN JOSE, CA 95111-1846

NON-PROFIT ORGANIZATION

U.S. POSTAGE PAID

PERMIT NO. 5381

SAN JOSE, CALIFORNIA