SJAA EPHEMERIS

Vol 3 No. 7 Official Publication of the San Jose Astronomical Association JULY, 1991

NEW PRESIDENT

As of July 1, Jack Zeiders will take the helm of the good ship SJAA. Tom Ahl is in the process of moving to Washington (the non-rainy part). Tom has guided the SJAA since July 1987, and we are greateful for his hard work. I'm sure Tom will soon be running public education/observation up there. I finally got Tom to say a word in the bulletin as the president. He says, "BYE!"

Jack Zeiders has been with the SJAA since the early '70's. My guess is about 1974. Jack's astronomy expertise is in a number of areas. He is an accomplihsed telescope maker, deep sky observer, and astrophotographer. He has dabbled in just about everything. Jack participated in the construction of the Fremont Peak observatory, and can often be found there putting on a public program. He is also involved with the Group 70 project, exercsing his talents as a graphics designer. Jack also initiated the introductory observational astronomy class that many memebers continue to enjoy today. Let's welcome Jack in his new role as SJAA President. The adventure is about to begin.

YOSEMITE STAR PARTY

The Yosemite star party, July 12, and 13 is filled. If you wish to go anyway, you may do so, but you are not guaranteed camping space. IF the SJAA is assigned the group camp, then as many people as want to can camp there for free. However, we won't know unitl Friday the 12th if we get the group camp.

SJAA PICNIC

There was a resounding lack of interest in the annual SJAA picnic that is slated for July 6th. At the June Board meeting, we found that many of the usual people who manage parts of the picnic will be out of town for the eclipse. The Grant Ranch location is still reserved, but the SJAA will not be providing a food entre. Members are encouraged to participate in a pot-luck. A few people are still expected to show up for an informal picnic and star party afterwood. Bring plates and tableware, and dessert to share. Jack Zeiders is suggesting the possibility of holding a bar-b-q and observing night at the Fremont Peak Observatory later in the summer.

JULY 6TH SJAA PICNIC GRANT RANCH COUNTY PARK 1 PM

July 6: SJAA annual picnic, at the Grant Ranch Park in the San Filipe picnic area. Picnic starts at noon.

July 11: Eclipse of the Sun. Good partial in the Bay Area. First contact at 10:11 am, max coverage 64% at 11:21. 4th contact at 12:35.

July 13: Halls Valley Group public star party at Grant Ranch. The star talk, part of the Introductory Astronomy class, will be omitted as both teachers are off chasing the total eclipse.

July 19: (Friday) Public star party at Branham Lane Park. We need volunteers.

July 20: Indoor star party held at the Los Gatos Red Cross building. 8 pm. This is an opportunity for eclipse chasers to show off some of their results.

July 27: Introductory Astronomy Class at 8 pm. Los Gatos Red Cross.

August 3: General Meeting. Solar eclipse night for SJAA memebers. Bring in you photos and stories to share with the membership. 8 pm.

August 10: Halls Valley Group public star party at the Grant Ranch. This also includes the outdoor session of the Introductory Astronomy Class.

SJAA HOTLINE
24 HOUR INFORMATION
408-997-3347

AUCTION WRAPUP

A few people have not contacted the Treasurer to pay the commission on their (possible) Swap Meet sales. If you didn't sell anything, you don't owe anything, but please call Jack anyway. Phone number and address on the back page.

AUGUST MEETING

Since the total solar eclipse is on everyone's mind this month, it might be a good idea to have an eclipse night for the August General Meeting. We would like to have a show of slides and a short presentation from the SJAA members who attended the eclipse. Come share your expereinces with those who did not make it into the shadow.

SUMMERTIME AND THE LIVIN AIN'T EASY

- JACK ZEIDERS

It is surprising how quickly our time is eaten away with all the job and family pressures many of us face. I wonder how many of us work in front of a CRT all day only to come home and immediately fire up the PC or Mac. Another alternative seems to be simply collapsing on the couch exhausted by the days demands and end up

captured by the television. Stressed out, burned out, broke, and unhappy, our times are growing more difficult.

A mechanism for dealing with stress may be within our grasp that we don't even recognize. Have you ever noticed how relaxed and happy one feels after an observing session? I know I feel refreshed after a night on some mountain top. There is something about the timelessness and scale of the universe that puts things into perspective. We come and go, as do our problems, but the stars remain. You can get lost in the universe and allow your problems to drift off into space if only for a little while and return refreshed after the break. How about trying a bit of urban astronomy?

Yes, I know street lights are a pain, but you can still enjoy a view of the planets - Jupiter has put on one remarkable show the last few years. The Great Red Spot all but disappearing and changed colors, a major equatorial belt disappeared in a few days then several smaller ones replaced it. Saturn had the white spot that turned into a band within a week or so. All easily within reach of many amateur telescopes. Perhaps a warm summers eve cold be put to use examining colors in those double stars you just never get around to observing at the mountain when the skies are dark and transparent and the galaxies and faint nebulae beckon.

For those who get home before the Sun is down, try and view the sun spots during the current solar maximum. A hydrogen alpha filter would be niche but its oh so expensive! A shoebox makes a dandy projection rig as shown numerous times by our own Jim Van Nuland. A bit of metal for a bracket, some white paper for a screen and you have a safe solar viewer. It might be nice to have for those of us not chasing the eclipse. A #14 welders glass in a low cost alternative if you don't have a glass or mylar filter. This might be a good opportunity to make some sketches. Maybe John will publish some in a future Ephemeris if there is enough contributors.

The city sky with its modest limiting magnitudes provides an excellent way to learn the constellations and bright stars. The chart from the center of a Sky & Telescope magazine is perfect for reference. Have you taken the kids out and shared the mythology of the sky, or pointed out a few bright stars and their names? It does not have to be a big deal, just a beach blanket on the lawn, a few throw pillows, a chart or plainsphere, a red light and an hour or two. A chase lounge works well also if you don't care for sitting on the lawn. If you don't have kids do it for yourself someone you like.

Many of us bemoan the Moon because it interferes with our efforts at photography or viewing that extra faint fuzzball in a cluster of faint fuzzy nothings that we can hardly see in the first place, but someone had to include them on a chart so some of us have to look for them. At home in the year the nasty ole Moon becomes a treasuretrove of things to look at. How many craters, maria, mountain ranges, etc. can you recognize and name? How long has it been since you took a real good look at our our nearest neighbor? No! I mean the Moon!

Recently I found the seeing surprisingly good from the middle of San Jose early one pleasant evening. With the 17-inch set up in my driveway I soon attracted several interested kids and parents from the neighborhood. All were impressed and had a good time. It was fun to introduce those kids to astronomy. Most had never seen a real telescope, much less looked through one. Most expressed disbelief that one could make one. Other evenings I have set up a small refractor or the C-8 and had similar results. All in all it took perhaps 10 - 15 minutes from opening the garage door to observing, and perhaps the same to tear down. No big deal, and I got to observe Venus, Mars, Jupiter, the Moon, several doubles, M57, M13 and a few other objects in the course of an hour and a half. Most rewarding, I highly recommend urban astronomy for a low budget escape.

METEOR NOTES
- JIM RICHARDSON

July marks the beginning of the season for summer meteor showers, with several moderate nighttime showers beginning in the latter half of the month. When July closes, there will be six ongoing showers; two just past maximum and three approaching maximum, including the celebrated Persieds.

Nearly all of these showers have radiants which lie in a relatively small area in the constellations of Aquarius and Capricornus. This generates a lot of activity from this part of the sky, especially since the maxima are within a couple of weeks of each other. Most of the radiants are so close to one another, that it is impossible to resolve individual shower members visually. Because of this, these showers are normally divided into two groups; the Northern Delta Aquarids - which can be resolved individually, and the Southern Delta Aquarids - which include the Alpha Capricornids, the southern Iota Aquarids, and the early stages of the Northern Iota Aquarids.

The radiant area rises around 10:30 pm PDT in mid-July, and this year these showers will be competing with a near full moon, so they will not be very impressive. There is one added bonus though - the Aquarid group of showers and the Persied shower are about two weeks apart, and thus generally alternate each year in having no-moon skies. Last year the Persieds were "mooned " out, and the Aquarids were good. This year it is just the opposite, with a poor outlook for the Aquarids, but an excellent outlook for the Persieds, which peak on August 12th.

COMET COMMENTS
- DON MACHHOLZ

No new comets have been discovered or recovered recently, but a couple of returning periodic comets, both making their first predicted return, will become visible in late July.

Periodic comet Hartley 2: Malcom Hartley found this comet in March 1986 at seventeenth magnitude. At that time ti was not well-placed. Now, six years later, we'll be able to see it in amateur sized telescopes. It had not yet been recovered by early June, but is should

be close to the positions indicated below at the suggested magnitudes. It will be closest to the Sun on Sept. 17 at 0.95 AU. Over the next few months it should brighten to near ninth magnitude.

Periodic Comet Machholz: This small comet will be closest the Sun at 0.13 AU on July 22. It then pops into the evening sky and quickly dims at it pulls away from the Sun.

The comet's orbit is well determined; the comet has been observed in large instruments during the past two years. The uncertain element is the magnitude, because the comet appeared to outburst at least once (and probably twice) in 1986. It also developed two tails and changed appearance hourly. Observers may want to monitor it for changes in both brightness and appearance.

OBSERVING PLANETARIES

- STEVE GOTTLIEB

It's likely that two of your favorite deep sky objects are the stunning Dumbbell nebula M-27, discovered by Messier on July 12, 1764 and the beautiful Ring nebula M-57, found by Antoine Darquier in January of 1779 while observing the comet of that year. Although these showpiece objects never seem to grow old, I also enjoy going after obscure little-known planetaries and very recently discovered objects that have probably never been observed visually at all. Unfortunately, most of these new planetaries fall into one of two categories-either they have a very low surface brightness or else are very faint stellar objects. But amateurs now have a great tool for seeking out such targets, namely the O111 filter, marketed by Lumicon.

Let's start first with the large, low surface brightness planetaries such as the familiar Helix nebula in Aquarius. In this case, the best approach is to get out your favorite low power eyepiece, screw in the filter and carefully scan the field. You'll find an excellent contrast gain over the unfiltered view even in dark skies such as at Fiddletown. You might think this impossible as no filter can add light, only subtract it. Well, planetaries emit most of their light in a few discrete emission lines, the strongest being O111. The filter is designed to pass at least 90% of this light but rejecting all other wavelengths. The effect is that stars, with their continuum light and even the background sky then pass only a small percentage of their glow and are dramatically darkened. The net effect is a positive contrast gain with the background glow and the planetary literally appears to "turn on" in brightness.

In 1983, researchers Glenn Ellis, Earl Grayson, and Howard Bond of Louisiana State University discovered 7 new large planetaries by a remarkably simple approach. They took the 30-year old POSS plates which had been heavily scrutinized by many investigators, held them out at arm's length and stared at them for several minutes to look for very large structures that had escaped a closer up view. Their first discovery, dubbed EGB 1, is located in Cassiopiea at 1h 07.2m +7333° (2000). On September 3, 1986 I spotted this recent discovery with Jack Marling probably for the first time visually in my 13" at 79x using the O111 filter. With some difficulty it was seen as a very faint, fairly large glow measuring some 3'x 2' and bracketed by 2 groups of faint stars.

Compact or stellar planetaries require a different approach with the O111 filter. In this case you rapidly compare the field of view unfiltered and then with the filter placed between the eyepiece and your eye. With this "blinking" technique you look for a "star" that appears to brighten with the filter inserted and then dim without the filter. In many cases the effect can be dramatic-a contrast gain of at least 2 magnitudes is seen with the O111 filter. Low and moderate powers both work well here.

In 1985, C.B. Stephenson reported the discovery of a new planetary in Lyra, called Stp 4-1, located at 19h00.5m +3821° (2000). You'll have to plot this object yourself as it does not appear on any star atlas. Although no data on the planetary is given in the discovery article, I gave a look last month in my 17.5" and was surprised to find a mag 13 stellar planetary visible without a filter as a faint star but brightening considerably with the O111 blink method. There's a brighter star just 2' north but with the filter both objects appear similar in brightness.

A good source for recently discovered objects is Brian Skiff's column in Deep Sky titled "Scanning the Literature". You'll be able to find the professional journals in a university astronomy library.

ASTRO ADS

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Celestron 10 X 70 orange finder with bracket for C14 - $125. Celestron T-Adapter for camera - $15. Bill Dellinges 415-792-9206 4/91

Celestron Firstscope 80 with Azimuth-Altitude mounting w/slow motion controls. Adjustable tripod w/accessory tray, 26mm and X2 eyepieces. Paid $600. Asking $400. Like New! Call Ted at 415-367-0570 or 415-691-2324 4/91

FIELD OF VIEW

- JOHN GLEASON

The great eclipse is nearly upon us. A recent poll indicated that nearly 25% of all SJAA members will either be in Hawaii or Baja for the astronomical event of the decade (if not the century). Jack Zieders has suggested that we designate the August 3rd General Meeting as "Eclipse" night. Bring in your photography to share! Your editor would also like to receive your eclipse stories to be published in the August and September Ephemeris. You don't have to be a John Steinbeck to be a contributor, just a short story about your experiences would do. What did you see? How did you feel? Anything unusual happen? These are the kinds of interesting things that SJAA members would like to read about.

Are you ready to photograph the eclipse? A number of members have asked me about how to photograph the eclipse. As this is my first total eclipse experience, my only answer has been **KEEP IT SIMPLE!**

Here are some simple rules to follow. **1).** Don't change film during totality. **2).** Use a 36 exposure roll of film and take pairs of exposures, running the range of exposure settings on your camera. Then kick back and enjoy the experience. **3).** For Baja, the Sun will be at 90 degrees above the horizon. Be sure your camera, lens/telescope will point this high without interfering with the tripod. **4).** Do a test run on the full moon prior to the eclipse. I am told that the light from the full moon is equivalent to the solar corona, although I have heard conflicting reports from previous eclipse viewers. The full moon test will give you a chance to work out bugs before the big event. **5).** In Baja it will be very hot!!! Unless you are bent on getting a series of partial shots, I would certainly keep my camera equipment sheltered from the heat and direct sunlight until about 10 minutes before totality. **6).** Don't forget to remove your solar filter for totality! And as just a precaution, recheck the focus of your camera lens/telescope. The removal of the sun filter may result in a focus shift. **7).** What kind of film should I use? Print films will have a greater dynamic range in capturing inner and outer coronal detail. And with a little darkroom work, you could come away with a truly spectacular eclipse shot. Slide films are great for projecting, but solar coronal details tend to be burned away in the longer exposures and cannot be recovered in a print later. With print films, you can always have a slide made up from the negative. These often are better than original transparencies, exhibiting increased contrast and color. **8).** Read the July 91 issue of Sky & Telescope. Dennis Di Cicco has an excellent article on eclipse photography.

If this is your first eclipse, I suggest that keeping photography to a minimum will result in maximum enjoyment of the event. Astrophotographers will find it a tough decision to keep photography to a minimum, but rest on the fact that probably over 500,000 images will be taken, all looking about the same! In the months to follow, the popular magazines will feature the finest work submitted. I plan to pick out the best , contact the photographer, and purchase a print or two.

To everyone going to the eclipse, may you have clear skies!

COMET EPHEMERIS

EPHEMERIDES

DATE (UT)	RA (1950)	DEC	RA (2000)	DEC	ELONG	SKY	MAG
PERIODIC COMET HARTLEY 2							
07-13	00h49.1m	+20°27'	00h51.8m	+20°44'	90°	M	12.1
07-18	01h12.4m	+22°25'	01h15.1m	+23°08'	93°	M	11.8
07-23	01h38.1m	+25°13'	01h40.9m	+25°28'	87°	M	11.4
07-28	02h06.5m	+27°23'	02h09.4m	+27°37'	85°	M	11.1
08-02	02h37.5m	+29°15'	02h40.5m	+29°28'	83°	M	10.8
08-07	03h10.8m	+30°41'	03h13.9m	+30°53'	80°	M	10.5
08-12	03h45.7m	+31°36'	03h48.4m	+31°45'	77°	M	10.3
PERIODIC COMET MACHHOLZ							
07-28	09h20.4m	+28°59'	09h23.3m	+28°46'	16°	E	6.2
08-02	10h26.6m	+28°15'	10h29.4m	+28°00'	26°	E	8.5
08-07	11h26.4m	+24°49'	11h29.0m	+24°32'	34°	E	9.9
08-12	12h17.4m	+19°59'	12h19.9m	+19°42'	42°	E	11.0

THIS MONTH'S METEORS

SHOWER NAME	DATES	DATE OF MAXIMUM	MAXIMUM VISUAL ZENITHAL RATE (per Hr.)	RADIANT POINT (ON MAX DATE) R. A.	DEC	VELOCITY km/sec.	NOTES
Southern Delta Aquarids	July 21-Aug. 29	July 29	30 (combined)	22h 12m	-16.5	41.4	Aquarid sh. group med. velocity
Alpha Capricornids	July 15-Aug. 10	July 30	30 (combined)	20h 28m	-10	22.8	Aquarid sh. group very slow, bright
Southern Iota Aquarids	July 15-Aug. 25	Aug. 5	15 (combined)	22h 13m	-14.7	33.8	Aquarid sh. group slow, long paths
Perseids	July 23-Aug. 23	Aug. 12	70	3h 5m	+57.4	59.4	swift, w/ trains usu. org or yellow
Northern Iota Aquarids	July 15-Sept. 20	Aug. 20	15 (combined)	21h 48m	-6	31.2	Aquarid sh. group slow, long paths

EPHEMERIS is published monthly by the San Jose Astronomical Association - 3509 Calico Ave., San Jose California 95124. Members are encouraged to submit articles for publication. These should be typed and submitted no later than the 12th of the previous month. All submissions should be sent directly to the Editor, John P. Gleason, 5361 Port Sailwood Dr., Newark, California 94560.

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Grant Ranch Park
July 6th