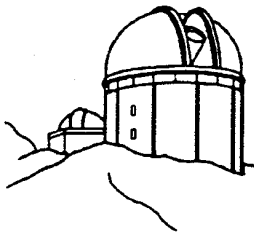

SJAA EPHEMERIS

We Deliver

Jay Freeman

Readers of writings about amateur astronomy may wonder whether any of us have a life. I wouldn't want to go making rash statements, but occasionally, when the Moon is full or nearly so, I try.

On the evening of Friday, October 9, 1998, after ballroom dance practice and a late dinner at Pizz'a Chicago (a "Joliet Jake" -- four kinds of mushrooms, apricots, and fresh basil -- yum! -- and what's more, they deliver), my date and I stopped at my place briefly, so I could hand off some books related to English Regency costuming.

I had laid my wicked plans most carefully, so that we could not even get through the front door without tripping over the Vixen 70 mm fluorite, all set up for one-hand carry on its altazimuth mount, with an eyepiece and diagonal already in the focuser.

The lady recognized the scenario, for we had attended a star party earlier this year, with Refractor Red. Yet there was one showpiece object we had missed...

"I don't WANT to look at Saturn!" she said, tightly clenching her fists and stamping her dainty feet.

I was impressed.

She's a nurse, and one of her regular patients is a two-year-old. They have been learning from each other. "I don't WANT to! I've seen pictures taken with bigger telescopes, and closer up!"

"Trust me," I replied, as soothingly as I could.

continued on page 2, see **"We Deliver"**

SJAA Activities Calendar

December

5 General Meeting at Houge Park, 8 pm. Jeff Moore, a Planetary Scientist working for NASA, will explain the latest details about Jupiter's enigmatic Europa.
Open board meeting 6:30 pm.

11 Houge Park star party. Sunset 4:50 pm, 35% moonrise 1:21 am.

12 Star parties at Fremont Peak, Coe. Sunset 4:49 pm, 26% moonrise 2:14 am.

19 Star party at Fremont Peak. Sunset 4:53 pm, 1% moonset 5:56 pm.

25 Christmas, but you knew that.

31 New Year's Eve. See above.

January

1 Happy New Year's day

8 Houge park star party. Sunset 5:08 pm, 54% moonrise 0:06 am.

9 Star party at Fremont Peak. Sunset 5:08 pm, 45% moon sets 0:59 am.

16 Star party at Fremont Peak, Coe. Sunset 5:15 pm, 0% moonrise (who cares when?)

22 Houge park star party. Sunset 5:22 pm, 32% moon sets 10:57 pm.

23 Observational Astronomy class, Houge Park, 8 pm.

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

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

PLEASE NOTE THAT SJAA INSURANCE COVERS ONLY SJAA MEMBERS AT SJAA SPONSORED EVENTS.

Sperling Is Sterling

Jane Houston

November s bout of Official SJAA Indoor Astronomy featured Norm Sperling speaking on "Oxymoronic Astronomy" Saturday night November 7 at Houge Park.

Norm started his talk with a slide of a rocky object which appeared to have fruity satellites - real fruit like an apple, a pear, a cherry. He guaranteed a captive audience by first asking what it was and promising to reveal the answer at the end of the talk!

Our appetites whetted, he tickled our collective funny bones with an entertaining and thought provoking tour of the weird and misleading terms and definitions and naming conventions prevalent in our hobby.

Waning crescent is a good example of the confusing words we have come to love to describe in Astronomy. Waning means getting smaller, and crescent means getting bigger. How can students understand lunar phases with such confusing terminology, Norm queried?

Blackbody radiation? Forbidden lines (of oxygen in a stellar spectrogram)? Are they from naughty stars? The ups and downs of the solar constant. Novae are not new stars, but old ones. Radio quiet Quasars was a good one. Radio quiet quasi stellar radio sources - hoo boy!

The Hubble Constant? Constant? I think not! 60, 68 or 100 KM per megaparsec depending on who's doing the talking!

continued on page 5, see **"Sperling"**

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The Celestial Tourist Speaks

Jay Freeman

On the weekend of October 16-17, 1998, many local observers went to Pacheco State Park in the hills between Gilroy and Los Banos, several tens of miles inland from the more familiar Fremont Peak.

Pacheco is bothered by seasonal fog and occasional winds, but is notably darker than Fremont Peak, unless there is low fog to block city lights from the latter site. The site is not normally open at night -- we had to make special arrangements with the ranger.

Friday evening began with enough wind to bother many of the large Dobson-mounted Newtonians. The owner of one 20-inch f/5 Obsession disassembled it, as one sure way to keep it from blowing around. That appeared to be all the sacrifice the weather gods required, however, for the wind dropped shortly thereafter. Seeing, on the other hand, was not so hot -- the wind was obviously mixing layers of air of different temperatures. At least there was no hint of dew.

So what? I had brought Harvey, my white Celestron 14, and was having a banner night under the dark sky, mostly chasing groups of galaxies at 98x.

I have been using the Millennium Star Atlas, and by and large, I can see all the galaxies plotted, and then some. There are nice groupings near each of NGC 735, NGC 969, NGC 980, NGC 519, and NGC 337, for example, and lots more.

I logged about sixty galaxies Friday evening, most new to me.

I also looked at a globular cluster I had not seen before; namely, the brightest in M31, which is called "G1" in association with that galaxy -- there are "G1"s in other galaxies, too. This object is rather far from the center of M31 -- it lies almost exactly in the direction from the center of the galaxy to its star cloud NGC 206, but G1 is about four times as far from the center of M31 as is the star cloud. At 98x, it was obviously non-stellar, and the symmetry and central brightening strongly indicated its true nature. I was reminded of the naked-eye view of M13 from a dark site.

Saturday night was wind-free -- almost a flat calm. The air felt moister than the previous evening, so I put on Harvey's dew cap (an Orion model), but my fears were unfounded, for at the end of the evening even the top of my car was still dry.

It was indeed dark. I didn't think so till I noticed my hand was casting a casually visible shadow on the white pages of my various charts. The light source was Jupiter.

Seeing was better. It started so-so, but improved as the night wore on. I had some nice views of Jupiter and Saturn with moments of very fine detail. A friend with a 155 mm Astro-Physics EDF reported that there was one period of particularly fine seeing, that occurred when I, unfortunately, was observing galaxies -- and he didn't tell me at the time!

Saturn easily showed the Crepe Ring and the Cassini Division, and a wide band on the southern hemisphere of the planet. The globe of Saturn looked slightly yellow, compared to the rings. At roughly the same magnification as my 244x, the AP 155 showed all the Saturn detail that the C-14 did, but the color difference did not appear to me to be as pronounced.

An observer close to me had a 7-inch Dobson-mounted Newtonian -- I think a StarMaster -- with Saturn in the field. It too showed about the same amount of detail as the C-14.

I tried for a split of gamma-two Andromeda at 489x, but the steady seeing was not nearly good enough, and in several minutes of watching I did not get a moment steady enough even to hint at elongation. Harvey has split gamma-two Andromeda, with plenty of separation, on good nights in the past.

The Pacheco State Park site is a clear winner for local observing, at least when it is not in its fog season. I expect we will go back.(Editor's note: the idea that someone would "do" a telescope so well that Mr. Taste would leave it alone is literally astounding, so I thought the last sentence should be recorded for posterity...)

"We Deliver"

From Page One

"NO!!" How flattering -- she has been learning from me, too. But I had the car keys, so we carried the little refractor outside.

I was glad I had set things up for a quick trip, for the night was cool, and her costume, composed mostly of net and neckline, was only keeping one of us warm. At least it was black, so stray light reflected just from her lustrous skin.

Within fifteen seconds I had the ringed planet centered in a 70x field. I reminded her where the focus knob was, and stepped aside.

"Oh..." she said softly, and there followed a long pause. "It glows!" I just chuckled quietly, as she continued. "I mean, it's white -- like the Moon. And you can really see it!"

She was smiling broadly now, much happier. As was I. Yet it was chilly, and she did have to be on her way, so we did not linger at the telescope.

So I hope I get credit for trying to have a life. And perhaps my hobby does help a little bit.

For as I told my date, any man can promise her the Moon and stars, but when it comes to astronomers -- we deliver.

The Shallow Sky

Akkana Peck

Mercury makes a nice morning apparition this month for early risers, shrinking from a large crescent to a small 3/4 full disk during the course of the month, and reaches greatest western elongation on December 20th.

Venus moves back into the evening sky in December, but is too close to the sun for good observation this month. Having just passed superior conjunction, it will show a small nearly-full disk.

Mars rises after midnight; its disk will grow from 5.2" to 5.9" during the course of the month, whetting our appetites for the upcoming opposition without yet showing much detail.

On the nights of December 6-8, Mars will pass a few degrees from a carbon star, SS Virginis. A few years ago from Houge, several of us saw Mars pass near this star, and were amazed by the color contrast; the extremely red carbon star made the "red planet" look washed-out, almost yellow.

This time Mars won't be as close, but wide-field telescopes might be able to show both in the same low-power field. Will the color difference be as pronounced?

Jupiter is high in the sky at sunset and sets around midnight. It reaches quadrature on the 11th, so look for moon shadows far away from the satellites which cast them, and a slightly gibbous disk on the planet itself.

Saturn is high in the sky in the early evening, and is observable most of the evening. The tilt of the rings shrinks temporarily to 14 degrees during December, but will increase again next year.

Neptune and Uranus are near Venus in the early evening sky, not well placed for observation of these relatively faint planets.

Pluto, just past superior conjunction, is too close to the sun to be visible.

Mooning

David North

December is best expressed as an "average" moon month. The reason? It will be highest in the sky just after full moon. This means the first quarter and third quarter moons will be at about "average" elevation, but it also means that each day between first quarter and full will show an improving elevation, and also that the views of the eastern terminator right after full will be outstanding.

In fact, if you have an interest in Mare Crisium or the Gang Of Four (Langrenus, Vandelinus, Petavius and Furnerius -- four of the best craters on the moon) this will be the month to inspect them closely on the three days following full.

All those features will show greater detail than at any other time of the year. Though they can be seen in late spring and early summer just after the new moon, they are low in the sky. Here, they will be nearly overhead!

And there are exceptional features to seek out. The area around Crisium is notably granular when "backlit" (on the waning moon) and small valleys, craters and rille structures stand out as at no other time.

Both Petavius and Furnerius sport fascinating rimae, the latter having a single fairly fat target, and the former offering three major branches that are anywhere from "just about the easiest on the moon" to "as hard as it gets."

And also not to be missed is the furious impact cratering around the exquisite Langrenus. It's one of the newer and most well-formed major craters, with an attendant field of secondary craters, particularly to the northwest.

It's also a good time to see Atlas, Hercules, Endymion, and Vallis Rheita if you have the staying power. Overall, it's a promising month if we get clear weather.

Unfortunately, virtually every libration will favor limbs that are not lit by the sun, so there is no special "edge" feature to seek out for Christmas.

But, to make up for that, we will be very near first quarter when the holiday rolls around, and the week between Christmas and New Year will be very good for general mooning.

If the weather is clear, those folks who got something special in their stocking will have an easy and spectacular target to try it out on...

Meteor Watch

David North

The Geminids, with their high rates and reliability from year to year, are the shower of choice for veteran meteor observers. This is usually the strongest shower of the year, producing over 100 meteors per hour on the morning of Dec 13/14. The Geminids are visible for one week prior to maximum, but the great majority of activity is limited to December 12/13 and 13/14. This shower produces many bright meteors, but persistent trains are rare.

The 1998 Geminids will not be plagued by harsh moonlight. The skies will be moonless until about 3 am when a waning crescent rises. Viewing should be near ideal.

The parent object of the Geminids were unknown until recently. However, the Asteroid 3200 Phaethon, discovered by IRAS (Infrared Astronomical Satellite) in 1983, is now known to be the source of the Geminid meteors. It is also the only non-cometary object associated with the evolution of a major annual stream.

The Ursids are weakly visible for one week prior to Christmas. Although the radiant is circumpolar for most northern hemiphere locations, it's activity will mainly be noted after midnight on the morning of Dec 21/22, with the best activity near 3 am to dawn.

A waxing crescent moon will give relatively dark skies for observations almost all night on Dec. 22.

The parent source for the Ursids is comet 8p/Tuttle, which last reached perihelion in 1994. A short but strong display has been seen three times while comet Tuttle was near aphelion. The last burst of activity occurred in 1986, so the year 2000 may provide the next possible strong display of Ursid Meteors.

Thanks to George Zay for his unrelenting research.

October Board Notes

Bill Arnett

The meeting was called to order 6:43pm at Houge Park. All directors were present (eventually) except Bill O. who was excused.

Jim had sent the calendar earlier by email.

The minutes of the last meeting were approved.

Terry Kahl announced that she will be unable to serve out her full term on the board. Her seat will be filled at the next election in February. We will therefore need at least SIX candidates.

We agreed that a special procedure will be in effect for that election: the five candidates who get the most votes will be elected for two year terms and the sixth-place candidate will serve the remainder of Terry's term.

Doug Davis has agreed to be the instructor for the beginning astronomy class next year. Thanks, Doug!

Dave North will be handing over the Ephemeris editor's duties to Jane Houston and Morris Jones in the next few months.

Dave has done a great job. Jane and Mojo will have a tough act to follow :-)

Bob gave a brief treasurer's report.

Mike reported that the loaner program is going along fine, though he will be out of town for the Leonids for much of this month.

The meeting was adjourned at 7:11.

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 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.)

Fiddletown

Jane Houston

On Sunday night October 18 I joined the SF Orion store staffers for their monthly dark sky observing session at Fiddletown. This was the first time I was really able to use the light gathering capabilities of my brand new 17.5 inch LITEBOX reflector with a small group of observers at a dark site.

Conditions were really great - no breeze, not too cold. The sky was very dark, the seeing was very good. It was exciting to anticipate the hunt, preparing the tools we would use in our search, while awaiting the darkening night.

A big scope at a dark site is such a treat, I almost didn't know what to look for first. A month of Fiddletown Sunday nights wouldn't even begin to scratch the surface of my observing wish list!

I was surprised how much fun the hunt for these dimlits was. I really didn't expect that the views of a far away mag 15 object would be so soul stirring. Many times during the night we had to sit down and think about what we were seeing. And remind ourselves how long it took for the distant light to reach our eyes. Quite a lot to ponder.

This is no project to rush, and we were constantly amazed as the hours just flew by. We savored each "find" and I made notes and sketches in my observing log. We used the Webb Society book on galaxies, and a David Eicher observing guide from Deep Sky magazine entitled "Galaxies and the Universe" - Steve Gottlieb contributed some of the observing projects in this fantastic book.

Why, we even referred to Burnham's Celestial Handbook once or twice.

My first project for the night was also my first foray into the globular clusters in the Andromeda galaxy, M31 and two of its companions - M32 and NGC 205. Following close behind was the hunt for globulars surrounding M33, the Triangulum or Pinwheel galaxy, and finishing off the serious project work with the ambiguous galaxy companions of NGC 7331 in Pegasus, just a hop away from Stephen's Quintet, some of the brighter objects on our list this session.

Just a taste of the hundreds of clusters and galaxies which are just waiting to be glimpsed through my eyepieces. But one taste was all it took - I'm hooked!

We started with M-31, which the Persian astronomer Al-Sufi described as "little cloud" in 964 of the modern era. Tilted 12.5 degrees from edge-on, the spiral structure is difficult to discern. The dust lanes along the northwestern side show that this side is closer to us. The arms are spinning towards us on the northeastern side and away from us on the southwestern side. The spiral arms are dominated by star clouds or young and loosely bound collections of stars having a common origin. The brightest of these and our first target was NGC 206, 50' southwest of the galactic center. No HII regions however, and I hate to admit it but it was so bright we were afraid our dark adapted vision would be ruined. M31 will have to be observed towards the end of an observing session on another night.

Two of the 8 companions were another story. M-32 is a fuzzy and compact elliptical galaxy, and at high power it resembled a planetary nebula to me. No core and irregular edges. Two of the brighter clusters G (for globular)163 and 142 were two non-stellar objects we were easily able to verify using direct vision and our Andromeda Charts.

NGC 205, the other large companion is also known as M-110. G73 is a mag 15 cluster easily seen. Also tagged were G51 and G54. G55, G56, G57. G61 and G63 are maybes, leaning towards solid verification, but requiring another look.

Our first project was such a success we delved right into M33, the Triangulum Galaxy and it's H11 regions. One of the brightest of the local group of galaxies, it is probably our nearest spiral galaxy after M31. It's spiral chunky arms are studded with emission nebula and open clusters.

Between the hunts described above, we went back and found those objects we misssed last month at Fiddletown.

Hubble's Variable Nebula, a comet shaped nebula if ever I did see one was a familiar find from last year. The Christmas Tree cluster and the cone nebula, finally! The other most spectacular sights through my new scope were the magnificent colors. Dusty Rose/Brown subdued around the Orion nebula, and green around the Ring nebula. The Saturn Nebula and Saturn weren't too shabby either!

Now I can't wait till the next time!

Sperling

From Page One

Perhaps the favorite part of Norm's talk was the gleanings from astro class quizzes. Yes, we were rolling on the floor laughing! Here are but just a few of the dozens of them Norm quoted.

"Gravity makes sure the planets don't fall and hurt themselves".

"Gas giants suffer from equatorial bulge".

"Atomic fission is a pulling type thing".

Oh, I almost forgot. That first rocky fruity slide? Carmen Miranda? Nah, Carmine Miranda - it's the color, man!

Then nothing beats getting together with friends afterwards. When the weather behaves as it has the past many months, out come the telescopes at Houge Park. Not this cloudy November Saturday, however. We gathered at a local all night diner to discuss the SJAA Astronomical Pocket Diary, share opinions and funny stories.

About Fremont Peak

Rich Neuschaffer

I called the Parks dept in Monterey and the woman who answered the phone suggested I leave a voice mail message with Ms. Paula Peterson.

I spoke to Ms. Peterson, Chief Ranger for the Monterey District.

She said she and several specialists that need to be involved in putting in a gate visited the Peak. They found if the gate was placed at the suggested point in the road at Doe Flat that two group camp grounds would be cut off from the rest of the park at night while the gate was locked.

She felt this could be a problem for campers in these group sites. There would also be some technical problems involved with putting in a gate such as making the turn out wide enough, impact studies, etc.

Ms. Peterson said after talking to the park ranger (I believe she spoke to Ranger Rick and Ranger Mike) that problem with "gangs" was mostly with kids who were not part of a gang but just groups of kids drinking and being a problem.

However, she did take the problems that have come up with kids or gangs very seriously and were working closely with the Sheriffs dept on the problem.

She said the Parks dept was very happy to have amateur astronomers using the Peak. She wants to meet with the amateur astronomers.

I said I thought the FPOA was the primary group but that the SJAA and TAC members were also very much involved in amateur astronomy at the Peak.

I explained that many FPOA, SJAA and TAC people belong to all three groups and that FPOA and the SJAA are real clubs and that TAC is a group of observers who keep in touch via email but again that we all frequently use the Peak.

Ms. Peterson wants her new supervising ranger to work closely with the FPOA and other amateurs to make a plan for the Peak so that it will continue to be a good (and even better) site for amateur astronomy.

I mentioned how the FPOA and SJAA worked together to repair the observatory after last winter's storms of 1998.

I said that Ranger Mike had some very interesting ideas to make the old house in the SW parking lot into a visitors center with a strong astronomy theme. I mentioned that we would be very happy to help with the conversion and other projects like a planet walk.

I was left with the impression that Chief Ranger Peterson was sincerely interested in our safety, that she wants very much to make the park attractive to amateur astronomy.

I believe she and her new supervising ranger will be working closely with the FPOA, SJAA, TAC, etc. to come up with a plan for the park that will be "astronomy friendly" (my words).

Editor's Extras

David North

It's been a month of big changes, and it promises to continue in that mode.

For one thing, Ranger Mike may be leaving from Fremont Peak, which will be a loss for us all, since he has shown such promise as a replacement for Rick Morales, who was such a good friend for so many years. It's sad to see this kind of turnover, but there are signs that all will be well at The Peak nevertheless.

In this issue we have an article by Rich Neuschaffer explaining some of the current issues up there.

Your editor (me) has found a more-than-suitable replacement team in Jane Houston and Morris Jones, otherwise known as MoJane. No tears, folks, they will be doing much the better job. I'll stay on as "publisher" to handle the printing and mailing list printout (as well as my usual columns). Bob Ellsberry handles the list maintenance, and Bob Brauer and Lew Kurtz make sure circulation remains smooth. Overall, it should be a good team and a better Ephemeris.

Jay Freeman has penned a classic "story" amateur astronomy and "getting a life", and if for no other reason, you should have keep this copy around so you can say you had an original... (it was previously published on the web, but here we see first print, I think).

Overall, this should be a satisfying issue for just about everyone. Hope you enjoy it.

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.

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.

December

11 PAS Annual Meeting and Board Elections 7:30 pm at Foothill College

16 PAS Board Meeting 7:30 pm Foothill College Observatory

School Star Parties
Jim Van Nuland

Here s the schedule for known parties in December. Since the Ephemeris is available electronically in early November, I'll include some of those, too.

Nov.20 -- Sunnyhills Park, Milpitas
Nov.23 -- Burbank Elementary, nearly downtown San Jose
Nov.30 -- Blue Hill Elementary, Saratoga
Dec. 9 -- Morrill Middle school, far north San Jose

If you can help, please contact me by email <jim.van.nuland@sjpc.org>, or phone 408/371-1307 (10 am to 10 pm). I'll send the detailed directions, times, etc.

If you find that you can participate, but have not told me, phone to verify that the event is still scheduled. There are sometimes cancellations that are not due to weather.

The school star party program is surely the most important of SJAA's activities, and it's great fun, too. Remember the first time you looked through a telescope?? Here's your chance to pass that on!!

We've had several successes already, with (as an adman might say) hundreds and hundreds of satisfied customers! Seven in a row!

Norwood Creek Elementary is one of the largest. Clouds interfered, but we were able to show the Moon, Jupiter, and Saturn to 4-5 hundred kids.

Then under an excellent city (oxymoron?) sky at Andrew Hill High, we had a great crowd, with many non-trivial questions to answer. One that was asked several times was "How come Saturn looks like a sticker?" Anyone?? I'm stumped.

A high-school event can run later than the usual 9 pm, and indeed it was after 10 before the last of us packed up and went home.

Candidates For Next Year
Bill Arnett

The nominating committee for the next SJAA board of directors election has been formed consisting of Mark Taylor, Terry Kahl and Bill Arnett. So far, the following people have indicated a desire to run in the next election for the SJAA board of directors.

Jim Bartolini, Jim Van Nuland, Morris Jones and Bill O'Shaughnessy. There are some other undecided or uncertain possibilities also.

If you know of anyone else who should be considered please let us know. Any SJAA member is qualified to be a candiate provided that either he/she has been an SJAA member for at least one year prior to the election or has attended six board meetings.

For the record, the seats up for election this year are the ones currently held by Ed Erbeck, Jim Van Nuland, Bob Elsberry, Bill O'Shaughnessy and Dave North. In addition, Terry Kahl will resign her seat at the time of the election, too. So we need at least SIX candidates this time. It would be much better if we had at least seven so that the election would not be purely a formality.

The election takes place during the February meeting; the new board is seated and selects new officers at the following meeting (in March).

Finally, of course, nominations can be made from the floor immediately prior to the election.

Celestial Calendar
Richard Stanton

Lunar Phase	time (pdt)	date	rise	trans	set
07:19	PST	03	17:29	00:43	06:53
FM	07:19	03	17:29	00:43	06:53
LQ	09:54	10	00:26	06:05	12:34
NM	16:42	18	06:50	12:00	17:09
FQ	02:46	26	12:30	18:43	00:00

Mercury Dist: 0.95 AU Mag: +1.7

date	rise	trans	set	RA	Dec
07	06:02	11:06	16:10	16:04.7	-18:15
17	05:31	10:34	15:17	16:09.8	-18:31
27	05:48	10:41	15:34	16:55.3	-21:22

Venus Dist 1.66 AU Mag 4.0

07	07:56	12:41	17:25	17:35.7	-23:50
17	08:13	12:56	17:39	18:30.7	-24:08
27	08:24	13:11	17:59	19:25.4	-23:12

Mars Dist 1.63 AU Mag +0.6

07	01:25	07:26	13:28	12:23.0	-00:35
17	01:12	07:07	13:02	12:42.8	-02:39
27	00:58	06:47	12:36	13:02.1	-04:35

Jupiter Dist: 4.94 AU Mag: -2.4

07	12:38	18:23	00:13	23:22.2	-05:31
17	12:00	17:48	23:35	23:25.6	-05:07
27	11:24	17:13	23:02	23:30.0	-04:36

Saturn Dist: 8.71 AU Mag: +0.7

07	14:17	20:46	03:18	01:45.0	+08:01
17	13:37	20:05	02:37	01:43.8	+07:56
27	12:57	19:25	01:57	01:43.2	+07:56

SOL Type G2V Intelligent Life in System ?
Hours of Darkness:

07	07:09	11:59	16:49	16:54.9	-22:36
17	07:16	12:04	16:51	17:39.0	-23:21
27	07:21	12:09	16:57	18:23.4	-23:20

Astronomical Twilight		Begin	End
JD 2,451,154	07	05:36	18:22
164	17	05:43	18:25
174	27	05:43	18:25

Sidreal Time		
Transit Right	07	00:00=04:55
Ascension at	17	00:00=05:35
Local Midnite	27	00:00=04:43

Darkest Saturday Night:	19 Dec
Sunset	16:52
Twilight End	18:25
Moon Set	17:56
Dawn Begin	05:44
Hours Dark	11:19

Comet Comments

Don Machholz

Comet Williams, presently our brightest comet, enters the morning sky. In the evening sky Comet Meunier-Dupouy passes by Periodic Comet Howell (still in outburst) on November 29 and Periodic Comet Giacobini-Zinner two weeks later. Finally Comet LINEAR (C/1998 M5) steadily brightens while Comet LINEAR (1998 U5) passes by earth at a distance of only 45 million miles in mid-November. Watch this one for a possible outburst.

C/1998 T1 (LINEAR): Picked up on October 2 by the Lincoln Laboratory Near Earth Asteroid Research Team, it was first thought to be an asteroid. This comet is presently magnitude 15 but is still nearly a year from perihelion, and in a retrograde orbit. It should be visible in binoculars next summer as it passes 50 million miles south of us.

C/1998 S1 (LINEAR-Mueller): Jean Mueller at Palomar found this three weeks after the LINEAR picked it up as an asteroid. The comet was closest to the sun at 2.5 AU last summer and remains faint. The orbital period is 9.1 years.

C/1998 U1 (LINEAR): Found on Oct. 18, this comet remains faint at a distant perihelion distance of 4.0 AU.

C/1998 U2 (Mueller): Found on Oct. 22, this faint comet remains between Mars and Jupiter with a period of 8.8 yrs.

C/1998 U3 (Jager): Amateur Michael Jager of Austria used a 10-inch Schmidt and film to pick this up on Oct. 23. It is now at its brightest (magnitude 12) and will soon be dimming.

C/1998 U4 (Spahr): Timothy Spahr of Arizona used a 16" Schmidt with a CCD when he found this on Oct. 27 as part of the Catalina Sky Survey. It remains faint at magnitude 16 with an orbital period of 13 yrs.

C/1998 U5 (LINEAR): This comet was found Oct. 30, has a high retrograde orbit, and is visible in our northern sky.

Comet Hunting Notes: Williams, Jager and Tucker are all now eligible for the Wilson Comet award. Each amateur used a different methods to find "their" comets: visual, photographic and CCD.

Ephemerides -- Epoch 2000, 0h UTC

21P/Giacobini-Zinner

Date	R.A.	Dec	EL	Sky	Mag
12-03	21h33.4m	-19°06'	70°	E	9.0
12-08	22h01.1m	-20°48'	70°	E	9.1
12-13	22h28.9m	-22°09'	70°	E	9.2
12-18	22h56.4m	-23°08'	71°	E	9.4
12-23	23h23.3m	-23°44'	72°	E	9.6
12-28	23h49.4m	-23°59'	73°	E	9.9
01-02	00h14.3m	-23°55'	74°	E	10.1

C/1997 J2 (Meunier-Dupouy)

Date	R.A.	Dec	EL	Sky	Mag
12-03	21h14.0m	-16°40'	65°	E	13.2
12-08	21h17.3m	-17°08'	61°	E	13.3
12-13	21h20.7m	-17°33'	56°	E	13.3
12-18	21h24.3m	-17°56'	52°	E	13.4
12-23	21h28.1m	-18°16'	48°	E	13.5
12-28	21h32.0m	-18°34'	43°	E	13.6
01-02	21h36.0m	-18°50'	39°	E	13.6

C/1998 P1 (Williams)

Date	R.A.	Dec	EL	Sky	Mag
12-03	13h18.4m	-16°42'	47°	M	9.2
12-08	13h15.6m	-15°13'	53°	M	9.2
12-13	13h12.0m	-13°33'	59°	M	9.2
12-18	13h07.4m	-11°39'	66°	M	9.3
12-23	13h01.8m	-09°29'	73°	M	9.3
12-28	12h54.6m	-06°57'	81°	M	9.3
01-02	12h45.7m	-03°59'	89°	M	9.3

C/1998 M5 (Linear)

Date	R.A.	Dec	EL	Sky	Mag
12-03	18h46.0m	+36°31'	66°	E	9.8
12-08	18h46.9m	+36°58'	65°	E	9.8
12-13	18h48.3m	+37°33'	64°	E	9.6
12-18	18h50.1m	+38°18'	64°	E	9.6
12-23	18h52.1m	+39°12'	64°	E	9.5
12-28	18h54.5m	+40°17'	64°	E	9.5
01-02	18h57.1m	+41°34'	65°	E	9.4

88P/Howell

Date	R.A.	Dec	EL	Sky	Mag
12-03	20h40.3m	-22°04'	56°	E	11.1
12-08	20h56.4m	-20°57'	55°	E	11.2
12-13	21h12.0m	-19°46'	54°	E	11.3
12-18	21h27.1m	-18°32'	53°	E	11.4
12-23	21h41.8m	-17°15'	51°	E	11.6
12-28	21h56.0m	-15°57'	50°	E	11.7
01-02	22h09.7m	-14°37'	48°	E	11.8

C/1998 U5 (Linear)

Date	R.A.	Dec	EL	Sky	Mag
12-03	22h51.4m	+34°11'	94°	E	11.3
12-08	21h35.4m	+28°51'	84°	E	11.6
12-13	21h25.6m	+25°03'	77°	E	11.9
12-18	21h19.3m	+22°16'	70°	E	12.2
12-23	21h15.1m	+20°10'	64°	E	12.4
12-28	21h12.2m	+18°32'	58°	E	12.6
01-02	21h10.1m	+17°16'	53°	E	12.9

Orbital Elements -- Epoch 2000.0

Object:	Giacobini-Zinner	Meunier Dupouy	Williams	LINEAR (M5)	Howell	Linear (U5)
Peri. Date:	199811 21.32107	1998 03 10.4365	1998 10 17.836	1999 01 24.5733	1998 09 27.19738	1998 12 21.7737
Peri. Dist (AU):	1.0337095 AU	3.051186 AU	1.14674 AU	1.742213 AU	1.404878 AU	1.23192 AU
Arg/Peri (2000):	172.54569°	122.6864°	294.473°	101.2873°	234.8593°	051.4478°
Asc. Node (2000):	195.39930°	148.8467°	156.379°.	333.3766°	057.65738°	066.6606°
Incl (2000):	031.85856°	091.2706°	145.730°	082.2285°	004.39961°	131.9990°
Eccen:	0.7064344	1.001019	1.0	1.0	0.5531119	1.0
Orbital Period:	6.61 years	Long Period	Long Period	Long Period	5.57 years	Long Period
Ref:	NK 629	MPC 30738	MPEC 1998-Q10	MPC 32169	MPC 31205	IAU CIR. 7044
Epoch:	1998 11 21	1998 07 06	1998 10 17	1999 01 22	1999 08 10	1998 12 22
Absol. Mag/"n":	9.0/6.0	4.0/4.0	6.5/4.0	5.5/4.0	7.7/4.0	11.0/4.0

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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).

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80mm widefield refractor with 500mm focal length, 94 Orion Ultra-Scan, Super-ED, 1.25 plus 2.0 diagonal rings, 6x30 finder, glass solar filter. Light, stable, like new. $400.

9x63 binos, older Orion roof prism, good condition. $80

8x42 Adlerblick binos, light and small, good condition. $120.

For any of the above, please call Daniel Stokes in Salinas any time (831) 751-9704

Telescope Loaner Program Status

Mike Koop

Available to any SJAA member; 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.

#	Scope Description	Borrower	Due Date	Note
3	4" Quantum S/C	Eric Anderson	10/31/98	
6	8" Celestron S/C	Bud Wittlin	11/28/98	
7	12.5" Dobson	Morris Jones	10/18/98	
15	8" Dobson	Robert D. Hogan	11/14/98	
16	Solar Scope	Jim Van Nuland	12/31/98	
18	8" Newt/ P Mount	Mike Rupe	1/4/99	
19	6" Newt/P Mount"	Ran Talbott	10/31/98	
27	13" Dobson	George Cooper	11/16/98	
28	13" Dobson	Ramin Ghafouri	12/12/98	
29	C8 Astrophotography	Alexander Koczur	12/1/98	

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.

#	Scope Description	Borrower	Due Date	Note
2	6" f9 Dob	John Paul De Silva	?	
4	60mm Refractor	Del Johnson	Indefinite	
9	C-11 Compustar	Paul Barton	Indefinite	
26	11" Dobson	Raymond Brinson	1/11/99	

Available Scopes

These scopes are available for immediate loan, stored at other SJAA members homes. If you are interested in borrowing one, please contact Mike Koop at (408) 473-6315 for a scope pickup at any listed SJAA events.

#	Scope Description	Stored At
1	4.5" Newt/ P Mount	Mark Cousins
8	14" Dobson	Ralph Seguin
21	10" Dobson	Alexander Koczur
23	6" Newt/ P Mount	Alexander Koczur
24	60mm Refractor	Akkana Peck
30	7" f/9 Newt/Pipe Mount	David Manley
31	8" f/8 Dobson"	Mark Taylor

Waiting List

23	6" Newt/ P Mount	Al Case

Notes: Do you have some space to store a scope or two? Please call Mike Koop at 446-0310 or koopm@best.com

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