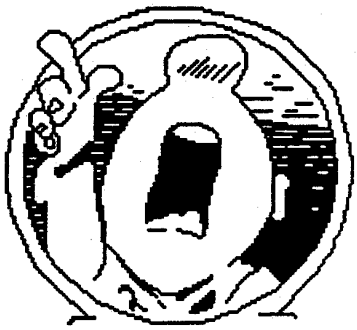
SJAA EPHEMERIS

VOLUME 4 NUMBER 2 OFFICIAL PUBLICATION OF THE SAN JOSE ASTRONOMICAL ASSOCIATION February, 1993



The Eye Piece
by Bob Madden

Apologies

Apologies are due to all of the attendees who came to the 9 th of January general meeting. We had a great turn-out - a full house! However we had a disconnect again with Dr. Romani. We failed to confirm the date of his talk with him and he did not come. We really want to apologize to those who came extra long distances, such as, from Monterey. We will again work hard with Dr. Romani to schedule another date for his talk on Black Holes.

Observatory Status

The current status of the project at Grant ranch has been placed on hold by your Board of Directors. We had been diligently working, with positive results, we thought, through the County Parks Administration and had prepared a very nice presentation for the hearing of the master plan review in December. After our fine presentation illustrating our determination to meet the objectives of the Park theme and to build an observatory building which will blend into the park and appear as an ordinary farm building, an individual followed and spoke critically of our effort which undermined our resolve.

However, the original goal of our Observatory Design Team is to have the observatory site independent, that is, to be able to build it on any location. So all is not lost. We are now looking to mending fences with the Parks Commission members and may select another site. At this time there is little hope we will build a facility at Grant Ranch due to the hostility of the environment there. It does not seem prudent to do so at this time. Perhaps this may change, as several people want to continue to probe this area. The Grant Ranch site is a fine site and a terrible loss to us, however we are investigating Castle Rocks, Coe and any other location which any one feels might be a suitable location. If you have a favorite spot please call your association president or any board member.

Lets work hard to keep this project alive.

The ET asterism

I think only one person reads the ***Ephemeris*** and has done some observing. I can count on one hand who I know has seen the ET asterism. Leon Jones called me the day after I mailed the ***Ephemeris*** and said he has observed ET and has read about it in S&T (about 1989). Leon says it is NGC 457 and is called the Owl Cluster. He has observed it from his back yard here in the valley. Again, the RA 1H 19M, Dec 58° 20M and is 10 min from Pl Cas.

Lensless Wright Camera

If you remember the issue which had photographs of the equipment shown at the September meeting, one was of Jeff Horn's Lensless Wright Camera. Jeff also showed photographs that night, of which he was not satisfied. Jeff showed me some 2 minute photographs taken recently with much improvement. He plans to give us a talk when he is satisfied with his equipment. If you are interested in such a device (instrument), contact him at almost any general meeting - Jeff is a regular.

Feb 4: School star party at Dillworth School: 7:00 pm - Call Jack Peterson for Directions
Feb 6: General Meeting, 8:00 pm. Board of Directors meeting 6:15 pm. Dr. Garry Weston of the department of Physics, Cal. State Hayward, will discuss Gamma Ray bursters
Feb 13: Star Party at Henry Coe SP. Mrise 12:39 pm. Waxing Gibbous 10 d old. Astronomical dark 7:13 pm.
Feb 20: Star Party at Fremont Peak and Grant Ranch. Sset 5:22 pm. Mrise 9:10 18d old.
Feb 26: Star party at Houge Park. Sset 5:58 pm. Mrise 2:25 am
Feb 27: Second Astronomy Class at the Milpitas Library starts at 8:00 pm.
Mar 2: School Star party at Alviso School - located on North First St, Alviso. 7:00 - 8:30 pm. Call Jack Peterson for more information.
Mar 6: General Meeting, 8:00 pm. Board of Directors Meeting 6:15 pm. Seth Shostak, SETI, Speaking on the search for intelligent Life (off earth).
Mar 13: Star Party at Coe Park. Sset 6:12 pm; 61% moon rises 0:43 am.
Mar 20: Star Party at Fremont Peak. Sset 6:18pm; moon absent. Also : Public star party at Grant Ranch.
Mar 26: Public star party at Houge Park. Sset 6:25 pm; 13% moon sets at 10:01 pm.
Mar 27: Third Session of Astronomy Class, 8 pm at the Milpitas Library.

Watch for the SJAA Auction
Coming on May 1
Location to be determined

Dr. Jack Marling Talk
12 Dec 92 Gen. Meeting
by Jim Van Nuland

Dr. Jack Marling (he prefers to be called Jack) spoke about astronomical filters and photographic equipment. Jack presented the Lumicon product line for astronomy, specifically the specialized filters that he has developed which has band pass transmission characteristics that are tuned to particular families of celestial objects. He also discussed the gas-hypersensitization of photographic film, and displayed the gassing chamber Lumicon sells.

Jack stated the filters are often called "light pollution" filters though they are very useful under dark skies — the sky has considerable illumination due to our own atmosphere (sky glow). (one sold is a sky glow filter, the remaining has more specific purposes . . Ed)

Band pass Filters

Deep Sky widest bandpass at about 80 nanometer (nM). Good for bluish reflection nebulae, and useful on galaxies, although the later are rather difficult to help. Useful for color photographs. Only one guaranteed to pass the Hydrogen-Alpha line (deep red). The others may not.

UHC The Ultra High Contrast filter passes a somewhat wide blue-green band, width about 24 nM. Good for emission nebulae.

O-III The Oxygen III filter, with 11 nM bandpass, is tuned to the two blue-green oxygen lines. It is one to use on ionized gas clouds.

H-B the Hydrogen-Beta filter, narrowest at 9 nM, passes only the blue-green line due to ionized hydrogen. This is best for what are called Hydrogen Alpha regions; principally glowing hydrogen, but our eyes have little sensitivity to the deep red H-A line. This is sometimes called the horse head filter; also useful for such items as the Omega Nebula (M-17), Lagoon Nebula (M8), etc.

Another suggested filter to have in your group is a deep red filter to use for photography, not visually, especially with B/W photographic film such as 2145 Tech Pan. Jack showed a Cygnus - Milky Way photo, taken by Chuck Vaughn, of spectacular nebulosity while none of it shows well on normal photographs. He suggested a combination such as five minutes with no filter, then 25 minutes with a filter.

It should be pointed out that Jack stated Lumicon has subcontractor(s) apply the film on the filters. Lumicon, however optically tests every filter for transmission to rigid specifications and each filter sold is marked with its capability. That is good quality control and each owner can be satisfied with his purchase.

The Association wishes to thank Jack for coming from Livermore. When you have astronomical needs please give Lumicon some thought.

December at Fremont Peak
by Paul Barton

Saturday 12/19/92: The weather and forecasts were fairly good and hopeful. I arrived at the Peak about 4 pm and the sky was still clear — some high thin stuff tho. John Hales and John Kukiewitz arrived shortly after I did. We delayed setting up for a while as we could see approaching fog. But we did finally set up and we had a couple hours of observing before the fog set in.

Ken Ward arrived about one to five minutes after we folded and left (in convoy) about 8 or 9 o'clock. It seemed to be much later. Ken Ward is quite an experienced observer from Minnesota, used to the cold, knows the sky and is looking for a telescope. He now has the SJAA 60 mm Cometron.

There was unsettled snow on the Peak road —so we went down very carefully. [tell Bob Fingerhut about black ice] Temperatures as low as 32° F were observed, but we were well bundled up and comfortable. There were two hardy souls at the 30". Ranger Rick came by on his four wheeled motor cycle, all bundled up for the cold. No doubt it is an old story for him.

Tuesday 12/22/92: I arrived about 4 pm and it was clear and cool. Sundown was about 4:30 pm. No one was there, not even Ranger Rick. It was deliciously quiet and secluded. I set up the JMI-18, had a sandwich when a young couple, out for a walk, arrived about 5:30 pm. It was just getting dark. Jesus and Maria were interested and we looked at Venus; Maria, obviously pregnant and short used the ladder a step or two. They said her baby was expected tomorrow!

John Hales and John Bettencourt arrived from Milpitas about 8 pm — I didn't notice the time exactly. John Hales had his super Polaris C-8 with the sky sensor drive and lots of fine Photography equipment. John Bettencourt had his brand new Takahashi TSC 225 with the Losmondy G-11 mount. After some struggling with new and unfamiliar equipment (in the dark and cold) it was all set up and working fine.

The seeing was quite good as it was clear, cool (about 41° F), no haze or fog below, but quite a bit of city sky glow. In fact, we could see each other about 50 feet away (a film would have fogged quickly in that light). The Orion nebula was beautiful with lots of nebulosity and filling the complete field (0.7 degrees). We exchanged views of our various findings. John Hales took mostly photographs. It was a pleasurable evening but both Johns had to work the next day and left around midnight. I stayed on, leaving at 4:30 am. All of us were heavily dressed and therefore quite comfortable.

Saturday 12/26/92: Leaving Lady home this time was a mistake as the weather was warm - 56 to 41° F - and she was properly indignant. Friday and Saturday morning in San Jose was nearly freezing, so the outlook for Saturday night star party at the Peak was more of the same. But the weather man dealt us a relativity warm night, tho lots of wind after midnight.

The first few hours, to about 9 pm, held the sky exceptionally transparent. M-27 could be seen in an 8X50 finder! Later the sky became "just very good". It became impossible to observe after midnight in high cold winds, so Tom Carrico and I sacked out until morning. The others (5) retreated to their respective pads.

Continued on page 3

Double, Triple, and Multiple Stars
by Patrick M. Donnelly

On several occasions I have been asked to relate the factors involved in the observation of double stars. This is a direct result of someone trying to view a double star and not being able to see it. My reply is that there are many factors involved. Some of the factors relate to the telescope, and some of the factors relate to the system being observed. However, the single most important factor in observing double stars is the sky itself. Let us now review these factors to see how they relate to observation.

As I said before, the sky itself is the single most important factor involved in the observation of double stars. For the sky, there are two parameters that control observation. They are the seeing and the darkness of the sky. The seeing is important, because that is the parameter that will allow you to split the close double stars. If seeing is bad, there is no size of telescope that will resolve a close double pair. Therefore, it is always a good idea to check the seeing before you begin your observing session. A good rule to follow is if two equal seventh magnitude stars separated by 1 arc-second cannot be resolved, the seeing is not good enough for close double star observation. This rule is applicable to any telescope, that is 4" or larger. The other parameter is the darkness of the sky. Faint companions to bright primaries cannot be seen in light polluted or moonlit skies. It is always better to observe in dark skies.

The second factor is the system being observed. Double stars have two properties that limit the ability to observe them. The first is the separation of the components. The closer together the stars are the more difficult it is to resolve each component. This problem is aggravated by the individual magnitudes of each component. It is much easier to resolve two close equal components than two components with large magnitude differences. Also, the brightness of the primary affects the resolving capability. For example, Sirius has a companion of magnitude 6, which is all but invisible at 5 arc-seconds. However, the 5 arc-seconds separating the components of Ro Scorpio are easily resolved in almost any telescope.

The final factor affecting the ability to see double stars is the telescope itself. It is commonly known that the larger the diameter of the objective of the telescope, the better the resolving power of the telescope. Thus, a larger telescope will be able to resolve doubles not resolvable in smaller telescopes. Keep in mind that this is true only to the extent that the sky will permit the telescope to work. I have found that skies in Northern California are very steady and that an investment in a bigger telescope for increasing resolving power is probably acceptable. However, this was definitely not true for the skies of Eastern Iowa. Moreover, the larger telescope will increase light gathering power and allow one to view fainter doubles. The other consideration involved in the telescope is the type of telescope. I have used just about all types of telescopes, and I have found very little difference in the ability of the different types. Perhaps, a refractor of a given size is a bit better, when compared to other types of the same size, but on most nights it is the sky and not the telescope that is the limiting factor to observing. One final note about telescopes is that use of high power on the telescope should be used for double stars. The sky contrast is better at high power, and magnification of the image will permit closer and dimmer systems to be observed.

I would appreciate any comments that you may have on these factors. My telephone number is on the credit marque further back in this newsletter.

Fremont Peak Continued -

It was an excellent outing. Fog below Sunday morning, made the home trek hazardous, but the traffic seemed light and orderly.

Some Equipment Notes: John Bettencourt gave me the finest cup of coffee I ever saw: Big, like a beer stein, vacuum (like) a thermos, keeps coffee drinkable for hours, big anti-tip over, big handle, no doubt a big price. Perfect for star parties. Another friend gave me a Zelco light, which is said to be available at Orion. It's a small flat thing that fits in the palm of the hand with a flexible 10" goose neck to a very bright filament type lamp bulb. It uses two AAA batteries. It draws 400 milliamps and will have a battery life of only a few minutes, but the lamp bulb is quickly replaceable with a LED (a red one at that) — and is polarity conscious. Don't cut the bulb leads too short. Now it is about the correct brilliance and draws 40 milliamps. It is quite a nice lamp for star gazers.

1993 ELECTIONS

Elections are to be held at the February 6th General Meeting at the Milpitas Library. Come and make your vote felt! Five Board Members are to be elected.

Continuing:
- Bob Madden (Editor)
- Gene Cisneros
- Bob Brauer
- Jack Peterson (Treasurer)

Available for Re-election:
- Jim Van Nuland (secretary)
- Jack Zeider (President)
- Paul Mancuso (Vice President)
- Paul Barton (Loaner Chief)

Steve Greenberg has withdrawn from the Board due to personal reasons.

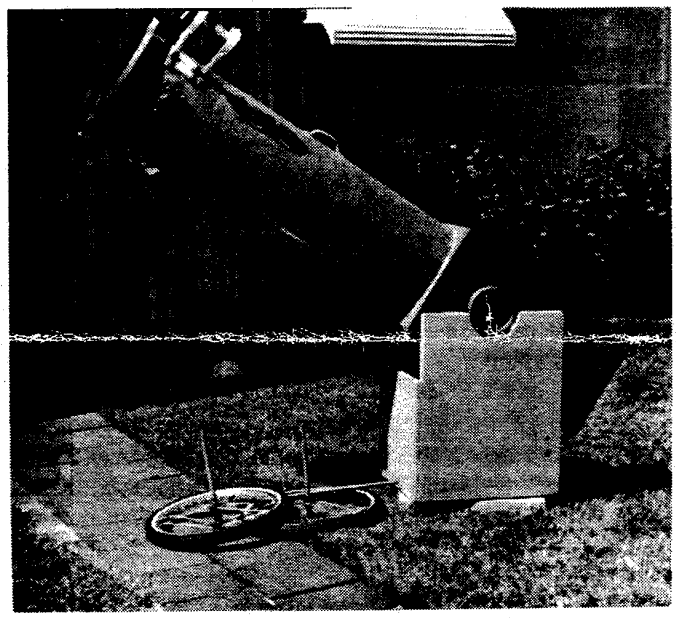
Nominations will be accepted from the floor. Come show your support or lack thereof of your Board of Directors. It is easy to be pro-active.

We will also have an interesting speaker talking on Seti this same night. After January's mis-hap we're sure to be better coordinated, but I promised that after the first goof-up with Dr. Romani.

1993 SJAA Calendar

	General Meeting	Houge Park Star Party	Beginning Astronomy Class
Feb	6	26	27
March	6	26	27
April	3	30	17 (a change)
May	1 Auction	28	29
June	5	25	26
July	10	23	31
Aug	7 Picnic	20	28
Sept	4 Slide/Equip night	24	25
Oct	2	22	30 Last one
Nov	20	19	none
Dec	18	17	none

Please read your *Ephemeris* each month for changes



SJAA Loaner Status
by Paul Barton

			Due Date
4-1/2"	Newt/P mount	Chung-Lin Lee	3/10/93
6"	Dobson	Terry Kahl	2/10/93
4"	Quantum	Albert Chen	1/20/93
60mm	Cometron Ref.		Available
C-8	Celestron	Bud Whitlin	2/12/93
12-1/2"	Dobson	Mark Wagner	2/23/93
60mm	Tasco 44-T Ref.		Available
6"	Newt/P mount		Available
8"	Dobson	Ken Ward	3/1/93
8"	Newt/P Mount	Richard Raw	2/27/93

If you want to borrow a telescope call Paul Barton (number is on the credit Marque) and get your name on a general list (any telescope) or on a specific telescope list.

ASTRO ADS

ASTRO ADS are free to all noncommercial advertisers wishing to sell astronomically related products or services. Please send your ad directly to the Editor:

Bob Madden
1616 Inglis Lane
San Jose, Ca. 95118-2825

NO LATER THAN THE 12th OF EACH MONTH! Your Astro Ad will run approximately 3-months.

Newtonian Telescope, F5-12.5 Parks mirror. 10X70 Celestron finder, 2" Meade rack and pinion focuser. 10" Byers drive gear on 2" shafts. Electronic drive with hand controller. This is an origional Telescope World mounting. Priced to sell at $1600. Contact Kim McKelvey. Days (408) 974-4099 or evenings 510 487-7268. 11/92

Classic C-8, Starbright coatings, 8X50 finder, heavy duty tripod, deluxe adjusting kit, 36 and 45 Celestron Plossls, 2X Celestron Barlow, Orion 10.5 Megavista, Telrad w/extra base, updated Adv. Astromaster w/hi-res encoders, Digitrack corrector, Orion SkyGlow filter, vibration pads, stool and Rigel LED lamp. List approx $2,450 new; asking only $1600 for a nice combination. Will include Orion Giant 10X70 binoculars in excellent condition for $150 or $200 seperately. Will discuss delivery. Call Robert W. Gage (Stockton) at (209) 474-1363. 1/93

Celestron 14 f/11 tube assy. w/Starbright coatings, 1979 vintage w/forks, drive base and wedge. Solid steel pier w/ levelers, 2" diag w/1.25 adaptor. 11X40 finder, counterweights (4), Acutrack d/a drive corrector, no eyepieces - $3200.

Takahashi FC 125 flourite f/8 doublet refractor. beautiful. f/8 tube, massive 4" focuser, 2" diag w/1.25 adaptor. Full aperture thousand Oaks solar filter, Cordura carring case. Mount not inc, but ideal for G-11 or Losmandy 100. suberb lunar, planetary, stellar images - $3500 John Gleason (408) 720-2493 or (510)792-8248 1/93

Orion 10X70 Astronomical Binoculars Fully Coated. Call Ed Rible in Stockton at (209) 446-0924 during day; (209) 478-5795 evenings. 1/93

CELESTIAL CALENDAR

February 1993

LunarPhases	Date	Rise	Tran	Set
FM 15:20hr	06-2	1718	2357	0636
LQ 06:57hr	13-2	0120	0612	1102
NM 05:05hr	21-2	0632	1223	1809
FQ ----- hr	01-3	-----	-----	----

Nearer Planets

Mercury	07-2	0739	1247	1751
0.73 AU	17-2	0724	1312	1855
Mag +1.4	27-2	0657	1314	1927
Venus	07-2	0856	1505	2117
0.40 AU	17-2	0835	14:65	2120
Mag -4.6	27-2	0809	1439	2113
Mars	07-2	1402	2127	0453
0.91 AU	17-2	1321	2046	0413
Mag -0.1	27-2	1245	2010	0336
Jupiter	07-2	2158	0345	0932
4.59 AU	17-2	2116	0304	0851
Mag -2.4	27-2	2033	0222	0810
Saturn	07-2	0700	1211	1718
10.79 AU	17-2	0624	1137	1645
Mag +0.8	27-2	0549	1102	1612

SOL Star Type G2V Mag - 26.72

(RA and Dec)

21.20 -15.6	07-2	0650	1202	1711
21.87 -12.3	17-2	0640	1203	1723
21.54 -08.7	27-2	0629	1204	1736

Astronomical Twilight

JD 2,449,026.5	07-2	0516 - 1844
9,036.5	17-2	0507 - 1855
046.5	27-2	0457 - 1907

Siderial Time

Transit Right	07-2	0000 PST=0902
Ascention at	17-2	0000 PST=0942
Local Midnight	27-2	0000 PST=1021

Darkest Saturday Night Feb. 20

Sunset	1727
Twilight End	1859
Moon Set	1712

TIMES AND DATES ARE PACIFIC STANDARD

Comet Comments

by Don Machholtz

Let's briefly review the comet activity of 1992.

Six new comets were found by amateurs, but four of them dimmed unexpectedly some time after discovery. Six more comets were discovered by professional astronomers. Fifteen returning comets were recovered, including five each by J. Scotti and T. Seki.

One of the returning comets was recovered by an amateur, that being Periodic Comet Swift-Tuttle by T. Kiuchi. The comet, the best of the year, put on a good show, displaying a high level of coma and tail activity. Early suggestions that the comet may hit the earth next time around can now be laid to rest. Further observations, (including some prediscovery photos from Jan. 1992) indicate that the next two perihelions will be July 11, 2126 and Aug. 12, 2261, plus or minus one day. Therefore it misses the July 26 perihelion date which is necessary for an earth-comet collision.

An object designated 1992 QB (1) was discovered on August 30 at magnitude 23. Found almost exactly on the equator at RA 00h01m, the object is presently about 41 AU away, has an orbital period of 269 years, and will be closest to the sun a roughly 39 AU early next century. It's about 200 miles across. Is it a comet or an astroid? It is hard to tell at this time, it may be in a class of its own.

In August we learned that an object which usually shows no cometary activity and appears as an asteroid is actually a comet, first seen in 1949. It is Periodic Comet Wilson-Harrington, its orbital period of 4.3 years, and sometimes it outbursts, producing a cometary appearance.

Now a few notes about comets recovered and discovered lately:

Periodic Comet Kojima (1992z): J. Scotti of Kitt Peak recovered this comet on October 21. It will remain faint.

Periodic Comet Oshita (1992a(1)): We now know that Ohshita used 25X150 binoculars to discover this comet on Nov. 24. My ephemeris positions were a bit off last month due to my entering of an incorrect element into the computer. The comet is now expected to produce a meteor shower.

EPHEMERIS

PERIODIC COMET SCHAUMASSE (1992x)

01-23	03h33.9m	+29°28'	115°	E	9.2
01-28	03h38.5m	+31°29'	111°	E	9.0
02-02	03h45.3m	+33°32'	108°	E	8.8
02-07	03h54.3m	+35°37'	105°	E	8.6
02-12	04h05.6m	+37°42'	103°	E	8.4
02-17	04h19.6m	+39°44'	101°	E	8.3
02-22	04h36.1m	+41°40'	100°	E	8.2
02-27	04h55.4m	+43°27'	98°	E	8.1
03-04	05h17.5m	+45°00'	98°	E	8.1
03-09	05h42.3m	+46°14'	98°	E	8.2
03-14	06h09.4m	+47°04'	98°	E	8.3

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Membership only: $12 Membership / S&T: $32 Junior (under 18): $20

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1840 Yosemite Drive
Milpitas, CA 95035
Telephone: (408) 262-1475

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