SJAA EPHEMERIS

VOLUME 3 NUMBER 12 OFFICIAL PUBLICATION OF THE SAN JOSE ASTRONOMICAL ASSOCIATION DECEMBER, 1992

The Eye Piece
by Bob Madden

I've been on the trail of Bill Dellinges - to the University of Arizona Astronomy Camp. What a trip! I may have done it a little differently than Bill. Bill went to other small observatories; i went to the air museum (an original B-17, B-24 and a B-26) and all of the monuments and Federal parks I had time to visit. I would recommend the astronomy Camp to any one. Friday night was clouded out, but Saturday was clear on Mt. Bigalow where the 61" and 16" Schmidt camera were. Both nights were cold and windy. A smaller group of us went to Kitt Peak and received a personal tour of the 4 meter and Mc Math solar telescope by Dr. Don Mcarthy and his associates. When I saw Bill at the Houge Park star party, he mentioned that he had recently returned from Star Hill Inn and some observing near Las Vegas, New Mexico. He has a write-up in this issue and will give a presentation at a general meeting.

I listened to a lecture by one of the attendees at the camp, who talked about micro-photography of regular astrophotography. I might add it seemed an interesting process! We'll publish his write-up in a later issue.

This month we continue with more about astronomy in Poland. Paul has done his amazing reporting of our star party outings. By the way, we have published an introduction booklet covering astronomy and the SJAA. It is an updated version and to defray the first publishing costs a donation of at least 25 cents would be appreciated. Contact Jack Peterson for your copy. The second printing was donated by a gracious member, Linda Fingerhut. Thanks Linda.

As an added note I wish to pass on information about our friend John Briggs, who has spoken to us in years past and was Public Relations Chair of the Group 70 Project. John left the area several years ago to work at Yerkes Observatory. I sent him a newsletter, ***REFLECTIONS***, from the Group 70 and a little note wondering what he has been up to. John states that he has been to the South Pole early this year, and will be going back again in a couple months. He expects to be there all of 1994. John didn't say what his work will be there, but I'll bet it will be interesting.

Dec 4: Star Party at Houge Park. Sset 4:50 pm. 77% moon. Mset 2:48 am.
Dec 5: Too much moon
Dec 12: General Meeting, 8:00 pm. Board of Directors meeting 6:30 pm. This month speaker is to be announced. Call the Hot Line.
Dec 19: **No Beginning Astronomy Class** at the Milpitas Library. Star Party at Fremont Peak. Sset 4:53 pm. 16% moon. Mrise 4:03 am.
Dec 26: Play with your new astronomy toys. No activity. Fremont Peak is available. Sset 4:56 pm. 10% moon. Mset 7:50 pm
Jan 2: No activity.
Jan 9: General Meeting, 8:00 pm. Board of Directors meeting 6:30 pm. Dr. Roger Romani from Stanford is again scheduled to speak to us on Black Holes and new objects in our Galaxy.
Jan 16: Star Party at Henery Coe SP. Sset 5:14 pm. 29% moon.
Jan 23: Star Party at Fremont Peak. Sset 5:22 pm. 2% moon. Mset 6:38 pm.
Jan 29: Star party at Houge Park. Sset 5:29 pm. 42% moon. Mset 0:20 am.
Jan 30: The first of the year Beginning Astronomy Class at the Milpitas Library starts at 8:00 pm.

BOO Day Star Party
[Halloween at Houge Park]
by Paul Barton

The Halloween Party was a pleasant social event but no star party due to an overcast sky. There were perhaps a dozen Trick-or-Treaters who would have liked to view the heavens for flying witches. A police Helicopter checked us out, but no other police came by.

Shelly McAleese's Odyssey One has been over hauled in preparation for Houge Park star parties. Jack Zeider supplied a much needed focuser; but this necessitated moving the mirror 2" and then re-balancing the telescope. This 13.1" Coulter is an older one and has an excellent mirror. Shelly routinely splits 6" doubles with it. She is an expert star hopper, like most expert astronomers and likely doesn't know how to use setting circles (or need to). Shelly is also into miniature doll houses and mice families.

Tho we see lady assistant astronomers frequently, some with their own telescopes, I know of three lady first astronomers, Shelly McAleese, Terry Kahl and Susy ? (at this time).

Officers • Pres. Jack Zeiders • Vice Pres. Paul Mancuso • Tres. Jack Peterson • Sec. Jim Van Nuland • Editors Bob Madden and Paul Barton

Amateur Astronomy in Poland
by Lech Jaszowski

Publications - Continued

The other magazine, 24 pages quarterly, ***Vade mecum of Astronomy Amateur***, is issued by Mr. Brzozowski's private publishing firm. It originated in May 1991. Mr Brzozowski has serious difficulties with distribution of his ***Vade mecum***. Due to it, the magazine appears with very big delay - till now (September 6) the first number for this year has not been issued yet. This periodical is addressed to beginning astronomy amateurs, to young people. We can find there, answers for such questions like: how to discern the most important constellations, how to find planets and other interesting objects in the sky, how to build the most simple telescope, how to take photographs of the sky by oneself. The subject matter of ***Vade mecum of Astronomy Amateurs*** refers mainly to practical problems, which mobilize readers to carry on own astronomical observations. No theoretical information can supply so many wonderful impressions like first successful observations of the sky can.

Amateur Observatories

These observatories (astronomical stations) aim at public sky shows and amateur and educational observatories. There are 17 such observatories in Poland. Some of them, for instance at Silesian Planetarium and at Planetarium in Olsztyn, have equipment leaving to lead research work besides amateur telescopes. Moreover almost all departments of PTMA have telescopes for sky shows at their disposal.

Planetariums in Poland

There are 8 planetariums made in the famous "ZEISS" factories (Germany). There are 4 types of machinery, a bit different in range of ability of demonstration.

The Silesian Planetarium's dome has a diameter of 23 meters (over 25 yards). The dimensions of the dome correspond to the capacity of the planetarium projection hall, which in the Silesian Planetarium seats 400 people. Every astronomical display is accompanied by a suitable lecture, after illustrated by films or slides. It is significant that young people constitute over sixty percent of the visitors, who number yearly about two hundred thousand persons. Each year over three hundred special displays are organized for foreign delegations and visitors, with texts in sixteen languages.

In Olsztyn there is Space Flight Planetarium - full automatic machinery adapted to a hall of a dozen or so meters of diameter, which can have room for 200 spectators.

In some towns there are also small planetariums, with a hall of several meters of diameter, which can have room for tens of people.

The planetarium of the Nicholas Copernicus Museum at Frombork is located within historical walls. It is the place where Nicholas Copernicus spent thirty years of his life. The building is an eight - cornered tower of the fortress on the cathedral hill of Frombork, into which an 8 meter projection dome has been built. The walls of the planetarium have a thickness of seven to eight meters. The dome seats 88 visitors. The planetarium began its work in 1973 when the 500th birthday of the great Polish scientist, Nicholas Copernicus, was celebrated all over the world. Most of the million visitors to this planetarium so far were tourists, who wanted to see the place where Copernicus had lived and worked. Many school classes come to the planetarium to attend the easily understandable popular programs. In addition, programs adapted to the subjects of astronomy lessons are offered. These programs are characterized by live comments on the projections and immediate answers to the students' questions.

In Polish planetariums, besides performances very different in respect of subjects and levels, astronomical and astronautical exhibitions, olympiads and competitions for young people are got up, series of lectures are realized and astronomy amateurs are instructed in the domain of amateur telescope building.

Holidays in the Planetarium

Holidays in the Planetarium have been organized by Frombork Planetarium since 1978. They are attended mainly by secondary school and university students, who come to Frombork for this purpose and help staff with their work in the planetarium, becoming familiar with its facilities on that occasion. But they also widen their knowledge in astronomy. They work autonomously, e.g. showing visitors sunspots through the 63/840 mm TELEMENTOR school telescope arranged at the entrance to the planetarium, or they do celestial observations in the observatory and even projection shows in the planetarium. Many of them come back to Frombork again and again. In 1983, these youngsters founded the PULSAR Association of Friends of the Planetarium and Observatory of Frombork, and all of them are very helpful to the planetarium staff.

The Astronomical Olympiad

Amoung the multivarious activities, mention must be made of the Astronomical Olimpiad, which Silesian Planetarium at Chorzow organizes every year. This interesting event is open to all senior pupils in Poland. It was organized in 1957/58 school year for the first time. This year 35th edition of Olympiad has started. Two to five hundered competitors attend this Olympiad. Those who have successfully passed two eliminations, arrive at the Silesian Planetarium for the Olympiad Final and here the year's best astronomy adepts are selected. From years students of the lower classes have been making a big part of astronomical olympiads' entrants. Most often they participate in Olympiads many times. The influance of olympiads on astronomical interest, development is the greatest one for this "notorius" group. You can see it in results attained by them.

Teaching of Astronomy in Poland

Astronomy is not separated as a distinct subject in present curriculum. The physics curriculum of secondary students contains elements of astronomy. Teaching of astronomy and also astronomics start eariler, however. Namely on geography lessons in the fifth class and in 6-8 classes during teaching of physics.

Polish Astronomy - Continued.

Astronomical subjects are taken into account in curriculum of geodesy studies and also of some pedagogical and university studies (physics, geography). People can take astronomy as a main subject of studies at five Polish universities - Cracow, Warsaw, Pozuan, Torun and Wroclaw.

The main of school astronomical education is current elucidating astronomical phenomenons, answering the questions at once, without putting off. Of course, we have many more troubles with questions which astronomers are occupied at, then whichever ones in science; but this is the problem which appears in teaching that exeptional subject, however taking few hours in the curriculum. Sometimes accidential paraticipating in events organized by astronomy amateurs brodens one's horizons more than systematic teaching in school. Sincere interest connected with an experience, with an adventure - even though in miniature - forms the mind in equal degree with correct lesson including writing formulas and checking up on acquire knowledge. The astronomical knowedge acquiring by self - study is most permanent. It is undoubtedly connected with emotional engagement, which always accompanies reading choosen articles, doing observations planned oneself or visiting astronomical institutions.

Amateur Telescopes

There is (only!) one firm making telescopes in Poland. It is the Mr. Universal's firm from Zywiec. He manufactures nine types (3 types of refractors and 6 Newtonian telescopes). These are their data:

Refractors:

1.7"/19.7"	2.6"/15.7"	2.6"/31.5"

Reflectors:

2.8"/27.7"	2.8"/37.5"	3.5"/35.4"
5.9"/59.1"	5.9"/35.4"	9.8"/59.1"

However, they are critized for many weak points in construction of mounting. Some amateurs try to build telescopes themselves. Others bring them from the west, but they are too expensive for us.

Lech Jaszowski, Cieszyn, Poland

A Special Grant Ranch Star Party
by Paul Barton

The star party, Friday, October 16, 1992, was held at a camp site just south of Halley Hill, where about 200 girl scouts were having a camp-out. This camp-out was organized by troop leader Margaret Holbrock and her advisor Janice Roll of Cadette troop #242, for Girl Scouts of Santa Clara County Service Unit #3, Older Girl camp-out, 3 Junior Girl Scout troops, 3 Cadette girl Scout troops. This was the "Fall Ramble" for older, experienced campers and organized as a Silver Award Project. The girls ranged from about 8 years old to the middle teens. There were numerous older troop leaders also.

We had seven telescopes squeezed together on a small knoll, including (of course) our regular partner Terry Kahl and her 6" Dobson and the Chen family and their DCO-60. When the party was in full swing with 20 or more girl scouts and their leaders at each telescope. The noise level from 100 to 200 chattering girls made explanations nearly impossible.

The moon rose at 11:00 pm and we saw some of the youngsters sacked out in their tents. This outing was a successful and pleasurable outing for all.

Those in attendance with Telescopes were:

Paul Barton/Lady	JMI-18
Paul Mancuso	16" Dobson
Jim Van Nuland	8" Newtonian
Albert Chen	Cometron DCO-60
Mark Chen	
Sho-ho Chen	
Bob Brauer	C-102
Terry Kahl	6" Dobson
Jack Peterson	C-11

Observations: Note this outing was just south of Halley Hill where an observatory is planned, perhaps a mile from Grant Ranch Telescope Row and a little higher. The seeing conditions were excellent! (on this night at least) It was dark, dark, no lights (except a distant rest room) and dry. There was a high thin cloud cover limiting seeing. Not much room for parking and setting up of telescopes, but this outing indicated the Halley Hill Observatory is probably an excellent site, a great deal better than telescope row. On outings such as this there is a need for an observing coordinator, so the various telescopes will be on different objects. Perhaps a handout for operators briefly describing the objects available for the night and then accepting an assignment to show one so there isn't duplication.

Channel 54 (KTEH) Night
by DR Johnson

As most of you already know, the SJAA and KETH enjoy a special relationship. We are both non-profit, educational organizations and we mutually support each other. For several months now, KTEH has been announcing our indoor astronomy classes on the Thursday prior to the class. They have also given our association publicity and recognition through a personal interview as well as several on-screen displays of our hot-line telephone number.

We in turn, have supported KTEH by twice manning telephones during their annual auction in the spring and have introduced high bidders to amateur astronomy through special evenings viewing through the 30" Challenger telescope on Fremont Peak

The SJAA has been invited to return and man telephones during a pledge drive in early December. Specifically, we've been asked to show up on Thursday, December 10th, from 6:16 until approximately 11:30 pm. Since Thursday nights are Science and Information Nights on KTEH, it is rather appropriate for SJAA participation. Our participation will be prominently announced several times during the evening and we have have been invited to wear anything (except whites) which identifies our group/interest.

KTEH will need 25 to 30 people that evening so we're asking for a good SJAA showing (why not include your spouse or friend?) We've had fun in the past and we'll have fun this time as well. We do need to provide a head count so call in your participation now. Leave a message with either Jim Van Nuland (408-371-1307) or Jack Zeiders (408-281-0220)

The Last Beginning Astronomy Class of 1992

by Bob Madden

The last Beginning Astronomy class of the year was given by Jack Peterson with his usual fine performance. Jack covered the constellations of Perseus and Algol, Andronomeda and M-31, Triangulum and M-33 (the Pinwheel galaxy), Aries (the Ram) and the significance of the First Point of Aries, Cetus and the variable star, Mira (Omicron Ceti), Eridanus, the second largest, and finaly Sculptor, home of NGC 253 galaxy (Silver Dollar), which is very bright. Sculptor also houses Jack's favorite, NGC 288 globular cluster.

Jack asked the group if they knew which was the best known cluster. The answer is . . . . the Pleadies.

During the question and answer period some time was spent in answering "how do you weigh stars?". The answer was through inference of orbital determination of stellar objects, using temperature, color and the H-R chart.

Then "How were magnitude measurements determined?" discussed. First the magnitude system of measurement was discussed. Then it was stated that we could see naked eye, with average eye sight, to about magnitude 5, which is about 100 times dimmer than magnitude 0 (magnitude 10 is 10,000 times dimmer than magnitude 5). However Photometers, which are highly sensitive and accurate today, can measure magnitudes as low as 27. Added information was that Sirius was about a -1.4 and Vega a 0 magnitude stars.

Delicious cookies were provided by Alice Finley and a BIG round of applause given to Jack Peterson. Those in Attendence were:

John Bettencourt	Jack Friedman
Jim Van Nuland	Del Fausey
Ben Lee	George Clark
Greg Pell	Albert Chen
Chung-Lin Lee	Terry Kahl
Dan Finley	Alice Finley
Bob Madden	Jack Peterson

(Paul Barton/Lady were absent-watching the first world series Game)

Hogue Park 6 Nov 92

by Paul Barton

Friday night was another fine outing; the weather cooperated - warm and clear - some dew, but not too bad. There was considerable moon light - Lady could be seen "cruising" at over 100 yards. There was a large number of people and telescopes.

There were 14 telescopes, and no two were alike. Bob Brauer had a fancy setup with a new Losmandy G-11 mount, a 6" Edmund Sci Newtonian photo scope and a Celestron SP 102/4" f-10 guide scope. Next to Bob, Lew Kurtz had a mind blowing 10" Meade LX 200 with a computer tracking Alt-Az fork mount with power slewing. This might be the finest portable amateur telescope available today ($2500). This setup is not suitable for astrophotography however.

The turn-out of astronomers and their equipment was "star" quality and quantity. Space here does not allow comments on each one, but it was largely the usual turn-out of active "ham" astronomers for these occasions. Then, of course, (and primarily) there were "gangs" of visitors. There were a large number of little ones and their escorts — perhaps a 100 or more. We all had fun.

The moon was examined in great detail. There was the ring nebulae and near-by double-double stars, Saturn, Andromeda, and later Orion. the pride of the evening was comet Swift-Tuttle in Hercules. Even with a bright moon Swift-Tuttle came in very clearly.

I would send up a big resounding "HURRAH" for all of the regular members (and not so regular) who come out for these occasions. But the fact is we enjoy it. Those who signed in were:

Paul and Lady	JMI-18
Shelly McAleese and Sam	13" Dob
Joe Jochem	Binoculars
Michael England	10" Meade SC
Dave Enos	6" Maksutov
Bob Keller	Camera
Rich Newschaefer	4" Takhashi
Jerry McKee	13.1 Dob
Mark Wagner	12.25 Dob
Jim Van Nuland	8" Newtonian
Leon Jones	10" Coulter
Jim Bartolini	SPC-80
Bob Ashford	5" Refractor
Bill Dellinges	5" A/P APO
Bob Brauer	6" Ed Sci Newt.
	4" f-10 Celestron
Lew Kurtz	10" Meade LX200
Paul Graves	Sci Dept Dartmouth
Tom Harrold	
Cynthia Aguilar	
Jack Cox	
Bob Madden	

KTEH at Fremont Peak

Friday, 23 October

by Paul Barton

This outing was for the highest bidders at the KTEH Auction. It was to be a "Night at the 30". as far as I know, no one showed up, but we had a fine outing without them. Jack Zeiders opened the observatory and there were various 30" sky pilots, some whose names don't show here. We all enjoyed looking through the 30".

The telescope and 30" observatory is something to be proud of. From that, I believe the 72" will also be very successful as it's somewhat the same group (or leadership). [I have some thoughts on this - it is a bigger task than the 30", believe me . . . ed]

Bruce DeGraaf, the donator of one of our favourite loaners, the Quantum 4, was there. So was Terry Kahl. The way she star-hops with her 6" Dobson classes her as a regular now.

Several of us with fading eye sight have agreed that it is not immoral to use setting circles; e.g., if you can't see anything between Albireo and M-27, star hopping is nearly impossible.

Of course star parties are not just to see the stars. They are a pleasurable social event also. Even a "solo" star party is a picnic — ask Lady. There are often impromptu star parties at the Peak of one, two, or more telescopes on Sundays, Mondays, etc.

We can thank ranger Rick for his gracious cooperation, which has not always been the case at other parks. I've been tossed out after dark on Hecker Pass. [please remember to pay your fees when you go the peak. It helps keep the peak open]

The Star Hill Inn
by Bill Dellinges

My wife and I paid a visit to the Star Hill Inn this past October. Having seen their advertisement in S/T for several years and having read "Shoot out at Star Hill Inn" (S/T Oct. 1991), I felt a trip there was crucial to my astronomical being.

We flew Southwest Airlines nonstop to Albuquerque, rented a car and drove 120 miles north-east to Las Vegas, New Mexico (pop. 15,000). About ten miles further north out of town and down a dirt road we saw the Star Hill Inn sign. Phil Mahon, our host, met us outside his lovely home and showed us to our cottage. A duplex, our unit was a nicely furnished one room affair with kitchenette, closet, and a bathroom with shower. There are two other cottages nearby, a single, and another (and larger) duplex. A fourth cottage is being built and should be ready in January.

At 7,200 feet elevation, the facility is set on 200 acres of beautifully wooded land. The observatory is set some hundred yards from the cottages. Here's the set-up: a large open deck sports the following equipment - a C-14 Compustar, C-11, Sky Designs 17.5" Dobsonian, Genesis 4" on an alt-azimuth mount, Meade 8" SCT and 11X80 Binoculars, and a Losmandy G-100 Equatorial mount (to carry the Genesis or whatever when long exposure photography is required. The three largest telescopes are housed in a wooden roll-a-way structure during the day. There are also piers on the deck to accommodate your telescope, should you bring one. Adjacent to the deck is a long cement slab, more room for telescopes not requiring piers. All the above telescopes can be rented by the night or week. Nightly rates range from $10 for the 11X80 to $40 for the C-14.

You are welcome to bring your own equipment and plug into the site's electrical outlets at no charge. I brought my Questar, but with all those big guns there, I found myself drifting over to those telescopes and taking peeks and chatting with people during the night. Next time I think I'll just bring a pair of binoculars, tripod, and a couple of my favorite eyepieces. No sense dragging a telescope on an airplane when you've got all those telescopes there. A neat building adjourns the observing deck. A place to take a break and thaw out, the one room structure contains a wood burning stove, a pot of hot water for coffee, tea, hot chocolate; desk with night light and star charts, a small astronomical library, lots of back issues of S/T, Astronomy, Deep Sky, a couple couches, and astrophotography and magazine articles about the Star Hill Inn framed and hung on the wall. I spent hours perusing all these goodies.

We were there for six nights. Five were clear and one night half the western sky became cloudy by midnight. All of us quit by that time anyway, as we were very cold and had been observing since 7:00 P.M. I found by that time my hands and feet were numb and the joy of observing was fading. Perhaps I should have taken more breaks, but we were having so much fun running from one telescope to another that I didn't want to miss anything!

A few words about the equipment: the Meade 8" SCT's optics were terrible. One could not focus sharply on anything. I checked the symmetry of an out-of-focus star and it looked fine. The instrument must suffer from some other aberration. The C-14 was amazing. the computer slewed quickly and accurately to anything it was commanded. It's star images weren't to sharp though. The C-11 was OK, except for the R.A. circle which, for unknown reasons, was frozen in place. I also had to collimate its finder. The 17.5" was nice, great aperture, lousy focuser. The Genesis, with its wide field, was superb. A 2"-40mm eyepiece gave a 5 degree field and we could see the entire Veil Nebula in it. That little telescope never fails to amaze me. I think one of the best views of Mars I've ever seen was through Rich Newschaefer's Genesis a couple years ago.

How is the sky? One thing I noticed right off was the bad "seeing" every night I was there. Saturn looked terrible in all the telescopes at any power over 100x. Sometimes you couldn't focus the planet at any power! The last two nights the seeing got better, but not much better. Double stars were difficult to split, I couldn't get the Blinking Planetary (NGC 6826) to blink, nor could I see the central star in the Cat's Eye Nebula (NGC 6543), which is easy in my C-8 back home. Perhaps, and hopefully, it was just a bad week for seeing.

Was it dark? Yes and no. M-31 was an easy naked eye object. I could see all the stars in the Little Dipper. The Helix Nebula (NGC 7293) was easy in 7X35 binoculars. The Milky Way was very bright with dark lanes running through it. But the sky still seemed somewhat bright to us. Was it the volcanic dust problem, or eyes greatly dark adapted? I suspected Las Vegas, 10 miles to the south and Santa Fe, 35 miles west as possible culprits, but Phil disagreed. We did agree though, that you were taking your life in your hands trying to find your way back to the cabins without a flashlight - it was dark when you looked down or straight ahead.

My wife and I took a trip to Taos one day and did a little hiking and bird watching on the grounds. Phil provides a map with trails and points of interest in the area, along with recommended restaurants, etc., in nearby Las Vegas.

All in all, we had a nice relaxing time at Star Hill Inn. I'd definitely go back. I found Phil and his wife Blair to be gracious and amiable hosts. Phil was especially helpful with his knowledge of astronomy and support as he cruised through the night with us making sure everything was going well. One night he even showed up with a large plate of home baked cookies! Like a celestial waiter beneath a starry sky, he offered them to each telescope operator.
[you can contact Bill Dellinges at (510) 792-9206]

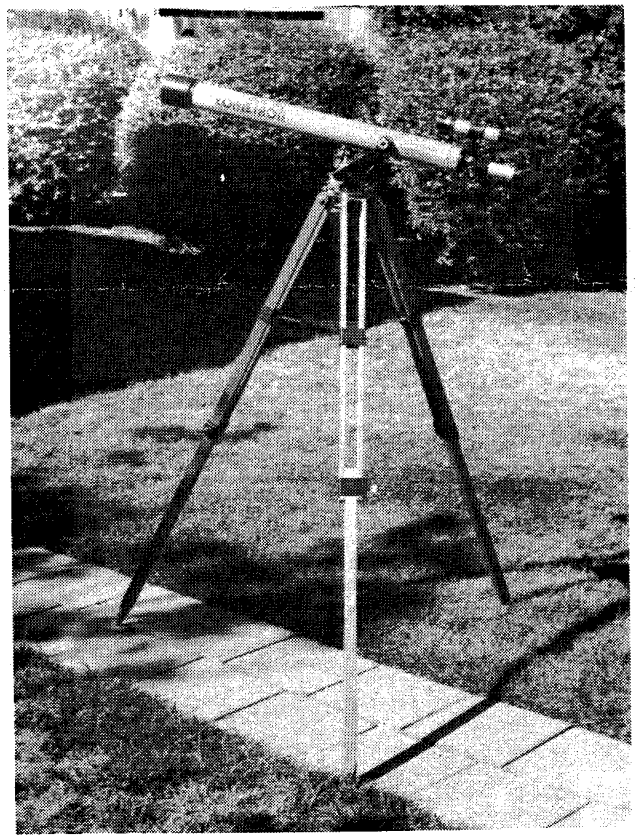
Jan Oort, pioneer in Milky Way, comet research Dies.

Many may have read of the death of Jan Oort in the San Jose Mercury. Mr. Oort, 92, made major discoveries about the dynamics of the Milky Way , the mass of the cosmos and orgin of comets. One of his earliest and most important achievements was to establish the rotation of the Milky Way. Other works of his led to the earliest recognitions of what is known as the "missing mass".

1993 SJAA Calendar

	General Meeting	Houge Park Star Party	Beginning Astronomy Class
Jan.	9	29	30 First one
Feb	6	26	27
March	6	26	27
April	3	30	24
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



EQUIPMENT LOAN

Pictured above is our Cometron 60 (#4) on an alt-azimuth mount. It is on loan to Albert Chen. Many others are available through our coordinator, Paul Barton (see telephone number on page 7). The loan of equipment is usually for two months and is renewable when no one has asked to borrow them. Paul maintains them in excellent operating condition. One item most needed by Paul is finders for our other telescopes. Anyone who may have an extra one not in use might think of donating it to the Association. [Photograph by Bob Keller]

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
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Meade DS16 Telescope w/9X60 Finder - $1,000. Other Accessories available also. Contact Mike Schartman. Days at (510) 455-6012 X-353 or (209) 544-8828 (Modesto) 8/92

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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, delux 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. [catalog prices total $2750 w/o tax] 12/92

CELESTIAL CALENDAR
November 1992

LunarPhases	Date	Rise	Tran	Set
FQ 22:17hr	01-12	1151	1740	2324
FM 15:41hr	09-12	1628	2346	0704
LQ 11:41hr	16-12	0006	0559	1149
NM 16:43hr	23-12	0708	1157	1642

Nearer Planets

Mercury	07-12	0501	1027	1549
1.16 AU	17-12	0524	1033	1538
Mag +0.5	27-12	0609	1055	1539
Venus	07-12	1004	1446	1924
0.93 AU	17-12	0959	1454	1943
Mag -4.2	27-12	0951	1500	2004
Mars	07-12	1920	0236	0952
0.67 AU	17-12	1833	0151	0908
Mag -1.2	27-12	1741	0101	0820
Jupiter	07-12	0141	0734	2049
5.63 AU	17-12	0109	0700	2014
Mag -1.9	27-12	0035	0625	1040
Saturn	07-12	1044	1549	2238
10.4 AU	17-12	1008	1513	2201
Mag +0.7	27-12	0931	1438	2125

SOL Star Type G2V Mag - 26.72

1700-2236	07-12	0708	1155	1632
1740-2318	17-12	0712	1156	1637
1821-2317	27-12	0713	1157	1638

Astronomical Twilight

JD 2,448,964.5	07-12	0529 -	1816
,974.5	17-12	0532 -	1816
,984.5	27-12	0533 -	1817

Siderial Time

Transit Right	07-12	0000	PST=0458
Ascention at	17-12	0000	PST=0537
Local Midnight	27-12	0000	PST=0617

Darkest	Saturday Night	Dec. 26
Sunset		1638
Twilight End		1817
Moon Set		1926

TIMES AND DATES ARE PACIFIC STANDARD

Can Anyone Help

We have a senior member who doesn't drive any more and wishes to attend our meetings at Milpitas Library. Please call J.D. Wells, who lives near Saratoga Ave. and Williams. His telephone is 253-5309

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Comet Comments
by Don Machholtz

This is the last chance for Northern Hemisphere observers to see Periodic Comet Swift-Tuttle as it heads south and into our evening twilight. It is due to return in July 2126, if it is a couple weeks late it will make a close passage to earth. A collision seems unlikely, because, first, we're talking about an object only 15 miles in diameter hitting the earth, and second, future technology could eliminate not just the possibility of a hit, but the comet itself. In any respect, the Persied meteor shower in 2126 should be pretty good.

Periodic Comet Vaisala 1 (1992u): Jim Scott used the Spacewatch telescope at Kitt Peak to recover this comet at 22 magnitude. It might reach 15th magnitude by next April.

Periodic Comet Geherls 3 (1992v): On the same night as the previous recovery (September 26), Jim Scott also recovered this comet. It is expected to remain very faint.

Periodic Comet Slaughter-Burnham (1992w): S. Larson and C. Slaughter recovered this comet on September 18 at magnitude 22. It will remain very faint.

Periodic Comet Schmauasse (1992x): T Seki recovered this comet on September 25 at magnitude 20. It reaches perihelion early next March at 1.2 AU, and approaches to within 0.5 AU of earth this January.

Comet Shoemaker (1992y): Carylon Shoemaker found this comet on plates taken by Eugene Shoemaker, David Levy and Henry Holt with the 18" Schmidt at Mt. Palomar. It was then at 15th magnitude. It is expected to brighten by a couple magnitudes before reaching a perihelion of 2.3 AU next March.

EPHEMERIDES

PERIODIC COMET SWIFT-TUTTLE (1992t)

DATE (UT)	RA (2000)	DEC	ELONG	SKY	MAG
11-19	18h18.6m	+18°45'	55°	E	5.6
11-24	18h38.1m	+12°11'	51°	E	5.6
11-29	18h55.0m	+06°11'	47°	E	5.6
12-04	19h09.7m	+00°46'	43°	E	5.6
12-09	19h22.8m	-04°04'	38°	E	5.7
12-14	19h34.5m	-08°14'	34°	E	5.8
12-19	19h45.3m	-12°06'	30°	E	6.0
12-24	19h55.2m	-15°34'	26°	E	6.1
12-29	20h04.6m	-18°43'	22°	E	6.3
01-03	20h13.6m	-21°36'	18°	E	6.5

PERIODIC COMET SCHAUMASSE (1992x)

12-09	04h04.8m	+15°37'	164°	E	12.3
12-14	03h57.8m	+16°40'	158°	E	11.9
12-19	03h50.9m	+17°50'	152°	E	11.5
12-24	03h44.6m	+19°11'	146°	E	11.1
12-29	03h39.1m	+20°38'	140°	E	10.7
01-03	03h34.9m	+22°12'	134°	E	10.4

Don Machholz (916) 346-8963

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