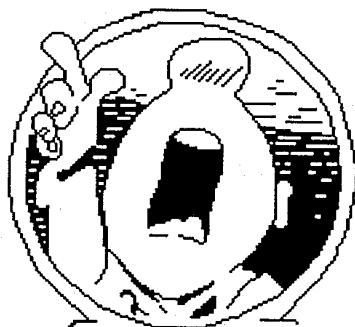


SJAA EPHEMERIS

VOLUME 5 NUMBER 7 OFFICIAL PUBLICATION OF THE SAN JOSE ASTRONOMICAL ASSOCIATION July 1994



The Eyepiece
by Bob Madden

It is now a day after RTMC and what a conference! I saw many SJAA members there, Jack Zeiders, Jim Islet, Bob Fingerhut, Gene Cisneros, Jim Rodgers, Bob Ashford, Dave Enos, Bob Elsberry, Crazy Ed Erbek and many more. Bob Elsberry, a first timer, went with me and we met Crazy Ed at a rest stop on Highway 5. It is nice to travel with a CB rig. Ed kept me entertained all the way down. I got away lightly - only \$200 spent. The door prize on Saturday night was a 12-inch Meade LX-200. Saturday night's meeting began with "Remembrances of Cliff Holmes", who passed away last year, given by his friends. The last person to speak about Cliff was his wife, Jackie. What a wonderful talk she gave. Every one who has been to the RTMC will miss Cliff.

Also there was Richard Berry, Peter Cerevolto (with his interferometer), Don Parker and I even saw Ed Byers bring in some of his precision gears. There were many friends from the Group 70 Project.

As the name implies, Riverside Telescope Makers Conference had many amateur telescopes judged for awards. One telescope, what I call the 'Forty Footer', used the tallest fruit picker's ladder I had ever seen. It was a

Jul 2: Star party at H. Coe. Sset 8:30, 28% moon rises 1:58 am.

Jul 9: Star party, Peak. Sset 8:27, 2% moon sets 8:55 pm. ALSO: Public star party at Grant Ranch County Park.

Jul 15: Star Party, Houge Park. Sset 8:28 pm, 51% moon sets 12:30 a. ALSO Star Party at Yosemite 15/16th. Call Jim Van Nuland - room for 18.

Jul 16: Descriptive Astronomy class, Houge Park. Shoemaker-Levy begins impact on Jupiter, ends on the 23rd.

Jul 23: General meeting, Milpitas Library, 8:00p. Board of Dir. meeting begins at 6:15p. The speaker will be Peter Jenniskens. Peter will talk about observing, photographing and gathering data from the Persied meteor shower.

July 30: No activity, 3rd quarter moon.

Aug 6: Star party, H. Coe SP & Fremont Peak, Sset 8:08. No moon. ALSO: Public star party at Grant Ranch County Park.

Aug 12: Star Party, Houge Park, Sset 8:03 pm, 38% moon, Mset 11:13 pm.

Aug 13: AANC picnic at Fremont Peak. Includes SJAA & many clubs.

Aug 20: SJAA picnic at Houge Park, afternoon. Also see next:

Aug 20: Observational Astronomy class, Houge Park, 8:00 p.m.

Aug 27: No general meeting; picnic replaces the talk and meeting.

Dobsonian which used a 41-inch mirror. Climbing the ladder was very dangerous (ridiculous!). Aperture fever was every where with many innovations. There was one, a 6-inch, made by a 50-year woman and her young son following Richard Berry's book, that I thought gave outstanding views of Jupiter. They were much better than many of the larger telescopes. The commercial vendors

were also there displaying their latest instruments. Peter Cerevolto with his 6 and 8-inch Maksutov-newtonians, Meade with their big 21-inch (four men and a boy to set up) and Celestron with an 8-inch Ultima 2000 (What a telescope!).

It was very warm and sunny during the day and cool after the sun went down. The first night, Friday, was somewhat cloudy until the moon came up. Saturday evening was very nice seeing with a low rumble of voices covering the telescope field. Saturday night the door to the bunk house kept opening until about 2:00 in the morning. There were few snorers, which was nice, however the shower drain clogged up Sunday morning.

Crazy Ed was hawking his wares and was staying in southern California for several days, so we didn't travel home together. Again the RTMC was the event of the year for the amateur astronomy community.

Pigs
by Rich Neuschaefer

Several of us were at the Halls Valley star party Saturday, May 14th at Grant Ranch County Park. Mark, Dean, Paul M., John, myself and at least 10 other observers were there.

The sky was fine at sun down. Later clouds would sweep across and by 11:30pm the cloud cover was solid. We had lots of campers coming over for a look. We also had a family of wild pigs with us all evening. The pigs kept about 25 yards out in the field. It wasn't a great observing night but it was good to get away from the city for a few hours.

The Elusive Annular Eclipse of 10 May 1994 by Ernie Piini

Little did I know that a tornado alert would greet me as I arrived at our destination to see the 10 May 1994 Annular Eclipse that would appear over the south-central part of the U.S.A. I have longed to see this event ever since the 1970's when I first became interested on eclipse chasing. As the date finally neared, I invited my younger brother, John, from Salinas to join me in what was to be his third solar eclipse and my fifteenth. We selected Texas-New Mexico region because of the high probability of clear skies there on eclipse day.

The main leg of the trip eastward took us to Ruidoso, New Mexico, a pine tree haven and resort area at an elevation of 7000 feet. Ruidoso seemed a logical choice because of its proximity to two promising sites on or near the eclipse center line: El Paso, Texas to the southwest and Hagerman, New Mexico. Either required a two day drive from Ruidoso. We carefully followed the TV and newspaper weather predictions for both areas and made our ultimate selection on the eve of the eclipse.

The weather predictions for the two days prior to eclipse day, Sunday and Monday, were complex and difficult to analyze. A strong storm pattern coming up from the southwest completely blanketed the eclipse path over Texas and New Mexico. Another storm was brewing in Arizona and heading directly east. The whole area was in trouble. The El Paso Times forecasted a 30 percent chance for rain and almost certain chance for cloudiness during the annular eclipse.

On Monday, we decided to Survey the Hagerman site, which was very near to the center line. Much to our consternation, a tornado alert was in effect between Carlsbad and Rosewell until 8 p.m. on eclipse eve. We talked to several people in town and were surprised that they knew nothing about the next days annular eclipse. We also talked to the city clerk who gave us permission to set up near an intersection where they park the town's road

grader. The site was just off the beaten path and would provide us with some privacy. The famous Carlsbad Caverns is just 66-miles to the south. The sky was remarkably clear that afternoon and we prayed that it would remain that way into Tuesday. John and I stayed in Rosewell.

On the morning of the eclipse, we awoke at 5 a.m. to a clear sunrise and clear sky above but a nasty cloud bank lurked on the southwest horizon. We ate breakfast, but when we walked outside, the entire sky was covered with rain clouds! How could this happen so fast? We drove south to Hagerman, accompanied by hard rain, thunder and lightning. We reached the site and watched it rain until 8:30 a.m. Then I thought my prayers were being answered. Some breaks in the cloud cover began to show. We began to see the sun moments after first contact. We rushed to set up our equipment and were able to photograph the partials until 9:55 a.m. (approximately 18-minutes before annularity). After that we saw the sun for only 3 seconds after third contact, but no more. There were actually two layers of clouds above us — the lower layer moving west and the upper layer moving northeast. This we later verified with John's video tape.

I had borrowed a solar telescope with a 0.7 Angstrom Hydrogen Alpha filter from the San Jose Astronomical Association to view and photograph the annular eclipse but the weather conditions did not warrant removing it from its wooden box.

No temperature measurements were made during the eclipse because of the many weather factors that would have made the data useless. I did monitor wind activity during the eclipse. The wind was strong around 9:30 a.m. but ceased by 10:00 a.m. I have observed this condition at 14 of the 15 eclipses that I have witnessed.

In preparation for this eclipse I constructed a special adapter to mount my camera to the output of the H-alpha filter which also allowed insertion of the 25mm eyepiece for precise focusing and filter tuning. I also updated the design of my cartop Azimuth-Altitude mount (total of four units) so that sun elevations of

50-70 degrees could be reached for this eclipse. Newly developed sun finder mechanisms were installed on each mount. I loaned one of the modified mounts and a home made refractive telescope to Betty Swyryd of Palo Alto, Ca who captured the ringed eclipse near El Paso, Texas. Another unit went with my son-in-law, James Wells, who flew to his home town of Coffeyville, Kansas to visit his father. He successfully recorded annularity with his Sony High-8 camcorder. Another cartop mount built for Dick Nelson's camcorder system included a 5X lense in front of the camcorder. The fourth unit with a C-90 telescope mounted on it was used by myself during the first moments of the eclipse. The C-90 telescope was later transferred to a Takahashi mount for automatic tracking of the eclipse.

Because of the vagaries of the weather, I never go to an eclipse just for the big event. I like my trips to include lots of sight seeing in case of cloud-outs as was the case for this eclipse. John and I included visits to the Grand Canyon, Meteor Crater, the Painted Desert, and the Petrified Forest on our trek eastward. After the eclipse, we visited Carlsbad Caverns, El Paso, Kitt Peak and stayed over night in Ajo, Arizona, with former neighbors of John's.

At Kitt Peak, we were treated to an inside look at the giant McMath-Pierce Solar Telescope, the world's largest. I was intrigued by the size of their heliostat system compared with my simple heliostat (with an 8-inch square mirror) that I built and used to photograph the transit of Mercury from Australia. We also toured the nearby 2.1-meter telescope and take photos from the same elevated platform that Gary Ladd used to make his famous one-minute time exposure of the multiple lighting bolts that dramatically illuminated the telescope domes on Kitt Peak.

This was the last annular eclipse over any part of the United States until the year 2012 but there will be plenty more occurring around the world between now and then including three more this decade. The next one will occur on 29 April 1995 over South America. I'll see you there.

RTMC 1994
REFLECTIONS OF A NOVICE
by Bob Elsberry

As a rank amateur astronomer of but 2 years experience I approached the '94 Riverside Telescope Makers Conference with a mixture of excitement, awe and fear. Excitement that I would be visiting a new site and seeing new skies and new telescopes and meeting new people and their ideas. Awe that this was the 26th RTMC, and that I would be there with people who have been involved in astronomy 20 to 30 years, had made names for themselves, had written books and built marvelous telescopes. Fear that I would be overwhelmed and lost by the sheer size of the conference - 1600 people expected - or crushed in the legendary buying frenzy. In spite of this potentially disabling multiplicity of emotions I went!

Luckily I went with an experienced veteran of RTMC, Bob Madden. He knew the way and prepared me for what I would see. I think he deliberately painted a less than rosy picture to avoid building unattainable expectations. He need not have worried, the RTMC was everything I had hoped and none of the things I had feared. The conference was well organized from the beginning and ran pretty much on schedule. The crowd was large but well behaved. The buying frenzy was real but seemed under control. Maybe that is partly because I caught some of the same fever. It comes over you in waves, washing away your steely resolve to stay within your budget, calling for you to buy that really neat telescope or tripod or lens or book or ————— whatever was at hand. The awe was real too. You meet the people you've heard and read about, and they're real just like yourself. All in all the things I liked the best were shopping for bargains (buying frenzy) and seeing the different telescopes.

There really are bargains to be had, but I had to resist the fever to buy on more than one occasion to stay in budget and wait for the better bargains. Here is how it worked. I soothed my initial burning desire to buy by selecting my must have articles while wandering among the booths before selling started.

At the sound of the bell I went immediately to the targeted booth and made the purchases to avoid any chance that they might sell out fast in the buying frenzy. Then I settled back and enjoyed watching for a while. Toward the end of the day prices started to drop and a new wave of the buying urge came on strong. This is where you learn to "make an offer" and find that more often than not it will be accepted. By the end of the second day I was able to buy two filters worth over \$100 for \$65. It was a good feeling! The telescopes were just as exciting. Magnificent, clever and outrageous are some of the words I would use to describe them. One telescope that was a center of attraction was a 41 inch Dobsonian that looked as if it was "40 ft" tall. You had to climb up a tall fruit harvesting ladder (wide at the base and NARROW at the top) and lean out into space to look in the eyepiece. With my vertigo I didn't even want to think about it. Another large diameter Dobsonian allowed you to sit in a chair and look in the eyepiece by folding the light path like a Cassegrain while creating a parallel beam using a convex secondary. The light was then routed sideways like a periscope to a Genesis refractor. This made for a powerful yet compact telescope. One of the best images I saw was through a simple 6 inch Dobsonian build straight out of Richard Berry's book, and one of the worst was through a \$4000 scope with all the bells and whistles.

By the end of the conference I had caught the real RTMC fever. I WANT TO GO BACK NEXT YEAR!! and TAKE ALONG MY OWN HOME-MADE TELESCOPE!!!

Treasurer's report
by Jim Hodgers

Checkbook	\$1845.45
(May 14, w/Auction proceeds)	
Observatory Fund	5873.85
Gregory Fund	336.60
Ephemeris pool	210.67
(after April issue)	

The above is excerpted from Jim's report, distributed at the May Board Meeting.

Viewing The Southern Skies From
The Big Island Of Hawaii
by Gerrit Kooi

I made a trip to the big island of Hawaii in part to see the southern skies. From this island the stars in the southern sky are about 18deg higher above the horizon than in the San Francisco bay area. This location has the advantage of being relatively close to California and there are no hassles with visas, different languages and currencies. The skyglobe shareware indicated that the constellation Crux and the large Eta Carinae nebula (NGC-3372) are best visible during the early part of May when it is new moon and the nebula is the highest in the sky one hour after sunset. Since Hawaii has no daylight savings time it is dark early at 8PM. When we got to the Big Island, I noticed that all street lights are low pressure sodium which I later learned is an island wide ordinance. We stayed near Kona which is the dry side of the island. Eventhough we had no rain during the week we were there, the skies were overcast every evening. The clouds form early afternoon when the ocean air cools off as it rises up the Hualalai volcano and disappear again around midnight. North of Kona near the airport the clouds do not form, but the Hawaiian skies can be hazy near the horizon which doesn't help either. The skies cleared early one night and gave us a great view of Crux and Centaurus. The globular cluster Omega Centauri was visible to the naked eye even with a bright street light thirty feet behind me. The bright stars Alpha and Beta centauri and constellation Crux made the globular cluster much easier to find compared to having to locate it from California. There was too much light pollution to see the Eta Carinae nebula from Kona. I signed up for a Sunset and Stargazing Tour to Mauna Kea. On May 10, 1994 a 4-wheel drive suburban took six people to the top. To get to the mountain it is necessary to take saddle road. This two lane road is narrow and off-limits to rental cars. The road to Mauna Kea turns into a dirt road above the 9000ft visitor station because no one is willing to pay the \$3.5million/mile needed to pave the road.

continued on page 4

Hawaii
continued from page 3

This road becomes paved again one mile before reaching the summit which was done to protect the telescopes from dust flaring up when cars ascend the mountain. I felt slightly dizzy after the nearly 14,000ft climb, but was more bothered by the near freezing temperature. There was still some snow present in May. You can tell that on Mauna Kea the early bird gets the worm, the oldest telescopes are located in the best spot. After we had a good look at all twelve telescopes and saw a nice sunset over the Keck I and II, we descended back down the mountain and stopped at the 9000ft station for a two hour star party. This is the same location where the astronomy club of Kona meets. The guide used a 8" Celestron to observe Venus and Jupiter and many deep sky objects. The presence of the zodiacal light made the seeing not as good as I have experienced in some areas in California. The Milky Way was easily visible and extended from Centaurus through Crux all the way to Canis Major. The Eta Carinae nebula was visible to the naked eye and was truly two degrees in my 14x100 binoculars which I brought along for the trip. It was amazing to see this nebula in the same sky as the Orion nebula which was setting. I found M42 a prettier sight in my binocular than NGC-3372. Close to the Eta Carina nebula is the open star cluster NGC-3532 which the guide named the jewel box. This is the most spectacular cluster I have ever seen. It was a great trip! I learned that just because a computer program and tour guides tell you that Kona is a good spot to view the southern sky that does not make it so (Just ask people who went there to view the eclipse of 1991). I will surely miss these views of the southern skies.

Credits!

I apparently did not give the complete credits for the article concerning collimation by Craig Wolford. Craig's article was first seen in the Western Observatory's publication. Thanks to Paul Livio for pointing this out.. [Ed]

**Lassen Volcanic National Park
Dark Sky Trip**
by Mark Wagner

A new moon weekend dark sky observing trip is being organized for August 5 to August 8 at Lassen Volcanic National Park (about the equivalent driving time as our regular sojourn to Yosemite). Two camping areas are available depending on your sleeping accommodations.

Lost Creek campground is a group site (minimum of ten, maximum of 25 people), is tent only, part of a larger complex, and is the only area that can be reserved. Parking is limited to four vehicles at the site (additional parking close by). Our application has been mailed and we are waiting for the reply.

Crags Campground shares a common border with Lost Creek and is first come - first served. We are asking the ranger to identify which campsites at Crags will border our Lost Creek site, and our early arrivals will attempt to "hold" the Crags sites for late arrivals. Crags has no restrictions (tent or vehicle).

The observing site is a parking lot at the Devastated Area, with about 25 parking spaces on the main (and only) road through the park. It is unlikely there will be a problem with night traffic, as night life at the park is at a minimum. The Devastated Area lacks forest, so only the nearby peaks may impede the view. Devastated Area is less than a ten minute drive from the campsites.

Lassen Park is an interesting active geo-thermal site and well suited for families. Many well marked day hikes ranging from modest to masochistic are available. A more relaxing day activity might be ranger led talks or fishing any of several lakes in the immediate vicinity (the trout are certainly worthwhile). Manzanita Lake, very close to the campsites, is a catch and release fishing hole.

If you wish to attend, please contact Mark Wagner ASAP at (408) 356-1125 days, or (408) 356-1072 evenings or weekends.

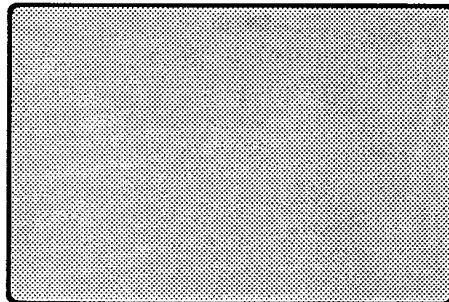
Directions to Lassen are: highway 5 north to Red Bluff, east on highway 32 through Mineral. Left on high-

way 89 into Lassen park. Obtain a map from the ranger and go to Lost Creek or Crags, at the far end of the park road.

The arrangements for this trip are a direct result of our experience at Yosemite last year. I off-handedly remarked that we should try a "quiet" area with a dark sky, perhaps Lassen. Certain "not to be named" SJAA members (JZ) have kept after me to follow through on the suggestion. I hope this will turn out to be an ideal dark sky site. My previous experience at Lassen is that it is among the darkest skies I have seen, and the daytime activities are indeed unique and interesting (unless you are sleeping off an all-night observing session).

Couple of Things
by Bob Madden

Each month Paul Barton, our telescope loan coordinator, and I get to gather to transfer information of the loaner status so I can insert it into the Ephemeris. This month as I was finishing the PROOFING corrections Paul called with last minute status. Paul had called the over-due loanees to determine when the telescopes will be returned. I must say that Paul is willing to provide the membership with this service and he has repaired and remade telescopes into fine working instruments for our enjoyment. Lets not let Paul down! Lets keep an agreement and return the telescopes when they are due, or call Paul with information when they will be returned. Many times others are waiting to check them out and it is difficult for Paul to give reasons why they aren't available. Lets not abuse this privilege. If we aren't cautious and keep our commitment to return them on time they may be reluctantly loaned a second time.



Comet Comments

By Don Macholtz

Comet Muller (1993p) has dimmed by three magnitudes recently. Meanwhile Periodic Comet Shoemaker-Levy 9 is expected to hit Jupiter beginning July 16. An additional report on the collision is included with this issue of the Ephemeris.

Periodic Comet Brooks 2 (1994j): This comet was recovered in early May by both A. Nakamura and T. Seki of Japan. Then at magnitude 18, the comet should brighten to magnitude 14 by October. The Orbital period is 6.9 years.

Periodic Comet Shoemaker 4 (1994k): Carolyn Shoemaker discovered this comet on May 14 on films exposed through the 0.46 meter Schmidt at Mt. Palomar. The comet has an orbital period of 15.5 years and will reach perihelion in late October at 2.92 AU. It will not get much brighter.

EPHEMERIDES

COMET TAKAMIZAWA-LEVY (1994f)

DATE(00UT)	R.A. (2000)	DEC	EL	SKY	MAG
06-22	12h19.9m	+55d59'	73d	E	9.9
06-27	12h03.4m	+51d55'	69d	E	10.2
07-02	11h52.7m	+48d23'	65d	E	10.4
07-07	11h45.5m	+45d19'	61d	E	10.7
07-12	11h40.7m	+42d39'	57d	E	10.9
07-17	11h37.4m	+40d19'	53d	E	11.2
07-22	11h35.3m	+38d16'	49d	E	11.4
07-27	11h34.0m	+36d26'	45d	E	11.6
08-01	11h33.4m	+34d48'	41d	E	11.8
08-06	11h33.2m	+33d20'	37d	E	12.0
08-11	11h33.4m	+32d00'	34d	E	12.2

PERIODIC COMET SHOEMAKER-LEVY 9 (1993e)

DATE(00UT)	R.A. (2000)	DEC	EL	SKY	MAG
06-22	14h08.6m	-12d36'	125d	E	13.7
06-25	14h08.6m	-12d32'	121d	E	13.7
06-28	14h08.7m	-12d29'	118d	E	13.7
07-01	14h08.9m	-12d27'	115d	E	13.7
07-04	14h09.2m	-12d25'	113d	E	13.7
07-07	14h09.7m	-12d24'	110d	E	13.7
07-10	14h10.2m	-12d23'	107d	E	13.7
07-13	14h11.0m	-12d22'	104d	E	13.7
07-16	14h11.8m	-12d21'	102d	E	13.7
This nucleus (#8) will collide with Jupiter on July 20.64 UT.					

PERIODIC COMET TEMPEL 1

DATE(00UT)	R.A. (2000)	DEC	EL	SKY	MAG
06-22	13h22.5m	-05d31'	111d	E	8.9
06-27	13h30.0m	-07d32'	108d	E	8.9
07-02	13h38.4m	-09d33'	106d	E	9.0
07-07	13h47.6m	-11d33'	104d	E	9.1
07-12	13h57.5m	-13d31'	103d	E	9.1
07-17	14h08.1m	-15d27'	101d	E	9.2
07-22	14h19.3m	-17d19'	99d	E	9.4
07-27	14h31.2m	-19d06'	98d	E	9.5
08-01	14h43.6m	-20d49'	96d	E	9.6
08-06	14h56.6m	-22d26'	95d	E	9.8
08-11	15h10.5m	-23d57'	93d	E	9.9

COMET McNAUGHT-RUSSELL (1993V)

DATE(00UT)	R.A. (2000)	DEC	EL	SKY	MAG
06-22	14h42.4m	+61d23'	86d	E	11.4
06-27	14h53.1m	+59d02'	87d	E	11.7
07-02	15h02.8m	+56d43'	88d	E	11.9
07-07	15h11.7m	+54d24'	88d	E	12.2
07-12	15h20.1m	+52d06'	89d	E	11.9
07-17	15h28.1m	+49d51'	89d	E	12.2
07-22	15h35.7m	+47d38'	89d	E	12.4
07-27	15h43.2m	+45d28'	89d	E	12.6
08-01	15h50.5m	+43d21'	89d	E	12.8
08-06	15h57.7m	+41d18'	89d	E	13.0
08-11	16h04.7m	+39d19'	88d	E	13.2

PERIODIC COMET BORRELLY

DATE(00UT)	R.A. (2000)	DEC	EL	SKY	MAG
06-22	02h08.8m	-17d31'	70d	M	13.5
06-27	02h20.5m	-16d48'	72d	M	13.3
07-02	02h32.2m	-16d07'	73d	M	13.0
07-07	02h44.1m	-15d24'	74d	M	12.7
07-12	02h56.1m	-14d40'	75d	M	12.5
07-17	03h08.2m	-13d57'	76d	M	12.2
07-22	03h20.3m	-13d13'	78d	M	11.9
07-27	03h32.6m	-12d30'	79d	M	11.6
08-01	03h45.0m	-11d44'	80d	M	11.4
08-06	03h57.4m	-10d58'	81d	M	11.1
08-11	04h09.9m	-10d11'	82d	M	10.8

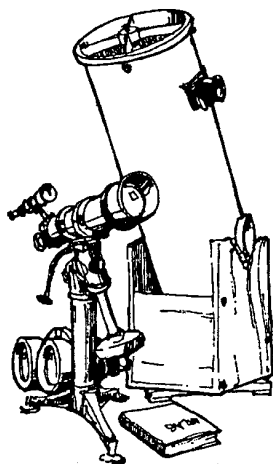
COMET TAKAMIZAWA (1994i)

DATE(00UT)	R.A. (2000)	DEC	EL	SKY	MAG
06-22	12h41.8m	-12d56'	104d	M	10.4
06-27	12h28.4m	-13d18'	97d	M	10.8
07-02	12h17.7m	-13d40'	90d	M	11.0
07-07	12h09.1m	-14d03'	83d	M	11.2
07-12	12h02.2m	-14d26'	77d	M	11.3
07-17	11h56.7m	-14d51'	72d	M	11.5
07-22	11h52.4m	-15d18'	66d	M	11.6
07-27	11h49.0m	-15d46'	61d	M	11.7
08-01	11h46.4m	-16d15'	57d	M	11.8
08-06	11h44.4m	-16d46'	52d	M	12.0
08-11	11h42.9m	-17d19'	48d	M	12.1

1994 SJAA Calendar

General Meeting		Houge Park Star Party	Observational Astronomy Class
July	23	15	16
Aug	27	15	16
Sept	24	9	17
Oct	22	14	15
Nov	19	11	no meeting
Dec	17	9	no meeting

Please read your *Ephemeris* each month for changes



Telescope Loaner Status

by Paul Barton

SJAA no.	Name	User	Due
1	4-1/2" Newt/P mou	----->	available
2	6" Dobson	Rick Raw	5/22/94
3	4" Quantum	Jason Sun	ON HOLD
5	60 mm Refractor	John DeSilvia	7/20/94
6	C-8 Celestron	Ben Lee	6/15/94
7	12-1/2" Dobson	Tom Rice	Indefinite
8	14" Dobson	David Smith	5/29/94
14	6" Newt/P mount	John Schoenenberger	6/26/94
15	8" Dobson	Promised	*****
18	8" Newt/P Mount	Bob Maillot	8/11/94
19(B)	6" Dobson	Jerry Lovelace	8/7/94
20	4-1/4" Dobson	Kristen Smith	5/29/94
21	10" Dobson	Alex Calderon	8/1/94

Solar telescope (#16). Available only to experienced members for special occasions such as day time public star parties, etc. Call.

(on waiting list)

Albert Chen - #6

Jason Sun - #4

John Schoenenberger - #15

Ken St. George - #8

6" f/11 - Jerry Lovelace

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

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CELESTIAL CALENDAR

July 1994

LunarPhases	Date	Rise	Tran	Set
NM 14:38hr	08-7	0551	1303	2019
FQ 18:12hr	16-7	1425	1951	0031
FM 13:16hr	27-7	2254	0444	1111
LQ 05:41hr	30-7	-----	0656	1400

Nearer Planets

Mercury	07-7	0459	1203	1908
0.865 AU	17-7	0434	1146	1858
Mag -1.90	27-7	0447	1204	1922

Venus	07-7	0912	1601	2250
0.983 AU	17-7	0929	1604	2238
Mag -4.70	27-7	0945	1605	2224

Mars	07-7	0259	1009	1719
1.970 AU	17-7	0244	0959	1713
Mag 0.80	27-7	0230	0949	1707

Jupiter	07-7	1450	2016	0145
5.146 AU	17-7	1413	1938	0107
Mag -2.20	27-7	1336	1901	0029

Saturn	07-7	2324	0504	1040
9.000 AU	17-7	2244	0424	0959
Mag 0.800	27-7	2204	0343	0918

SOL	Star	Type	G2	V	Mag	-	26.72
RA	DEC						
0707	2232	07-7	0553	1313	2032		
0748	2107	17-7	0559	1314	2028		
0828	1906	27-7	0607	1314	2021		

Astronomical Twilight	Dawn	Dusk
JD 2,449,541.5	07-7	0402 - 2223
,551.5	17-7	0412 - 2215
,561.5	27-7	0423 - 2204

Sidereal Time

Transit Right	07-7	0000	PDT=1752
Ascension at	17-7	0000	PDT=1832
Local Midnight	27-7	0000	PDT=1911

Darkest Saturday Night July 9

Sunset	2032
Twilight End	2221
Moon Set	2059
Dawn next morning	0405

TIMES AND DATES ARE PACIFIC DAYLIGHT

Times are Local Civil
Planet distance and Magnitude
for 17th of month

Derivation of these values are from

*Astronomy with Your Personal
Computer*

by Peter Duffet-Smith

MacEphem

by Elwood Charles Downey

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Distribution

Bob Madden and Paul Barton

Collision of periodic Comet S/L-9 with Jupiter

by Don Machholtz

For five years, fragments of a comet discovered in March 1993 will collide with the planet Jupiter. It is not the first time that a comet has hit another Solar System object, but it is the first time that such a meeting has been predicted and then observed.

The comet was probably very normal until it passed about 16,00 miles from the cloud tops of Jupiter on July 7, 1992. This placed it in an orbit around Jupiter, it also fragmented it into several pieces. At discovery nine months later, it appeared as a "string of pearls". Even now, the comet is continuing to evolve, some of the pieces have further divided, others have disappeared.

Jupiter is presently situated high in the south at evening twilight, setting around midnight local time. Observers are encouraged to watch Jupiter, even during daylight, at the times of collision and for the hours afterwards. The comet will approach from the south, and hit Jupiter at about -44 degrees south latitude (for comparison the Red Spot is at -20 degrees). The impact points will not be visible from Earth, they will be just beyond the rising edge. Matters are complicated by our own moon, which will be in the First Quarter and three degrees south of the planet when this all begins. It will move away from Jupiter, but brighten, during these days.

Below are the collision times for the comet fragments. They are current as of June 8. The times listed here are accurate to within about 20 minutes.

NUCLEUS NUMBER	IDENTITY LETTER	COLLISION TIME		COLLISION POSITION	
		UNIVERSAL TIME Mo. Day	P.O.T. Mo. Day HHMM	ON MERIDIAN (PDT) Mo. Day HHMM	
21	A	July 16.83	July 17 0255	July 17 0548	
20	B	July 17.13	July 17 1007	July 17 1300	
19	C	July 17.29	July 17 1358	July 17 1650	
18	D	July 17.47	July 17 1817	July 17 2108	
17	E	July 17.65	July 17 2236	July 18 0127	
16	F	July 18.03	July 18 0743	July 18 1034	
15	G	July 18.33	July 18 1455	July 18 1745	
14	H	July 18.82	July 19 0241	July 19 0531	
12	K	July 19.44	July 19 1734	July 19 2021	
11	L	July 19.94	July 20 0534	July 20 0822	
9	N	July 20.43	July 20 1719	July 20 2010	
8	P	July 20.64	July 20 2222	July 21 0112	
7	Q	July 20.84	July 21 0310	July 21 0600	
6	R	July 21.25	July 21 1300	July 21 1545	
5	S	July 21.66	July 21 2250	July 22 0135	
4	T	July 21.76	July 22 0114	July 22 0359	
2	V	July 22.17	July 22 1105	July 22 1349	
1	W	July 22.36	July 22 1538	July 22 1820	

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