# SJAA EPHEMERIS

VOLUME 5 NUMBER 8 OFFICIAL PUBLICATION OF THE SAN JOSE ASTRONOMICAL ASSOCIATION September 1994

**The Eyepiece**
by Bob Madden

Wow! Have the pictures on the Internet of Jupiter and the comet been over powering! There are hundreds of them (and many duplicates) out there. The Hubble has done it again. Soon we will be getting information from Galileo showing the actual impact(s). This month we have an article by Ernie Piini on his observations of Jupiter.

Well the "swallows" have returned from their trip to the Mt. Lassen dark sky site. As you know from reading the newsletter last year there was some difficulty at Yosemite's Glacier Point. This year several members decided to visit Lassen and check out the skies. I know they had a great time and you can read about it in this issue.

There are a couple (at least) announcements this month. The first is, we have received a 6" Edmond Scientific telescope donation to our loaner program from Miss Ellen Dettenhammer. The following is an excerpt from Jim van Nuland message to me.

Bob, here's a note for the Ephemeris.

This is a subset of the letter that I wrote to Miss Ellen Dettenhammer. She had obtained the scope back in 1968 (date on cartons), used it for only a short time. It appears that it has been packed away ever since, as there isn't a scratch on it. Even the mirror coating looks brand-new — not even any dust! This isn't just "complete" — every bit of original packing material is there!

**Sept 3:** Star Party, Coe Park, Sset 7:32 pm. No moon.
**Sept 9:** Star Party, Houge Park, Sset 7:25 pm, 25% moon, Mset 9:56 pm.
**Sept 10:** Star Party, Fremont Peak, Sset 7:21 pm, 35% Moon, Mset 10:45 pm.
**Sept 17:** Observational Astronomy Class at Houge Park, 8:00 pm.
**Sept 24:** Show and Tell night. Board and General Meeting at Milpitas Library. Board of Directors meeting at 6:15 pm followed with the General Meeting at 8:00 pm. Please bring your latest gidgit, slides, photographs or what have you to share with others. How about showing some Perseid meteor photos?
**Oct 1:** Star party, Coe Park. Sset 6:49. 12% moon rises 4:17 am. ALSO: Public star party at Grant Ranch County Park.
**Oct 8:** Star party, Fremont Peak. Sset 6:39 pm, 22% moon sets 9:33 pm.
**Oct 14:** Star Party, Houge Park. Sset 6:32 pm, 83% moon sets 3:42 am.
**Oct 15:** Descriptive Astronomy class, Houge Park, 8:00 pm. **FINAL ONE** This Year.
**Oct 22:** Board and General Meeting at Milpitas Library. Board of Directors meeting at 6:15 pm followed with the General Meeting at 8:00 pm. Presentation by Paul Mortfield on Photography with the Schmidt Camera.
**Oct 29:** Star party, Coe Park. Sset 6:12. 25% moon rises 3:02 am.
**Oct 30** — 2 am. — Darkness Squandering Time ends as Perseus transits.

Miss Ellen Dettenhammer
18892 West View Drive
Saratoga, CA 95070

Thank you very much for your most generous donation to SJAA of your telescope. It will be used in our public activities, and by new members who have not yet obtained their own instrument. The scope, made by Edmund Scientific Corporation, is a 6-inch f/8 Newtonian reflector with equatorial mounting, is equipped with a driving motor. Included are three eyepieces and a Barlow lens. All is in pristine condition, which is especially notable as the instrument dates from 1968.

I have seen this telescope over at Paul Barton's and looked through it. It performs well, I must say. We want to publicly thank her for her generosity. We are sure the donation may some day provide a starting interest for some young person. Our Loaner Program now totals about 20 telescopes ranging from small refractors to a 14-1/2 inch Dobsonian.

Next, Jim has the following notice to be sent to the membership:

It's time to renew your subscription to Astronomy magazine! If you have not already paid for next year, send a check for $18, or $36 for two years,to Jim Van Nuland, 3509 Calico Avenue, San Jose, CA 95124. Payable to: Jim. Your mailing label has the month for your final issue.

If you have an independent subscription, and it expires during calendar year 1995, you may convert to the group rate. Find a mailing label, then phone Jim at (408) 371-1307.

See Eyepiece page 5

**By Jove - A Sight to Remember**
by Ernie Piini

After a week of frustration with poor seeing conditions and cloudy weather, a chance of-a-lifetime to see the aftermath of comet collisions with a planet became a reality on Saturday night, July 23, 1994. What a thrill it was to see black spots on the surface of Jupiter, the impact markings from the 21 alphabet pieces from the shredded Comet Shoemaker-Levy 9.

I had a feeling the seeing would be good that night. As my wife and I were driving home to San Jose from Monterey, we noticed the sky was super clear and the ocean a brilliant navy blue. I ask my neighbor and friend, Al Beals, if he would like to trek to Grant Ranch with his 11-inch Celestron to try Jupiter at higher elevation. He whole heartedly agreed. We arrived there around 8:30 p.m. and set up. Others would soon join us.

More indications of good seeing came when one of the party reported seeing the "Green Flash" across the Santa Clara Valley at sunset just moments before. I questioned him as to exactly what he saw because many people often mistake this rare phenomenon with more common "Green Rim or Segment." His description was accurate, a good sign for excellent seeing.

With Al's 11-inch telescope mounted and polar aligned on his massive Losmondy mount, I inserted a Tele-Vue 21 mm Plossl eyepiece into the holder. I hadn't reached focus of Jupiter and its four moons yet when I could already see three dark spots below the lower bands. At first I thought it was just dirt specs, but as I reached best focus, the spots were real and much darker than the equatorial bands. I had Al and other observers at the sight take a look. My sighting of a lifetime were verified and valid. I was thrilled and excited. My heart was beating fast. This rivaled any astronomical wonder that I have seen during my lifetime.

Over the next two hours we watched the three spots move towards the left limb (inverted image motion) and later joined by a much more elongated spot.

On the following Monday evening, July 25, Al and I saw five of the spots from his front yard observation spot in Cupertino. It was a warm night and the seeing was again excellent. I saw the spots again on Wednesday evening through the Oak Ridge 16-inch with Dr. Jacques Guertin. The seeing was not as good as previous occasions but still very exciting. Since that time, Al and I have tried to see the spots on five successive nights but with no luck. We could still see the bands but the spots were gone - possibly dissolved into the Jovian gaseous sea of turbulence.

With all this, I feel doubly honored by the fact that I had the privilege to meet David Levy, the co-founder of this Historic comet, at the Universe '93 Exposition and Fair in San Diego (see Sept. 1993 issue of the SJAA Ephemeris). A pleasant individual, very friendly and down to earth, he is an excellent speaker and writer. I purchased his book in which he wrote a kind note and autographed it.

by Jove - What an experience!

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**Astronomy and Gastronomy at Lassen Give New Meaning to Man's Understanding of Cosmic Expansion**
by Mark Wagner and Dean Linebarger

The first annual Lassen National Park Astro-Gastronomy Weekend went perfectly, leaving all participants talking of a longer stay next year. SJAA participants included Jack Zeiders (17.5" dob), Mr. & Mrs. Crazy Ed Erbeck (his & her 10" dobs), Mr. & Mrs. Jim Eiselt (Watttron 10" dob), Dean Linebarger (CEO 14.5" dob), Gary Papanni (C8), Jim Bertolini (10" dob), Pat, Daniel, Mimi Wagner, and the author (10" dob). Also present were John Hales (18" JMI), John Kuklewicz (18" Sky Designs) and Richard Navarrette (C8).

The group was spread over four campgrounds (Summit and Manzanita Lakes, Crags and the exclusive Lost Creek site). After dinners ranging from gourmet fare (including fine wine and homemade beer) to tube-steaks with thermo-nuclear beans (giving predictable results), the group would assemble around 7PM at the Devastated Area Parking lot, less than 10 minutes drive from any campground. The volcanic mass of Lassen Peak and the Crags formed a backdrop beyond description as sunset approached. Everyone set up scopes and shared stories of their campsites, daily adventures or misadventures. On our second night at the Lost Creek campsite, a new object became apparent. The "Rectus Cranius" cluster, a small group of exceptionally dim older objects with many noisy out of control young satelites, illuminated the campsite by nite and made loud noises just as dawn approached. Although such clusters are not extremely rare, it is unusual to observe them in such detail. But back to the observing site.

The conditions became quickly apparent. We surpassed Hogue Park's sky well before dark, Fremont Peak's sky was soon left behind too. The seeing was exceptional with great transparency and steadiness (except at the horizon). Jupiter showed a new southern latitude band (merging comet strikes) and Saturn held up at high magnification. The sky showed naked-eye stars in places where they usually only appear on charts. M13, M15 and M33 became naked eye objects. The great Cygnus rift and central bulge of the Milky Way's core were strikingly apparent. Stephen's Quintet was visible under direct vision in the 14.5" dob, M82 looked like NGC 253 on a great night at the Peak. Dark Barnard objects were easily recognizable, globulars were resolving to their cores, M31 had two very dark dust bands and most other galaxies displayed easily viewed structure.

My favorites were the Nebulas. The Lagoon had nebulosity filling my 35mm eyepiece without using a UHC filter. The Triffid looked like a Marlin photo in S&T, and the Omega showed a complete Swan's neck, and was completely surrounded by nebula. The Veil offered a wonderland of tendrils and filamentary structure, you could spend the night "walking" around it. Put simply, 10" scopes performed inches beyond their past best. Near the bigger scopes you could almost hear large volumes of photons being sucked in.

See Lassen on page 5

## Counting Meteors

By Bob Madden

Where did you go to watch the Perseid Meteor Shower? Did you go to Hall's Valley, Fremont Peak, Bernal Road, back yard, or not at all? Last year Jim Van Nuland, Paul Barton and I started at Colero Park and ended out on Bernal Road. There seemed to be a bazillion cars racing around for what seemed to be looking for a viewing site. Paul got discusted with the automobile lights and left shortly after midnight. I couldn't blame him, but Jim and I stayed until after 1:30 a.m. hopping to see a fine display, which didn't come.

This year I vowed that it would be different! I scouted Fremont Peak and decided that the best spot would be near the public telephone with the light at your back. At least I could see north with out obstruction and when Perseus got high enough there should be a clear view for most of the expected meteors. One problem with the Peak would be the cars with driving lights on coming in which would preclude any photography, however for counting and enjoying them scooting across the sky, the site would be acceptable.

I have a favorite site in the Sierra Mountains and I wanted to check on its suitability. I know at this site there is some difficulty locating the North Star, Polaris, but it needed checking. We visited our place just above Arnold and drove on up the hill. After a quick stop and check, I decided the site had a better view to the south and we needed a unobstructed view to the north. That evening after supper we drove to Bear Valley Ski Area. It was getting dark and I remembered trying to observe there with Bob Fingerhut and being terribly bothered by the lights at the day lodge. On the way home, Bob and I saw a couple, parked along the road and they looked as though they were observing. Stopping we asked what they were seeing and they mentioned they were doing some photography. Ah! Remembering this we stopped there again and found the site acceptable with a good view to the north towards Tahoe. Not a good scene as there were clouds over the area and it had considerable glow. We decided on the site any way.

On the way up, on the 10th, we discovered there was a fire near Columbia obscuring the sky. Panic struck! Had I made another mistake? Lech and Gosia (Jaszowski) kept reassuring me that it would be ok as we would pass under the smoke and our selected site would be fine. They were correct, but watching the sun set through smokey haze was still a concern. So much so that I called Bob Elsbery and told him to call in the morning before he left to join us and I'd tell him how the count was.

It was fantastic! This was the morning before the expected peak of 11/12th. Gosia kept track of the count while Lech and I photographed. My intentions were to give my negatives to Peter Jenniskens for analysis. We observed and photographed from 11:00 p.m. until 2:00 a.m. our count totaled 142, including a few sporadics from Aquarius, and a maximum of 68/hour. The total for a specific 45 minute period was 50. There were many bright ones with sputtering tails making the evening exciting. Gosia was seeing down to 6.4 Magnitude and Lech to 5.6. I'd say that is good eyesight and estimating and is consistent with what I've seen reported on the Internet.

Bob arrived on the evening of the 12th, just in time for supper. We tried to catch a little sleep before we left at 9:30 p.m. Arriving at the selected site we setup. There was only one other car further down in the parking lot. As time went on we would be bothered with four other cars filled with expectant viewers. None were amateur astronomers. Before we quit the next morning we would see 603 meteors and with an average at one time, 2:17 to 3:17 a.m, on the morning of the 12th of 282/hour. More than we ever expected! Unfortunately we ceased our counting - tiredness was overcoming us. Our photography stopped at 3:35 a.m., and we left at 4:00 a.m. But before we did Perseus put on one final display with a fire ball followed with an enduring trail. It lit up our observing site with a bright green glow.

Bob, with his home made 4-inch telescope, entertained us with views of M31, M33, M57, NGC 6960 (the Veil Nebula), Pleiades, Perseus+ Double Cluster, M1 (the Crab Nebula) and the ET asterism. Bob made good use of his RTMC purchase of an O-III filter.

Back again for the final night of 12/13th to estimate what the trailing edge of the shower would give us. We began seeing 35 meteors the first 30 minutes we began and then our eyesight became better - the count increased to 50 the next half hour. The average seemed to hover at 100/hour. This time we quit at 1:00 a.m. The final meteor was bright green trail with a red head. The light lit up the surrounding area bright enough to cast a shadow. Wow! Was it a great finally! We counted 912 meteors for 512 minutes.

## Astronomy Conference

by Bob Garfinkle

During the last week of June, I attended the astronomy conference sponsored by the Astronomical Society of the Pacific and Astronomy magazine, in Flagstaff, Arizona. The Lowell Observatory was also celebrating its 100th anniversary, so several events were sponsored by the observatory. Besides myself, several other SJAA members were also present (Carter Roberts and Bob Ashford were two I recognized). The conference started with Universe 94, which is an exhibition of astronomical books, telescopes and other items. Yes, I was there to sign copies of my book Star Hopping: Your Vista to Viewing the Universe. We sold out the 17 copies we had on hand. David Levy was also on hand to sign copies of his books and to talk about the discovery of Shoemaker-Levy-9 and what they hoped to see when it got together with Jupiter about two weeks after the conference.

The conference consisted of meetings and seminars on how to teach astronomy to K-12 students, history sessions, a tour of astronomical petroglyphs at Chavez Pass and Meteor Crater and a bus tour of the Naval Observatory, Lowell Observatory, Lowell's station at Anderson Mesa, and the USGS offices of Astrogeology. The most popular talks were given by Carl Sagan, Gene Shoemaker, and David Levy. Other top notch historians, astronomers, and astrophographers spoke to full lecture halls. Several of the talks were given by

veteran astronomers of Lowell Observatory. A highlight of the tour of the USGS, was their display of the latest photos of the Moon's south polar region taken by the Clementine satellite just a few months ago.

After leaving the conference, I traveled to the north rim of the Grand Canyon. If you are ever planning to go to the North Rim, there is a great dark sky site just out side of the north entrance to the park. About five miles north of the entrance station, is a groomed gravel road that crosses the highway. Turn east onto the road and follow the signs leading to the east rim. The road ends about four miles from the paved highway. The Forest Service has a primitive campground at the end of the road (outhouses, no fire pits or running water). There is plenty of room as you make your camp where ever you like among the Lodgepole pines. The campground is at about 8,000 feet elevation and overlooks the Painted Desert and the eastern rim of the Grand Canyon. The eastern horizon is over 100 away with only an occasional light on in the windows of the few houses scattered across the desert. The southern horizon stretches out for to at least 75 miles away as the San Francisco Peaks near Flagstaff are visible. The campground gently slopes down toward the rim of the canyon. My wife, Kathy, and daughter, Annmarie, and I laid down on the slop and watched the stars come out. The Milky Way was faintly visible even before the sky was very dark. The sky was so dark, even the faint constellation Equuelus the Foal was very visible naked-eye in a rich field of fainter stars. I highly recommend that you try out this excellent dark sky campground if you ever go to the North Rim of the Grand Canyon.

**Subject: High resolution HST images of Pluto and Charon**
Date: 1 Aug 1994 00:19:57 -0700
Originator: yee@atlas.arc.nasa.gov

European Southern Observatory
Information and Photographic Service
Garching, Germany
18 May 1994
PRESS RELEASE: For immediate release

PR 09/94 **AT THE EDGE OF THE SOLAR SYSTEM: HIGH RESOLUTION HST IMAGES OF PLUTO AND CHARON**

The remote planet Pluto and its moon Charon orbit the Sun at a meandistance of almost 6,000 million kilometres, or nearly fourty times fartherout than the Earth. During a recent investigation by an international group of astronomers (1), the best picture ever of Pluto and Charon was secured with the European Space Agency's Faint Object Camera at the Hubble Space Telescope (HST). It shows the two objects as individual disks, and it is likely that further image enhancement will allow us to see surface features on Pluto.

A very special pair of celestial objects

Almost all the known facts about these two bodies show that they are quite unusual: Pluto's orbit around the Sun is much more elongated and more inclined to the main plane of the Solar System than that of any other major planet; Charon's orbit around Pluto is nearly perpendicular to the plane; their mutual distance is amazingly small when compared to their size; Charon is half the size of Pluto and the ratio of their masses ismuch closer to unity than is the case for all other planets and thei rmoons. Moreover, both are small and solid bodies, in contrast to the other large and gaseous planets in the outer Solar System.

We do not know why this is so. But there is another important aspect which makes Pluto and Charon even more interesting: at this very large distance from the Sun, any evolutionary changes happen very slowly. It is therefore likely that Pluto and Charon hold important clues to the conditions that prevailed in the early Solar System and thus to the origin and the evolution of the Solar System as a whole.

Long and difficult analysis ahead

The present image shows that the overall quality of the new data obtained with the ESA Faint Object Camera on the refurbished Hubble Space Telescope is extremely good. However, such an image represents only the first step of a subsequent, detailed analysis with the ultimate goal of determining the physical properties of the two bodies, first of all their composition, surface structure and possible atmospheres.

The analysis of data from a facility as complex as the Hubble Space Telescope is very demanding, and involves experts in many different fields: planetary astronomy, instrument technology, numerical image restoration, and spacecraft engineering. It is therefore not surprising that this investigation is expected to last a long time yet.

However, while still in its preliminary stages, it already now appears to indicate the presence of areas of different reflectivity on the surface of Pluto. By a comparison of HST images obtained at two different wavelengths

See Pluto page 5

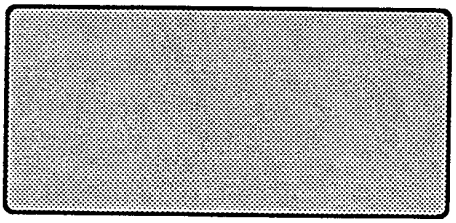
**Eyepiece** (Continued from Page 1)

Last (I think), is that there will be an AANC forum, titled "Astro-Forum", for Association officers and other members, on September 17 at Chabot Observatory, Oakland. A Buffet lunch is available for $3, or you can Brown Bag it. It is from 9:00 am to 4:00 pm. The subject, I believe, will cover Association(s) programs, newsletters, getting speakers and membership. Members clubs of the AANC will have the opportunity also to suggest topics. Call Jim Van Nuland for further details.

**Lassen** (continued from page 2

It must also be noted that the Park staff was exceptionally friendly and professional. Many rangers and naturalists came by to observe and offer us any help we needed. Particularly helpful was Ranger Matt Bates who observed with us all three nights while providing cones to direct occasional traffic away from our scopes. One story that will be retold for years about Lassen was when a driver on Hwy 89 "high-beamed" Ranger Bates who, approaching our observing area, immediately turned off his lights and chased the offender with flashers only until he was perhaps two hundred yards and one road turn away from our dark adapted eyes. Everybody clapped and cheered. Bates was rewarded with a Crazy Ed flashlight. It can be said that all national parks should send their rangers to Lassen for etiquette and friendliness lessons. As for me, good-by to Yosemite's crowds and attitudes.

Although it seems early to plan, there has been much talk about a four night stay next summer, with a pre-announced public night for the staff and interested campers. Everyone enjoyed themselves and agrees the sky was unbeatable. Until next year, those who attended the initial Lassen trip will have fond memories and good conversation about the best sky we have found so far within the State.



**Real-Time Data SuperHighway Astronomy Meetings Online**
by Doug Snyder

The Internet global computer network is being utilized for a myriad of astronomical pursuits. In addition to being able to obtain almost instantaneous late-breaking astro news, images and software, there is another component that has recently been added to increase your enjoyment of astronomy and astronomical computing. This is IRC Astronomy.

IRC (Internet Relay Chat) is an internet attribute similar to ftp (file transfer protocol), telnet, www (world-wide-web), and other global connection methods. If you have access to the internet, you probably also have the means of connecting to irc via your host system. IRC provides you with the means of talking, real-time, on a "party-line" with other amateur and professional astronomers from around the world. There are literally hundreds of different talk "channels" other than astronomy, but the Astronomy channel is by far the best!

At present, these "cyberspace star parties" are being conducted every Sunday at 2000 UT ( 1 pm Pacific Daylight Time). To connect to the Astronomy Channel, you need to first connect to IRC; then issue the following command: /join #Astronomy Note that all irc commands are preceded by the / symbol. But to chat on the channel, just type your comments and press Enter. For further information, contact Doug Snyder at the following:
Phone (408) 266-0590
Internet snyder@netcom.netcom.com
CompuServ 72440,3153

Hope To See You On IRC!

**SJAA CCD Imaging Information Exchange**
by Doug Snyder

Two members of SJAA have recently acquired ST6 CCD cameras and are interested in establishing contact with other members who have or are considering CCD imaging for the purposes of exchanging data, information, experiences and use of accessories. These members are Doug Snyder and Gary Heath, both residing in San Jose. Contact Doug Snyder at (408) 266-0590
or via internet at
snyder@netcom.netcom.com

P.S. We don't necessarily want to "exchange" accessories, just obtain information on the item and how it's being used.

Regards
Doug

**Treasurer's report**
by Jim Hodgers

| | |
|---|---|
| Checkbook | $2566.92 July 22nd, 1994 |
| Observatory Fund | $5873.85 from January, 1994 |
| Gregory Fund | $336.60 from July, 1993 |
| Ephemeris pool | $237.38 after August issue |

**Pluto** (Continued from page 4)

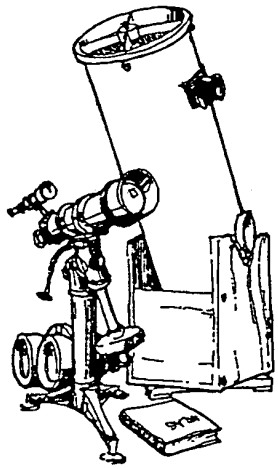
(i.e. in ultraviolet and visual light), the team members hope that it will become possible to construct rough maps of the planetary surface and perhaps also to answer the long-standing question of whether or not there is an atmosphere around Pluto.

(1) This investigation is carried out at the Space Telescope European Coordinating Facility, which is located at the European Southern Observatory as part of a collaboration with the European Space Agency, and also involves other institutes in Europe and the U.S.A. The team of astronomers is headed by Rudolf Albrecht (ST-ECF), and includes Hans-Martin Adorf and Richard Hook (ST-ECF), Alessandra Gemmo and Olivier Hainaut (ESO), Cesare Barbieri and Gabriele Corrain(Osservatorio Astronomico di Padova, Italy), Chris Blades, Perry Greenfield and William Sparks (Space Telescope Science Institute, Baltimore, Maryland, U.S.A.) and David Tholen (Institute for Astronomy, University of Hawaii, U.S.A.)

**1994 SJAA Calendar**

| General Meeting | | Houge Park Star Party | Observational Astronomy Class |
|---|---|---|---|
| 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 | John Paul Dasilva | 10/3/94 |
| 3 | 4" | Quantum | Jason Sun | 8/12/94 |
| 5 | 60 mm | Refractor | ----------> | available |
| 6 | C-8 | Celestron | Albert Chen | 8/12/94 |
| 7 | 12-1/2" | Dobson | Tom Rice | Indefinite |
| 8 | 14" | Dobson | Lee Courtney | 9/9/94 |
| 14 | 6" | Newt/P mount | ----------> | available |
| 15 | 8" | Dobson | John Schoenenberger | 8/13/94 |
| 18 | 8" | Newt/P Mount | Bob Maillot | 10/11/94 |
| 19(B) | 6" | | Jerry Lovelace | 10/7/94 |
| 20 | 4-1/4" | Dobson | ----------> | available |
| 21 | 10" | Dobson | ----------> | available |

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

(on waiting list)

No one

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.

## 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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San Jose, Ca. 95118-2825
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1 Teleview 15 mm wf
best reasonable offer. Call:
Rich Neuschaefer
work (408)-285-0730
home (408)-446-0975 7/94

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Rich Neuschaefer
work (408)-285-0730
home (408)-446-0975 7/94

**2010 Meade SCT**, GEM Mount w/RA drive. 1-1/4 25 mm eyepiece. Good cond. purchased at Orion as a blemish 7 yrs ago and still in good shape. Lowered to $950, paid $1600. Am getting a smaller telescope. Call Bob Madden at:
(408)-264-4488 9/94

**8" Meade, Schmidt Cassegrain,** Multi Coated corrector plate, GEM, w/26mm eyepiece. Call Maria Peterson
(408)-262-1457 (after 6pm or leave message) 7/94

**Celestron 4.5" Newt.** "like new", w/ Orion 2X Fully baffeled Barlow, Polaris mount. Call Tom Rossi.
(408) 879-9874 7/94

**6" Mirror Blank/Grinding tool.** Any reasonable offer. Call Richard Roupe
(408)-253-2393 7/94

**Takahashi FC 100H**, 100mm, f-8 Apo refractor, Multicoated, 2.7" Focuser, 7X50 Illuminated finder. EM-10 mount - all electric, built-in drive corrector. $3800 OBO. still in warranty. Call Edward
(209) 931-0486 8/94

## CELESTIAL CALENDAR

September 1994

| LunarPhases | Date | Rise | Tran | Set |
|---|---|---|---|---|
| NM 11:33hr | 05-9 | 0638 | 1306 | 1918 |
| FQ 04:34hr | 12-9 | 1426 | 1932 | ------ |
| FM 13:01hr | 19-9 | 1855 | 0033 | 0648 |
| LQ 17:24hr | 28-9 | 0013 | 0729 | 1442 |

**Nearer Planets**

| | | | | |
|---|---|---|---|---|
| Mercury | 07-9 | 0824 | 1421 | 2016 |
| 1.240 AU | 17-9 | 0854 | 1430 | 2006 |
| Mag -1.40 | 27-9 | 0912 | 1431 | 1949 |
| Venus | 07-9 | 1030 | 1548 | 2105 |
| 0.578 AU | 17-9 | 1032 | 1537 | 2041 |
| Mag -5.30 | 27-9 | 1026 | 1520 | 2014 |
| Mars | 07-9 | 0142 | 0902 | 1623 |
| 1.728 AU | 17-9 | 0131 | 0849 | 1608 |
| Mag 0.70 | 27-9 | 0120 | 0835 | 1550 |
| Jupiter | 07-9 | 1117 | 1836 | 2154 |
| 5.899 AU | 17-9 | 1046 | 1603 | 2120 |
| Mag -1.90 | 27-9 | 1016 | 1531 | 2046 |
| Saturn | 07-9 | 1911 | 0047 | 0618 |
| 8.707 AU | 17-9 | 1830 | 0005 | 0535 |
| Mag 0.80 | 27-9 | 1749 | 2319 | 0452 |

**SOL** Star Type G2 V Mag - 26.72

| RA | DEC | | | | |
|---|---|---|---|---|---|
| 1105 | 0552 | 07-9 | 0642 | 1306 | 1928 |
| 1141 | 0203 | 17-9 | 0650 | 1302 | 1913 |
| 1217 | -1.51 | 27-9 | 0659 | 1259 | 1858 |

| Astronomical Twilight | | Dawn | Dusk |
|---|---|---|---|
| JD 2,449,602.5 | 07-9 | 0513 - | 2057 |
| ,612.5 | 17-9 | 0523 - | 2040 |
| ,622.5 | 27-9 | 0533 - | 2024 |

**Sidereal Time**

| | | |
|---|---|---|
| Transit Right | 07-9 | 0000 PDT=2156 |
| Ascention at | 17-9 | 0000 PDT=2236 |
| Local Midnight | 27-9 | 0000 PDT=2315 |

| Darkest | Saturday Night Sept 3 |
|---|---|
| Sunset | 1934 |
| Twilight End | 2104 |
| Moon Set | 1807 |
| Dawn next morning | 0510 |

**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



### Comet Comments

by Don Machholtz

Three comets remain visible in our skies. A new orbit calculation for Comet Nakamura-Nishimura-Machholtz (1994m) indicates that perihelion was on July 13 at 1.14 AU. The comet will be closest to the Earth on August 31 at 0.41 AU. It will rapidly move southward as it dims.

Sometime during the next five years a comet known as Periodic Comet DeVico is expected to return to our skies. Last seen in 1846, this comet was missed in 1921-22 and at most returns prior to 1846. The orbit is not well known; the window for its next return extends over the next few years. Therefore, observers are asked to be on the look out for this comet, which will probably reach naked-eye visibility as it passes perihelion at a distance of 0.66 AU from theSun. A high inclination of 85 degrees will bring it in from the south.

I recently wrote a paper providing the history, orbital calculations, search suggestions and a search ephemeris for Periodic Comet DeVico. It is printed in the Strolling Astronomer (the ALPO Journal), Vol. 38, #1. If you are interested in reading the article and perhaps searching for the comet, but don't receive the Journal, send me $2.00 in postage stamps and/or money for duplication and shipping, and I'll send you the complete 15-page report. Reach me at P.O. Box 1716, Colfax, Ca. 95713.

EPHEMERIDES

PERIODIC COMET BORRELLY (19941)

| DATE(00UT) | R.A.(2000) | DEC | EL | SKY | MAG |
|---|---|---|---|---|---|
| 08-21 | 04h35.0m | -08d31' | 83d | M | 10.3 |
| 08-26 | 04h47.6m | -07d38' | 84d | M | 9.9 |
| 08-31 | 05h00.3m | -06d41' | 85d | M | 9.7 |
| 09-05 | 05h13.0m | -05d42' | 86d | M | 9.4 |
| 09-10 | 05h25.7m | -04d38' | 87d | M | 9.2 |
| 09-15 | 05h38.5m | -03d28' | 88d | M | 9.2 |
| 09-20 | 05h51.2m | -02d13' | 89d | M | 9.0 |
| 09-25 | 06h04.1m | -00d51' | 91d | M | 8.9 |
| 09-30 | 06h16.9m | +00d39' | 92d | M | 8.7 |
| 10-05 | 06h29.8m | +02d18' | 93d | M | 8.5 |
| 10-10 | 06h42.7m | +04d07' | 95d | M | 8.4 |
| 10-15 | 06h55.7m | +06d08' | 97d | M | 8.2 |

PERIODIC COMET TEMPEL 1

| DATE(00UT) | R.A.(2000) | DEC | EL | SKY | MAG |
|---|---|---|---|---|---|
| 08-21 | 15h38.2m | -26d38' | 91d | E | 10.3 |
| 08-26 | 15h52.8m | -27d48' | 89d | E | 10.5 |
| 08-31 | 16h07.7m | -28d49' | 88d | E | 10.7 |
| 09-05 | 16h22.8m | -29d44' | 87d | E | 10.9 |
| 09-10 | 16h38.1m | -30d30' | 85d | E | 11.1 |
| 09-15 | 16h53.5m | -31d08' | 84d | E | 11.3 |
| 09-20 | 17h09.0m | -31d39' | 82d | E | 11.6 |
| 09-25 | 17h24.4m | -32d02' | 81d | E | 11.8 |
| 09-30 | 17h39.8m | -32d17' | 79d | E | 12.0 |
| 10-05 | 17h55.1m | -32d26' | 78d | E | 12.2 |
| 10-10 | 18h10.2m | -32d28' | 76d | E | 12.5 |
| 10-15 | 18h25.1m | -32d24' | 74d | E | 12.7 |

COMET NAKAMURA-NISHIMURA-MACHHOLZ (1994m)

| DATE(00UT) | R.A.(2000) | DEC | EL | SKY | MAG |
|---|---|---|---|---|---|
| 08-21 | 23h34.3m | +49d28' | 115d | M | 7.6 |
| 08-26 | 22h55.7m | +36d28' | 132d | M | 7.4 |
| 08-31 | 22h23.1m | +19d24' | 152d | M | 7.4 |
| 09-05 | 21h56.9m | +01d40' | 163d | M | 7.7 |
| 09-10 | 21h36.7m | -12d53' | 155d | E | 8.2 |
| 09-15 | 21h21.6m | -23d16' | 143d | E | 8.7 |
| 09-20 | 21h10.6m | -30d23' | 133d | E | 9.2 |
| 09-25 | 21h03.0m | -35d16' | 124d | E | 9.7 |
| 09-30 | 20h58.1m | -38d41' | 117d | E | 10.1 |
| 10-05 | 20h55.2m | -41d09' | 111d | E | 10.6 |
| 10-10 | 20h54.2m | -42d57' | 106d | E | 11.0 |
| 10-15 | 20h54.5m | -44d17' | 101d | E | 11.3 |

CC193.TXT Don Machholz (916) 346-8963

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