SJAA EPHEMERIS

Leonids

It's fun to run a variety of reports on meteor showers to show how disparate they can look from different sites, at different times, to different observers. The Leonids showed promise of being a great shower, but turned out to be something of a disappointment in "flashes per minute," but sometimes just getting out to look is good enough. . . .

Lew Kurtz, Fremont Peak:

The forecast from the Monterey, CA, TV station said the clouds and rain would be clearing out between midnight and 2am.

So, I packed warm clothes, food, lawn chair, alarm clock, etc., into the station wagon and left for Fremont Peak around 8:30 Sunday evening. Saw the Moon off and on through the clouds until Gilroy. Stopped to get a bite to eat. When I came out the clouds were so thick you couldn't tell where the moon was. It started raining a couple minutes down the road and was still raining (although not so hard) when I arrived.

I had read in *Astronomy* that the peak was supposed to be at 3am. I set my alarm for 2:00 hoping to wake up to stars. I woke up at 1:30 with the Pleiades right overhead. Not a cloud in the sky.

See **Leonids**, p. 2

January

9 Houge Park star party; school start party at Bernal Intermediate. Sunset 5:08 pm, 93% moonset 5:19 am.

10 General meeting Houge Park 8pm. Al Stern of ASP will discuss and show recent discoveries by the Hubble Space Telescope. Open board meeting 6:30 pm.

16 Milpitas city star party.

17 Beginning astronomy class at Houge Park, 8 pm.

23 Houge Park star party. Sunset 5:23 pm, 19% moonrise 3:53 am.

24 Star party at Fremont Peak, Coe. Sunset 5:22 pm, 12% moon rise 4:48 am.

February

6 Houge Park star party; Lyceum school group will be attending. Sunset 5:38 pm, 82% moonset 4:08 am.

7 General meeting 8 pm. Open board meeting 6:30 pm.

14 Beginning astronomy class at Houge Park, 8 pm.

20 Houge Park star party.

21 Star party at Fremont Peak.

28 Star parties at Fremont Peak, Coe. Sunset 4:56 pm, 3% moonrise 6:07 am.

Please note that SJAA insurance only covers SJAA members at SJAA sponsored events.

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

Ice and Water on the Moon: the Historical Perspective

Craig D. Wandke

For centuries, lunar observers have conjectured about the possibility of water and ice on the moon. What follows is a brief historical overview of such thought since 1739. I have tried in each case to use the exact words of the observer as taken from primary source material. Due to the necessary brevity of this list, more extensive references have been omitted, and it has been my intention to highlight the historical diversity of opinion on this topic. (Proper nouns refer to named lunar structures).

Editor's note: many quotes have been elided from the original, far more comprehensive list (for space considerations). An outstanding compendium from Craig!

1739 **Fouchy**: . . . some fluid may well be supposed to be in [craters] . . .

1780 **Bailly**: Lunar oceans became frozen and even the gases forming the lunar atmosphere became solidified.

See **Ice and Water**, p. 3

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Leonids, from p. 1

I saw my first Leonid at 1:40 and then saw 5 or 6 more by 2:15. Not a lot, but I decided it was time to start taking notes.

Viewing conditions were not great. Lots of moon light, and lots of humidity. There were no stars to be seen in the bowl of the big dipper. I could only see three stars of the little dipper consistently, the other four only with averted vision. This was consistent all night. Occasional small thin high clouds came through.

The times listed are interval start times. I spent most of my time looking to the east and south east. I saw:

2:15 2 Leonids
2:30 3 Leonids 1 sporadic
2:45 2 Leonids
3:00 2 Leonids
3:15 took a break and walked around since I was having trouble staying awake. 1 bright blue-green Leonid, much brighter than Venus, train was visible for 15 seconds, at least another 15 seconds in binocular. If the moon had not been up this one would have thrown shadows.
3:30 0 Leonid; 1 long lived sporadic took 5 seconds to cross 60 degrees of sky, was a constant mag 3
3:45 fog rolled in, couldn't see 50 feet
4:10 fog rolled out again 12 Leonids, 5 or 6 between 4:25 and 4:30 (I didn't mark precisely the 4:25 point)
4:30 1 Leonid
4:45 3 Leonids
5:00 3 Leonids
5:15 stopped counting

The one thing that surprised me was that all of the Leonids were very bright, most were mag 0 or brighter. Moonlight must really knock out the short lived fainter meteors.

Most of the meteors where very short, three or four not much more than a blink of the eye. The first two I saw like this I thought were my imagination, but one finally blinked dead ahead.

Most of the meteors were close to Leo. Very different from what I am familiar with from watching Perseids.

Well, maybe next year will have the right kind of storm.

Bill Arnett, San Jose:

I observed from 3:10 to 4:40am PST this morning up at the summit of Quimby Road on the way to Grant Ranch. With the Moon my limiting mag was only about 4 or 4.5. In that 90 minutes I saw 11 definite Leonids, suspected 5 other and saw one brilliant sporadic fireball. The Leonids were about two thirds mag zero or better and one was probably at least -3 or -4. They were all very fast. I saw several brief "smoke trails".

Craig Cholar:

I watched for Leonids from 4:45 to 5:45 and counted only six, but I have obscured SE and SW horizons from my backyard — very fast, with a couple leaving brief trails). One at about 5:15 reached about -3 and left a trail that lasted about 10 seconds. I could see 7 stars in Ursa Minor, and the large semi-circle of stars in Ursa Major. The moon didn't have any noticeable halo, so I guess transparency was pretty good. All of the meteors I saw were going the right direction, so I guess none of them were sporadics.

All things considered, if you stayed in bed you didn't miss much.

Phil Harrington, New York:

Limiting mag from my backyard on Long Island (New York) was only about 4.0 due to the moon, so I'm sure that impacted my results negatively. And I have to admit I only stayed out for about 30 minutes, but in that interval, I only saw two Leonids (admittedly, quite bright . . . -2 mag) and one faint sporadic. Not a big show from my perspective. Better luck next year!

Ice and Water, from p. 1

1882 **Thury**: In Plinius there are two small craters, modified by the different amounts of snow and ice about them.

1883 **Peal**: Frascatorius was caused by the removal of water and its deposit on the land around.

1884 **Langley**: That we never see clouds on the moon, even with the telescope, is itself a proof that none exist there.

1885 **Monck** Water has been drained away to the far side of the moon and the agent was terrestrial heat.

1886 **Harley**: The other side of the lunar hemisphere is much the same as ours, with as much water and no more.

1886 **Proctor**: Cavities even large enough to contain even all the waters of our own ocean may exist within the moon.

1892 **Peal**: The degradation of the ice cliffs is well shown around the margins of the now-glaciated seas.

1898 **Puiseux**: We can reasonably admit to deposits of ice on the floor of the craters in the polar region.

1900 **Pickering**: I believe, from the appearances around Schroter's Valley, that ice crystals really exist upon the moon.

1901 **H.G. Wells**: The moon must be enormously cavernous with an atmosphere within, and at the centre of its caverns a sea.

1903 **Pickering**: The rim of Pallas is seen to be white with snow.

1904 **Pickering**: Rilles [large meandering snake-like structures on the moon] are actually dry river beds.

1908 **Fauth**: The ice on the surface of the moon is 200 miles thick.

1916 **Pickering** On Pico: . . . the snow lies only on the ridges and never gets down so far as the ravines.

1921 **Christie**: Witnessed a "fresh fall of snow" near Conon.

1923 **Goddard**: It is reasonably certain that water exists on the moon. [Robert Goddard of rocket fame!]

1924 **Beard**: The brightness of the crater Pythias is due to "snow or hoarfrost about its mouth or inner slopes."

1930 **Fauth**: Craters were lakes of frozen water; the maria are actual sea-surfaces which have solidified.

1959 **Firsoff**: There are "vast amounts of water" underground on the moon, "ascending through caverns."

1960 **Gilvarry**: The moon possessed a hydrosphere which exuded from the interior and lasted for a significant astonomical time.

1960 **Firsoff**: There is a layer of permafrost under the lunar surface to a depth of one meter.

1960 **Kopal**: There is no doubt water on the moon, possibly as much as in all seas and oceans on the earth.

1961 **Van Lopik**: Water "may be present in volcanic extrusives, ice in permanently shadowed zones in volcanic craters."

1961 **Firsoff**: There is also some evidence for more widespread rainfall in the region of Mare Imbrium.

1965 **Gilvarry**: The presence of a small concentration of water under the lunar maria is reasonable.

1965 **Kopal**: The moon possesses no detectable atmosphere and so cannot maintain any liquid on its surface.

1965 **Kopal**: For areas in permanent shade in the lunar poles, "one can expect ice on the exposed surface."

1966 **Gold**: Large masses of ice covered by sedimentary strata are present in the lunar basins and craters.

1967 **Urey**: The maria of the moon are dried-up or frozen seas, and water has aided in forming or their final features.

1968 **Firsoff**: The aprons on the lower side of the Tsiolkovsky could be glaciers under a cover of volcanic ash.

1969 **Gilvarry**: A corpus of observational evidence points to the pristine presence of water on the moon.

1971 **Epstein**: Hydrogen Apollo 11 samples suggest "the remote possibility that there may be some water on the moon."

1973 **Siscoe**: On the basis of direct and indirect evidence, it appears that the lunar atmosphere contains H20.

1973 **Freeman**: Ion bursts at the Apollo 12 site showed that the "H20 source was of lunar origin."

1981 **Brown**: A "significant accumulation of water ice" is unlikely at the lunar poles.

1981 **Johnson**: The solar wind produces "sputtering of water ice from the lunar polar surfaces."

1987 **Arnold**: Ice may be permanently preserved as ice in shadowed craters and valleys at the lunar poles.

1996 **Spudis**: ". . .small patches of ice (and/or other frozen volatiles)" may exist at the South Pole-Aitken Basin of the moon.

Observing At Fremont Peak

Rich Neuschaffer

Fremont Peak was a little wet but we had clear skies. It was the first night of good seeing I've had with my 155 f/7 EDF and I was having fun. While looking at Saturn, Bill Arnett called out the "GRS is transiting." I had forgotten to look at Jupiter, and sure enough there was the GRS, very nice.

Saturn showed very nice shading; the three rings and the Cassini division were easy to see. There was a little bit of the shadow from the planet on the back side of the rings. It looked like you could see a dark "outline" of the rings against the planet which I think was the shadow from the rings.

I looked at several of the brighter deep sky objects. M42 was beautiful as always. It was easy to see six stars in the Trapezium.

It was the first time I had used the Maxbright star diagonal and the Zeiss Abbe Ortho eyepieces when we had good seeing. They are supposed to have very little scatter. Even bright stars looked smaller. Rigel was bright, but it seemed small and its little companion was very easy to see. There seemed to be more "black" between the companion and Rigel.

Clouds started coming over sometime after about 1am. Later in the morning we talked to one of the park's staff and found out the Peak has a new ranger. The gate to the Observatory is locked, but the ranger will give the combo to the FPOA.

It looks like we can still have star parties behind the ranger's house, but the shop may stay locked. One very sad note: we heard the trees behind the restroom have some form of bark beetle, and will have to be removed — darn. I hope the problem doesn't spread to the trees to the south of the restroom.

Saturn Occultation

Akkana Peck

I joined several other observers at the Foothill Observatory to watch the recent lunar occultation of Saturn. The weather had been chancy all day — lots of clouds, but also lots of big holes. If we were lucky, we'd get a chance to see the occultation.

I arrived about half an hour before Saturn's scheduled disappearance, and set up my 80mm Celestron/Vixen refractor. Seeing was very poor (Cassini's division was very difficult), since we were looking through thin clouds most of the time, but still, the view at 60x of the whole moon with dim, almost ghostly Saturn hanging off the dark limb was unreal.

When it got closer to disappearance time, I switched eyepieces to 138x to be able to see the disappearance more clearly. A pair of observers set up with a video camera set up on an Astro-Physics 7" Starfire began to mutter about the clouds getting too thick to be able to see Saturn on the video display, and then the thick clouds obscured the image in all the 'scopes present as well.

About half a minute later, this thick band of clouds passed by and the moon reappeared — just in time to see the last bit of Saturn's ring disappearing behind the moon. Drat!

The hour between disappearance and reappearance passed quickly, taken up by chatting, lunar observing (a favorable libration gave a nice view of small, dark Mare Marginis, on the limb east of Crisium), and borrowing of a battery-powered hairdryer to combat the dew dripping off my 80mm objective (thanks, David!)

Fortunately, the clouds disappeared, and we had clear skies for the main event, the reappearance. We had expected Saturn to appear somewhat south of Mare Crisium, but the ring actually poked out considerably north of Crisium, followed by the rest of Saturn. I was too entranced by the spectacle to think about timing it. :-)

After Saturn was completely clear of the moon, I wrenched my eye from the eyepiece and wandered over to check the video image (very nice!) It seemed to me that the distance between Saturn and the moon was noticably different (in terms of ring diameters) between my 'scope and the video setup, but I can't believe that the parallax from their being set up fifteen feet apart would produce a noticable difference. Perhaps the video system had a delay of a few seconds, which might be enough to explain the difference I thought I saw.

Aldebaran Occultation Simulcast

Bill Arnett

This evening your intrepid observer braved the cold and damp armed only with an LX200 and a Macintosh to make sure nothing was amiss as the Earth was briefly hidden from the ever watchful Eye of the Bull.

Happily married man that I am, I was eager to have my wife observe it with me. And as it is the Christmas season I broke out the binoviewer so we could watch together, cheek to cheek, one eyepiece each (as befits my political inclinations, I got the left one :-) It worked splendidly! Since we both have roughly equally bad eyes we didn't even have to worry about the dreaded lack of individual focusing. I highly recommend this technique for astronomers and friends regardless of the season!

While waiting for the scheduled reappearance, with the aid of Rukl's atlas and Akkana's great "Hitchhiker's Guide to the Moon" <http://www.best.com/~akkana/moon/hitchhiker.html>, I tracked down a few goodies in the favorable libration zones. Mare Marginis and crater Neper were easy as was the far shore of Mare Smithii. I even caught a glimpse of the edge of Mare Australe.

The conditions were just about as bad as they could be, though. Cold, damp, clouds whizzing by almost obscuring the Moon at times. Not a good night for anything. But it was sufficient to see the event.

And for those of you who were ever in doubt, Aldebaran did reappear as predicted apparently above the southern shore of Mare Smithii. The Eye of the Bull sees again.

Editor's note: due to the clouding and glare of the nearly full moon, when Aldebaran emerged, I could not be certain of the reappearance for almost a minute after the event... but it was possible to see that something irregular was happening. The times Bill published were very accurate and a real help to appreciating the event.

The Shallow Sky

David North

January opens with the moon just starting to show its stuff, only a bit over two days old. Since the first quarter moon is starting to get higher in the sky, you might get some neat views of the "sliver." By the fifth, we are at first quarter, so don't miss these improving views. Basically, anyone interested in the moon at all should peruse it for a while from Jan 2 through the full moon; elevations will be good every night.

As a bonus on the fifth, Saturn will be within arcminutes of the limb — you'll have no trouble seeing it if the sky is clear. A must! And Saturn will be well presented all month for all of us who need to get some sleep; this is a terrific time for "casual" viewing.

This month's best lunar libration will be eastern near full moon, showing the seas "outside" Mare Crisium. If you missed it before, you get a repeat chance on the 11th (two days before full).

Our first major meteor shower of the year peaks only two days into the New Year on Jan 2/3, and there will be minimal moon interference. The Quadrantids have the shortest duration of all the major showers — only four days. The intense maximum can produce rates in excess of 100 meteors per hour for lucky observers in the right place from midnight to near 5am. SJAA members are morally obligated to at least try to see it, since the shower's parent source is comet 96P/Machholz (a name that should sound familiar. Don will be speaking to the club in March on the Messier Marathon, so be sure to compliment "his" shower. . . .) Observing only six hours on either side of maximum will produce rates no better than 20-30 meteors per hour. The Quadrantids produce abundant fireballs at maximum.

Mercury is now a morning object, and only the hardiest of dot hunters will see it. Venus arrives at inferior conjunction on the 16th, but it will still be five degrees above the sun, so "sunset sightings" are possible even at closest approach (over five degrees of separation). This would be a fun project. . . .

For the truly unimportant observation project of the month, we arrive at perihelion on Jan 4. This close, it should absolutely fill those solar filters! Might be a good day to check the sunspots, as they have been amazing lately.

There will be a double shadow transit on Jupiter around 7:15 on the 16th, but this will not be at a favorable elevation, so don't expect too much.

Comet Comments

Don Machholz

Two new comets have been discovered recently by the SOHO satellite: both were sungrazers, both were 5th magnitude, and both vanished behind the Sun. Meanwhile, several long-lasting comets appear in our skies.

Comet Hale-Bopp begins to move northward again; this is due to our motion around the Sun. Comet Meunier-Dupouy moves out of the north polar region. Periodic Comet Hartley 2 is high in the evening sky. Comet Utsunomiya passes north of the Sun, entering the morning sky. The fast-moving Periodic Comet Temple-Tuttle passes over the north polar region and into the evening sky.

Comet hunting notes: Of the last 100 visual comet discoveries, 28 were made by amateurs using binoculars. The smallest pair of binoculars used was 7x35's by William Bradfield in 1980 to find a 6th-magnitude comet. Three were the 80mm size while six finds were made using binoculars with objectives of 110-120 mm. Four finds were made with my homemade binoculars (130mm). And half (14) of all binocular comet discoveries were made with 150mm (6-inch) binoculars.

Orbital Elements

Object:	Hale-Bopp	Meunier-Dupouy	Hartley 2
Peri. Date:	1997 04 01.1347	1998 03 10.4365	1997 12 22.02
Peri. Dist (AU):	0.914008 AU	3.051015 AU	1.03172 AU
Arg/Peri (2000):	130.5787 deg.	122.6755 deg.	180.7240 deg.
Asc. Node (2000):	282.4653 deg.	148.8429 deg.	219.9547 deg.
Incl (2000):	89.4268 deg.	91.2731 deg.	13.6191 deg.
Eccen:	0.995085	1.000760	0.700391
Orbital Period:	~2500 years	Long Period	6.39 years
Ref:	MPC 30738	MPC 30738	MPC 29880
Epoch:	1997 12018	1998 03 08	1997 12 18
Absol. Mag/"n":	-1.0/4.0	4.0/4.0	8.0/6.0

Object:	Tempel-Tuttle	Utsunomiya
Peri. Date:	1998 02 28.1034	1997 12 10.0570
Peri. Dist (AU):	0.976639 AU	1.359850 AU
Arg/Peri (2000):	172.4930 deg.	95.8952 deg.
Asc. Node (2000):	235.2568 deg.	53.7059 deg.
Incl (2000):	162.4861 deg.	127.9898 deg.
Eccen:	0.905507	1.0
Orbital Period:	33.23 years	Long Period
Ref:	MPC 30244	MPC 30738
Epoch:	1997 12 18	1997 10 10
Absol. Mag/"n":	10.0/10.0	7.8/4.0

Ephemerides

C/1995 O1 (Hale-Bopp)

Date	R.A. (2000)	Dec.	El.	Sky	Mag.
01-02	06h12.3m	-64°26'	92°	E	7.8
01-07	06h00.1m	-64°23'	92°	E	7.9
01-12	05h48.6m	-64°09'	92°	E	8.0
01-17	05h38.1m	-63°47'	91°	E	8.1
01-22	05h28.7m	-63°18'	91°	E	8.2
01-27	05h20.6m	-62°43'	90°	E	8.3
02-01	05h13.7m	-62°03'	89°	E	8.4
02-06	05h07.9m	-61°19'	89°	E	8.5
02-11	05h03.3m	-60°33'	88°	E	8.5

C/1997 J2 (Meunier-Dupouy)

Date	R.A. (2000)	Dec.	El.	Sky	Mag.
01-02	19h24.4m	+40°42'	64°	E	11.6
01-07	19h35.6m	+39°45'	62°	E	11.6
01-12	19h46.4m	+38°51'	61°	E	11.6
01-17	19h56.9m	+38°00'	59°	E	11.6
01-22	20h06.9m	+37°12'	57°	M	11.6
01-27	20h16.7m	+36°29'	55°	M	11.6
02-01	20h26.1m	+35°49	54°	M	11.6
02-06	20h35.1m	+35°12'	52°	M	11.6
02-11	20h43.9m	+34°38'	50°	M	11.6

C/1997 T1 (Utsunomiya)

Date	R.A. (2000)	Dec.	El.	Sky	Mag.
01-02	18h48.5m	+03°58'	27°	M	11.0
01-07	18h49.0m	+02°52'	26°	M	11.1
01-12	18h49.4m	+01°52'	26°	M	11.2
01-17	18h49.7m	+00°56'	27°	M	11.3
01-22	18h49.9m	+00°03'	29°	M	11.4
01-27	18h49.9m	-00°47'	32°	M	11.4
02-01	18h49.7m	-01°35'	35°	M	11.5
02-06	18h49.1m	-02°21'	39°	M	11.6
02-11	18h48.2m	-03°06'	43°	M	11.7

103P/Hartley 2

Date	R.A. (2000)	Dec.	El.	Sky	Mag.
01-02	23h34.5m	-07°17'	70°	E	7.9
01-07	00h00.2m	-06°29'	71°	E	7.9
01-12	00h26.2m	-05°33'	72°	E	8.0
01-17	00h52.4m	-04°31'	74°	E	8.2
01-22	01h18.4m	-03°23'	75°	E	8.4
01-27	01h44.0m	-02°13'	77°	E	8.6
02-01	02h09.0m	-01°01'	78°	E	8.8
02-06	02h33.3m	+0o°11'	79°	E	9.1
02-11	02h56.7m	+01°21'	80°	E	9.3

55P/Tempel-Tuttle

Date	R.A. (2000)	Dec.	El.	Sky	Mag.
01-02	12h35.9m	+33°30'	105°	M	12.3
01-07	12h29.5m	+43°59'	113°	M	11.4
01-12	12h06.3m	+61°34'	119°	M	10.4
01-17	07h05.5m	+82°59'	118°	E	9.7
01-22	01h53.2m	+60°49'	56°	E	9.5
01-27	01h28.9m	+41°41'	90°	E	9.6
02-01	01h21.4m	+30°10'	79°	E	9.8
02-06	01h18.1m	+23°00'	70°	E	10.0
02-11	01h16.3m	+18°13'	63°	E	10.1

CELESTIAL CALENDAR JANUARY 1998

Richard Stanton

Lunar *(all times PST)*

Phases	Time	Date	Rise	Trans	Set
FQ	06:18	05	12:07	18:33	00:01
FM	09:24	12	17:38	24:46	07:05
LQ	11:40	20	00:07	05:58	11:43
NM	07:27	28	07:25	12:52	18:24

Mercury **1.19 A.U.** **Mag. -1.4**

Date	Rise	Trans	Set	R.A.	Dec.
07	05:42	10:35	15:27	17:33.5	-21:39
17	06:02	10:49	15:36	18:26.5	-23:07
27	06:24	11:12	16:00	19:28.8	-22:55

Venus **.26 A.U.** **Mag. -4.5**

Date	Rise	Trans	Set	R.A.	Dec.
07	07:58	13:08	18:19	20:10.7	-16:17
17	06:50	12:04	17:18	19:45.8	-15:08
27	05:48	11:03	16:18	19:23.7	-14:48

Mars **2.18 A.U.** **Mag. +0.9**

Date	Rise	Trans	Set	R.A.	Dec.
07	09:06	14:15	19:24	21:14.4	-17:11
17	08:49	14:06	19:24	21:45.4	-14:39
27	08:31	13:57	19:24	22:15.8	-11:52

Jupiter **5.85 A.U.** **Mag. -2.0**

Date	Rise	Trans	Set	R.A.	Dec.
07	09:27	14:44	20:01	21:45.0	-14:28
17	08:54	14:13	19:33	21:53.5	-13:43
27	08:20	13:43	19:05	22:2.4	-12:56

Saturn **9.52 A.U.** **Mag. +0.9**

Date	Rise	Trans	Set	R.A.	Dec.
07	11:40	17:53	00:10	00:55.4	+03:14
17	11:02	17:16	23:30	00:57.1	+03:28
27	10:24	16:39	22:54	00:59.4	+03:45

SOL Star Type G2V Intelligent Life in System?

(HOD = Hours of Darkness)

HOD	Dt	Rise	Trans	Set	R.A.	Dec.
11:12	07	07:23	12:14	17:06	19:13.0	-22:23
11:03	17	07:20	12:18	17:16	19:56.3	-20:45
10:49	27	07:15	12:21	17:27	20:38.4	-18:28

Astronomical Twilight		Begin	End
JD 2,450,820	07	05:50	18:38
830	17	05:49	18:47
840	27	05:45	18:56

Siderealtime

Transit Right	07	00:00 = 06:59
Ascension at	17	00:00 = 07:38
Local Midnit	27	00:00 = 08:17

Darkest Saturday Night	24-Jan-98
Sunset	17:25
Twilight End	18:50
Moon Rise	03:52
Dawn Begin	05:47

PERIODICAL PUBLICATION STATEMENT

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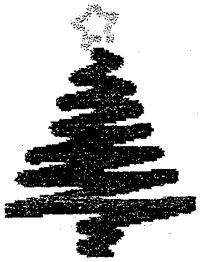
Happy Holidays



To Subscribe to/Unsubscribe from the SJAA Mailing List send mail to sjaa-request@seds.org with a blank subject line followed by a single text line that says "subscribe" or "unsubscribe"

SUBMIT

Members are encouraged to submit articles for publication in the *SJAA Ephemeris*. Send articles to Dave North via e-mail to Timocharis@aol.com. Articles received by the tenth will be put in the following month's newsletter. Please include your name and phone number.

ACTIVITIES THROUGH OTHER CLUBS

TAC has reserved the Montebello site for every Wednesday, more or less indefinitely (weather permitting). To get there, take Page Mill Road off 280 (or get to it via El Monte Road) until you're near the top. Montebello's sign will be visible on the left.

First quarter Friday star parties have become a "mobile" event, and checking their web page (http://www.rahul.net/resource/TAC/) is the best way to get times. Third quarter Friday star parties are at Van Meter school when the skies cooperate.

PAS opens Foothill Observatory for public viewing every clear Friday evening from 8:30 p.m. until11:00 p.m. PAS operates a 16-inch reflector and a 6-inch refractor. Solar viewing is also held every clear Saturday morning from 10:00 a.m. until noon with a very nice filter setup. Both of these programs are outstanding, and all SJAA members are encouraged to check them out.

January

9 PAS Meeting "Galileo Orbiter Mission To Jupiter" by Dr. Jeff Moore of NASA Ames. 7:30 at the Forum Building at Foothill; bring $2 in quarters for parking.

14 PAS Board of Directors Meeting 7:30 at Foothill Observatory.

24 HVAG star party at Grant Ranch, SFAA star party at Mt. Tam, PAS at Oak Ridge (requires membership and admittance procedure).

February

28 HVAG Starparty at Grant Ranch.

The Candidates Speak!

February is the big month: board elections! Four director terms expired, and only one incumbent (Terry Kahl) is running for reelection. With three other candidates registered so far, there is currently no need for a vote, but that could change by election time.

The other candidates are Bill Arnett (SJAA Webmeister), Mike Koop (who runs the loaner program), and Mark Taylor, a very active member. Unfortunately, Mike could not get his statement done in time for the deadline; perhaps he will get something finished in time for the February issue, which should get to you before the election.

A former director who had previously thrown his hat into the ring, Rich Neuschaffer, has decided to withdraw from candidacy.

There may be other candidates before election night, and the floor will be open to nominations before the voting, so this candidate's list is not necessarily complete. Nevertheless, here are some statements from the currently known candidates:

Bill Arnett

Many of you know me from my postings on the Net and from my Web sites, including *The Nine Planets*: **http://www.seds.org/billa/tnp/**, the SJAA WWW site: **http://www.seds.org/billa/sjaa/**, and my "home page": **http://www.seds.org/billa/arnett.html**.

My principal interest in serving on the SJAA board is to help move the club a little more into the information age. We've made a few steps in that direction already with the mailing list and the WWW page. Perhaps we can also leverage the huge popularity of the Internet and its particular strength in astronomy and space science to snag a few more people into our hobby. Those who first get excited about astronomy from NASA's wonderful images can also get a lot of enjoyment from "original photons", too.

Terry Kahl

Many of you already know me. I've been a member of SJAA for about 5 years. You see me at Houge park and Fremont Peak. Being a new board member, I would like to continuee to fill the position for the next term. I feel I have learned so much from club members and would like to give back the knowledge to new ones.

I enjoy participating in school star parties and club functions. I would like to encourage more women to be active in astronomy. If any of you men-folk have wives or girlfriends, please don't make astronomy sound complicated. I know some of the telescope setup may be. Help your wives with domestic chores so they can have the opportunity to enjoy the night sky. The sky is full of diamonds.

As for the women—if you think you will be interested in astronomy, be assertive and go for it. Leave the couch potato at home. You will meet many nice friends at our meetings and star parties.

Mark Taylor

I moved to the Bay area in April of 1996, and joined the SJAA almost immediately thereafter. Since that time, I've managed to attend the majority of the general meetings and more than half of the board meetings.

I've also brought my telescope to a half-dozen or so Houge star parties, helped at a few school star parties, and usually make it to Fremont Peak or another local site at least once per month — usually more.

I have many ideas and improvements that I'd like to see implemented to improve the club, and feel that as a board member I can better steer the club in those and similar directions.

But whether or not I end up serving on the board, I plan to continue attending the meetings and bringing my ideas to them. That said, I urge all members to make an effort to attend at least a few board meetings each year, and bring their own ideas!

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Sec Jim Van Nuland 371-1307
Tres Bob Elsberry 226-4483
Dir Bob Brauer 292-7695
Dir Terry Kahl 629-0563
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School Star Party Chairman

Jim Van Nuland 371-1307

Telescope Loaner Program

Mike Koop 446-0310

Web Page

Bill Arnett billa@znet.com
Scott Wade

TELESCOPE LOAN PROGRAM STATUS

Mike Koop

After 10 years, Paul Barton has retired from the Telescope Loan Program.Thanks Paul for all the hard work and vision you have provided the loaner program. Look forward to consulting with you for many years.

Scope Loans

No.	Scope Description	Borrower	Due Date
1	4.5" Newt/ P Mount	Mark Cousins	11/24/97 Note 1
8	14" Dobson	Steve Sergeant	2/7/98
19	6" Newt/P Mount	Madhava Kidambi	10/15/97 Note 1
21	10" Dobson	Nathan Hill	11/9/97 Note 1
23	6" Newt/ P Mount	Steve Wanamaker	3/13/98
28	13" Dobson	Gennaro Sorrentino	2/1/98
29	C8, Astrophotography	Dean Sala	3/13/98

Extended Scope Loans

No.	Scope Description	Borrower	Due Date
2	6" f9 Dobson	John Paul De Silva	?
3	4" Quantum S/C	David Manley	12/1/97 Note 1
4	60mm Refractor	Del Johnson	Indefinite
6	8" Celestron S/C	Bob Bootz	11/13/97 Note 1
7	12.5" Dobson	Nick Tucci	2/11/98
9	C-11 Compustar	Paul Barton	Indefinite
15	8" Dobson	Alexander Koczur	3/14/98
16	Solar Scope	Jack Peterson	Indefinite
18	8" Newt/ P Mount	Cecelia Yarnell	1/18/98
24	60mm Refractor	Ravi Tembhekar	11/30/97 Note 1

Availible Scopes

No.	Description	Stored At:
26	11" Dobson	Steve Sergeant
27	13" Dobson	Dean Sala
30	7" f/9 Newt/Pipe Mount	David Manley

Waiting List

No.	Scope Description	Standby
6	8" Celestron S/C	Ravi Tembhekar
29	C8, Astrophotography	Michael Lagae

Note 1: Please call and let us know how things are going with the scope

Do you have some space to store a scope or two? Please E-mail or call me. Thanks

All scopes are available to any SJAA member. To reserve a scope, please contact Mike Koop at (408) 473-6315 or email at koopm@best.com.

San Jose Astronomical Association Membership Form

New __ Renewal ___
Membership - $15 ___
Junior (younger than 18 years old) - $6 ___
Sky and Telescope - add $27 to membership
(Sky & Tel will not accept multiyear subscriptions)

Make checks payable to "SJAA"

Bring this form to any SJAA Meeting
or send (along with your check) to
Bob Elsberry, Treasurer
San Jose Astronomical Association,
5380 Pebbletree Way
San Jose, CA 95111-1846
Telephone: (408) 226-4483

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