SJAA EPHEMERIS

Leonids From The Aussie Outback

Bob Ostergaard

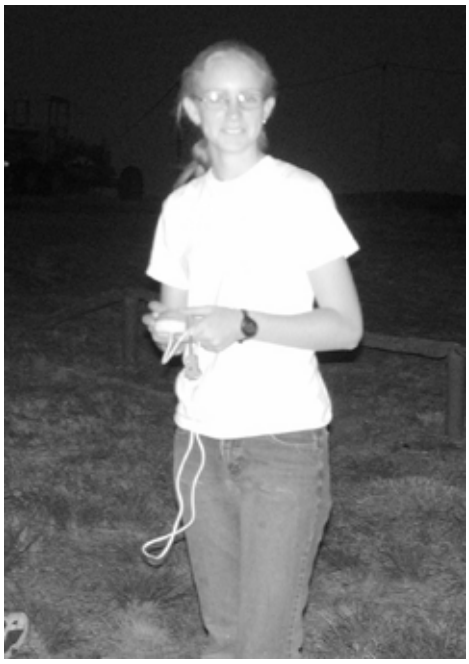
My daughter Kelsie and I had the opportunity for a rare and spectacular astronomical show this weekend (November 18), when the Leonids arrived in Alice Springs in full force. We spent the night of November 18 and the morning of November 19 with several other Australian and American observers outside of town at a dark-sky site that offered a light show from 0100 to dawn.

The observation session was arranged by the Alice Springs Astronomical Society in conjunction with two visiting astronomers from San Francisco, who were working on a Leonids project as volunteers of NASA's Ames Research Center. Morris "Mojo" and Jane Houston Jones are a couple from Marin County, California, who have been enthusiastic amateur astronomers for most of their lives. They brought along hardware and software that allowed observers — usually about eight at a time — to count Leonids in real time with a click of their individual mouses (mice?). (Website at: http://leonid.arc.nasa.gov/)

After a trial run on the night of November 17, we all met at the Bond Springs Station about 20 kilometers outside of Alice (23° 32' 38" S, 133° 55' 18" E) at about 1830, so we could look over the site in daylight. Kelsie helped check up the observers ring, a set of white plastic garden chairs set out in a field with a view in all directions. Each chair was equipped with a mouse port that fed data into Mojo's laptop. The viewing site was within about 100 meters of the nearest phone line, so the data could be shipped back to NASA via the internet as it was gathered. Then we broke for a barbecue at the station as the sun went down.

After dinner my friend Vern and I set up our telescopes down the road apiece for an informal star party, knowing that the Leonids wouldn't start flying until after midnight. I brought my venerable homemade 6" Newtonian Dobsonian, but Vern stole the show with his new Celestron 11" GPS Nextstar. I have only one thing to say about this telescope: if you can afford it, order one from Celestron *now*. This is the best viewing I've ever had through a commercial scope: tack sharp, *bright*, quiet, and just about totally automatic — its built in GPS receiver tells it where it is, and then it

Continued on next page



Kelsie Ostergaard of Alice Springs, NT Australia, collects her assigned mouse for meteor counting during the 2001 Leonid meteor storm.

SJAA Activities Calendar

Jim Van Nuland

January

4 Astronomy Class I. Houge Park meeting room, 7:30 p.m.. Check hotline for more information.
4 Houge Park star party. Sunset 5:04 p.m., 61% moon rises 11:20 p.m.
5 Deep-sky weekend. Sunset 5:03 p.m., 50% moon rises 0:27 a.m.
12 Deep-sky weekend. Sunset 5:10 p.m., no moon.
18 Houge Park star party. Sunset 5:17 p.m., 27% moon sets 10:15 p.m.
26 General Meeting at Houge Park, speaker Mike Bennett of ASP on SOFTA.

February

2 Deep-sky weekend. Sunset 5:32 p.m.
7 Telescope Making Class, Houge Park meeting room, 8:00 p.m. See December SJAA Ephemeris for more information.
8 Astronomy Class II. Houge Park, 7:30 p.m.
8 Houge Park star party. Sunset 5:39 p.m., 7% moon rises 04:45 a.m.
9 Deep-sky weekend. Sunset 5:40 p.m.
16 Telescope Making Class.
22 Houge Park star party. Sunset 5:54 p.m., 77% sets 03:03 a.m..
23 General Meeting at Houge Park, speaker Tim Thompson of NASA/JPL on Stellar Evolution.

Speaker March 30 — Christopher Mauche of Lawrence Livermore Lab, satellite observations of compact binaries.

24 Hour News and Information Hotline: (408) 559-1221
www.sjaa.net

Volume 13 Number 1 Official Publication of the San Jose Astronomical Association, January 2002

Members of the Alice Springs Astronomical Society check out the inadequate posterior support system in the early evening before the peak of the Leonid meteor storm. The author is third from the left.

Aussie Outback Meteors

Continued from previous page

goes to work. Truly excellent optics. As he's remarked in the past, "I don't know about anything else, but with telescopes size *does* matter." Okay, it's not exactly man-portable, but Vern is pretty hefty, so he has no problems moving his new scope around.

The new moon was the first target, and we were easily able to pick out individual details by the Earth shine alone with this monster scope. Even my Dob picked up quite a bit under the excellent viewing conditions. We then ran through a bunch of the basics for club members and guests who were staying at the station (it's also a casual resort).

By 2230 local we were back at the Leonid observation site, and did some final checks to make sure the equipment was up and running — everything worked like a charm. We then did individual tests for limiting magnitude — most people ended up getting down to 6.0 or 6.1 — a very clear dark night, with just a bit of wind.

I have to admit that I punked out at this point, as did Kelsie. She crashed in one of the cabins, and I stretched out on my chaise lounge with a horse blanket to snooze for a while. At 0130 my eyes snapped open as I heard cheers way beyond what you get at fireworks displays as a massive fireball came up over the eastern horizon, zipped right overhead, and continued on over to the western horizon, leaving a bright train that glowed for minutes high in the atmosphere. The best meteor I'd ever seen in my life, up to that moment.

If you've seen the Bruce Willis movie "Armageddon," you have an idea of what it looked like ....

If you've seen the Bruce Willis movie "Armageddon," you have an idea of what it looked like, except none of these meteors hit the ground.

The show continued on from there. Usually at least two or three meteors — and I'm talking magnitude 2 to -2 — were visible at any one time. During the peak of the shower Mojo's software told us that they were coming at a rate of over 2,000 per hour. When you stood up and looked around entering debris could be see in every direction: bright slow ones, faint fast ones, luminous trains like contrails glowing across the sky; meteors coming directly at us like a ball of flame, a Buck Roger's spaceship trailing sparks and debris as it drilled towards my nose. They were everywhere.

Quite frankly it was more and better meteors than I've ever seen in my life, and better than most fireworks displays I've ever seen. I ended up logging 1,596 Leonids, and maybe 10-15 sporadic meteors. Towards the end of the night the radiant of the Leonids was more than apparent, it was a fact of life, like a giant astronomy experiment you've only read about and now see come true.

Kelsie did a great job contributing to the observation team's success. She logged just over 1,000 Leonids, and did her work with enthusiasm and competence. And she had a great time.

The only drawback was the white

Continued on next page

School Star Parties 2002

Jim Van Nuland

Join us for one or all of these school star parties! For more information, visit http://www.svpal.org/~jvn/.

January
8 Meadows Elementary
17 San Miguel School, Sunnyvale
23 Bernal Intermediate, SE San Jose
24 Sakamoto Elementary (3rd try)
25 Holy Spirit, Almaden valley
30 Alternate date

February
6 Alternate date
25 Millbrook School, NE San Jose

March
18 Toyon Elementary, NE. San Jose
19 Laurelwood Elementary, NE San Jose
20 West Valley Elementary, Sunnyvale
21 Silver Oak, far E. San Jose
25 Alternate date, Toyon

Aussie Outback Meteors

Continued from previous page

plastic lawn chairs we had to sit in — these definitely came from the low-bidder on a NASA contract! Luckily we had several comfortable chairs and some swags (sleeping bags) along.

Everyone else on the team was right there, too. Jane and Mojo were well-prepared and competent organizers and observers. They did this work because they love it, and it showed.

Altogether, one of the great observing events of my life, and I doubt it will be repeated. Even as the sky brightened before dawn, raw streaks of light could still be seen, along with several satellites in low-Earth orbit, evidence that we'd passed unharmed through the storm again.

A Meteor Storm to Remember

Ernie Piini

I love to observe celestial displays. I travel the world to gaze at and record eclipses of the sun. I follow passages of comets across the sky. I'm amazed at the sparkle of the stars and their constellations. What I saw on Sunday morning, November 18, 2001, had to be one of the best shows ever! It was the awesome and predicted Leonid meteor shower.

I did not have to travel far to see it. I set up my equipment next to the observatory which houses the 30-inch Challenger Telescope at Fremont Peak State Park (approximately 11 miles south of San Juan Bautista). This location is nestled below the television towers of KSBW Salinas which are 3,169 feet above sea level. This was a favorite hangout of novelist John Steinbeck, who wrote *The Grapes of Wrath*, *Tortilla Flat*, *Cannery Row*, and *East of Eden.*

This show of fireworks lasted from around 1:00 a.m. 'til past 4:00. Curious observers came from all over the Bay Area. They parked their cars along hillside shoulders or any wide spot. They filled all available campgrounds and used up any spot big enough for lawn chairs and sleeping bags. When I drove out around 6:30 a.m. Sunday morning there were cars and sleeping visitors all over the roadside.

I produce a television show called "The Better Part" for the Cupertino Senior TV Productions group. We just completed a 30-minute video titled "The Great Meteor Storm of '99", which will be televised from DeAnza College's Community Cable Access Channel 15 during the first week in December. It featured Michael Koop who traveled with a group of scientists from France, Japan, Canada, Czechoslavakia, the Aerospace Corporation of Los Angeles, NASA and the US AirForce. to view the '99 meteor showers. Valerie Jeffery, a newcomer, ably hosted the show.

I arrived at the observatory around 2:00 p.m. on Saturday to attend a Fremont Peak Observatory Association (FPOA) board meeting. I brought along a copy of the meteor storm video tape for Michael in case he would be at the peak to do his observing. Since the subject for the program for the 8:00 p.m. public meeting had not been settled on, I offered to show the tape. It covered all the questions and answers one would want to know about the Leonids. It also had some great video of what the crew saw during their flight over the Mediterranean Sea in November 1999. The tape was shown three times to near capacity crowds. This gave the public a prelude of what they were to witness a few hours hence.

The afternoon skies were "iffy." The two day old moon appeared sharp for a while then became fuzzy behind intruding clouds. For a time it cleared and then back came the clouds. The front moved in around 9:00 p.m. at which time I thought we would be blanked out. But our patience paid off. The valley fog moved in to cover parts of Hollister, Gilroy and the Salinas Valley, but then the clouds disappeared and the sky turned black. The stars were bright and rich in colors.

My recording equipment consisted of a fast f/1.4, 55mm lens followed by a single stage image intensifier unit and a Hi-8 Camcorder. The image intensifier was a throw away because it had a minor burn area on the screen. It is powered by two AA batteries. I made use of it during the 1977 eclipse in Colombia for a shadow band experiment. Since that time it remained stowed away in my garage. The field of view for this system is about 22 degrees, like looking through a toilet paper tube. This view is about 1/55th of the total visible sky. A wider view would have been better, but the recorded meteor streaks with the 55mm lens were large and impressive.

The first light from this system around midnight was unacceptable. The stars of the constellation Orion bloomed out-of-focus. I needed to move the image tube about 1/16 inch closer to the lens. Since I had mounted this tube back in the '70s, I figured I could take the assembly apart and push the tube forward as needed. I managed to do it in complete darkness without losing any parts. I was then back in business. My first recording of a Leonid occurred at 01:06:14 a.m. My camcorder time display, calibrated with my Global Positioning System, was accurate to within one second of time. It was a lot of fun to scan the sky and capture meteors zipping past star fields like Canis Major, Orion, Taurus and Gemini. It was exciting to observe the Leonids emanating from the radiant which lies within the Sickle of Leo the Lion constellation. I recorded a total of 84 minutes of scanning the sky and captured 145 exciting encounters. Several were bolides (golf ball size stones). One bolide was greenish in color and others left persistent trails, one lasting beyond eight minutes!

Now I'm enjoying editing this treasured video into another great show. I will remember this night of celestial fireworks for the rest of my life.

New Moon

Dave North

Old folks in the astronomy world can tell you it happens just about this time every year: a flood of new telescopes, often owned by the newly star-bitten who are still trying to figure out the basics, find some place to go observing, figure out what kind of eyepiece they really need, how to adjust this or that...

Usually it's Santa's fault, but he ain't going to come by to show you how all this stuff works, so it's up to us to take up the slack.

Let me cut to the chase: point it at the Moon.

This avoids many of the problems you'll run into with other targets.

For one thing, light pollution (what's that? Wasted light blowing up into the sky, that's what) won't wash it out.

It's very easy to find, except when you can't find it at all.

And it will give a tremendous, detailed view in just about any telescope (except the very worst, where it will still give about the best view possible, but it may turn out that what's possible just isn't good enough. Can't help you there).

Every answer raises another question, though. What did I mean by "when you can't find it at all?"

The Moon is visible on the same basic principal as the Sun: you can see it when our side of the earth is facing it, and you can't when we're not. The schedule may be different, but the idea is the same.

Sometimes, from our point of view, it's night with respect to the Moon, too.

This means you won't be able to just pop out any time you want to look at it, any more than you'll have much luck seeing Scorpius right now. For some things, you have to learn the schedule.

This month is going to be a tad frustrating at first. We start it just past full, which means it won't even be rising until after sunset, and won't get high enough for viewing until midnight or so. And that situation will get worse as time goes by.

In fact, you'll soon find the best time to see it is actually early in the morning. If you're like me, though, there is no early in the morning, so it will be later a couple of weeks before you can really get into full swing.

Just about the ides of January, to be exact.

On the other hand, we've been a little behind getting the Ephemeris into the mail lately, and there will have been the usual Post Office Panic at the same time, so the odds are that isn't all that too far away as you read this.

If you start on the fifteenth (and weather permits) you'll have a short night. The Moon will be setting as night falls, and you'll see a nifty little crescent with a fat helping of earthshine in the bowl.

To see detail, hunt the terminator. And no, I don't mean Arnold.

You've heard of moonshine, but earthshine? Yup, it's the reflection of the earth projected onto the Dark Side Of The Moon, lighting it enough to make it stand out from the True Dark Of Space behind it.

If you look closely, you'll be able to see some darker spots in the earthshine — those are Maria, or the dusky "seas" of the Moon. Okay, they're actually massive basaltic flows, but let's not get too technical just yet.

These nights early in the lunation are in some ways the best kind of New Telescope (or even Old, Lazy Telescope) viewing.

Why? For one thing, you won't be out long. For another, anything low in the sky is more affected by Bad Air than things higher up, so you won't be able to do any high-power observing.

What's so good about that? It means any old average eyepiece and telescope will give you a spectacular view of this lowdown Moon. Finding, focusing and tracking are very easy, and your tube will probably be nicely aligned for sitting and pondering a bit.

Another good thing is, there just aren't that many features visible. So if you have a decent map, globe or reference, you can get familiar with some of the easier eastern features without a lot of other Moon to complicate and confuse.

Like most people, you'll probably cop to Mare Crisium first, and perhaps go on to learn Langrenus and Friends, and maybe a few other things.

After that, as each night progresses, you'll be able to look a little longer, pick up a few more names and locations, and find your way around.

Also, as time goes by and you get familiar with your equipment (and the Moon gets higher in the sky, out of that Bad Air We Breathe) you'll be able to use More Power, Captain.

In the long run, that will be the name of the game: power. Getting a real taste for the Moon will require magnification, so you can see all those nifty little things are are just hinted at by low-power gazing.

Which means the Moon is friendly to new scopes in many ways, not the least of which is it introduces itself politely and gives you a chance to get to know it.

The First Big Tip: to see detail, hunt the terminator. And no, I don't mean Arnold. The "terminator" is luno-techno-speak for the line where light meets darkness. A little logic will tell you that's also the area of long shadows, right?

Shadows are your friend when looking at the Moon. It doesn't have much in the way of color contrast, so the best feature contrast is generated when one side is lit and the other dark — it will look at first as if it were an impossibly pearly white and a deep,

Continued on next page

Mooning

Continued from previous page

endless black. But after a while, you'll be able to pick out the rich greyscales involved.

I should mention two things more: an upside and a downside.

The upside is, this time of year the interesting parts of the Moon will be well lit when it's higher in the sky than in summer, so there will be less turbulent air to look through. So when you get a calm, clear night you stand a chance to really crank up your power and get a look at some amazing detail over a quarter of a million miles away.

The downside is, the weather will probably fight you. It may rain, it may be windy, or it may be horribly cold. The good part of Moon observing, however, is the last may not matter much. You can get fine views right from your back yard, and keep a warming device handy (electric blanket, hair dryer, spouse, whatever).

Oh, one last thing. You'll hear from some supposed experts that the Moon is "too bright to look at through a telescope" and might "burn your eyes."

This is the worst sort of idiocy: can't happen. I won't go into scientific proofs right now, I'll just tell you I've looked at the Moon through scopes up to 60-inches with no difficulty.

You may find (if you get dark adapted by accident) that the view can be uncomfortable, particularly at lower powers. This is the same effect you get when walking out of a dark theater to the sunlight — not dangerous, but bothersome.

There are two easy ways to avoid this.

First, use higher powers. This will "dim down" the image and make it more comfortable. If that's not practical, the other possibility is actually fun ... and sinful!

Turn on a light! Use a nice, bright light to read your charts by. That will keep you from getting dark adapted, and you might actually find you have to turn the light down because the image in the eyepiece is getting too dim.

Give it a shot. Everybody is stunned by their first telescopic images of the Moon, but if you approach it right, you may find that surprise and wonder can last a lifetime.

The Shallow Sky

Planets in January 2002

Akkana Peck

I hope you got a good view of the lunar occultation of Saturn on December 27-28! If you're reading this before the event, disappearance is at 12:10 a.m., reappearance at 1:28. If you're reading this after the event and got clouded out, don't worry — you'll get another chance to see a Saturn occultation on Feb 20.

The first day of the new year begins with a Jupiter opposition. The giant planet is about as close to us as it ever gets, and is visible all night long. Near midnight it sits near the zenith, perfectly placed for detailed telescopic observing. We should get an excellent view of the great red spot (GRS), along with the wealth of activity that's been occurring in Jupiter's equatorial bands this year — I've heard reports of numerous barges (dark spots), light colored spots, and a large reddish spot on the opposite side of the planet from the GRS.

There isn't much in the way of multiple shadow transits this month. On the 30th, Callisto's shadow exits the planet at about the time Europa's enters, at about 6:30 p.m., and Europa's shadow proceeds to cross the planet's disk right on the edge of the GRS, with Europa itself preceding. On the 21st starting at nightfall, Io, Europa, and Callisto all dance closely together on one side of Jupiter for several hours (while poor Ganymede holds up the wall on the other side). Take a look, and see if you can tell the moons apart when they're all so close together. (Ganymede, much bigger than the other three, is usually easy to identify, but the other three moons can be tricky to tell apart, especially when they're all close to the planet so you can't use distance as an identifier. Hint: Io is often visibly redder than Europa or Callisto.) As always, you can use my Java Jupiter applet (http://shallowsky.com/jupiter.html) to predict moon, shadow, and GRS positions, if you don't have a planetarium program that shows this information.

While you're waiting for Jupiter to rise out of the muck, feast your eyes on Saturn, which is high enough for good viewing shortly after nightfall, and is still very close to us, only a month past its opposition. Its ring tilt is near maximum — you can follow the outer A ring all the way around the backside of the planet, and the shadow of the planet on the rings should be very nice. With the rings so open, see if you can see the northernmost parts of the globe through Cassini's division in the rings. Try high powers — Saturn is notoriously forgiving of high powers, and looks good in any telescope from small refractors all the way up to big reflectors. Naked eye observers continue to have a lovely view of bright Saturn making its way through the Hyades cluster in Taurus.

The early evening also offers us Mercury, low in the southwest during the first half of the month and showing a gibbous phase — it passes just over a degree away from Neptune (which is otherwise too to faint to be observable in the twilight) on the 9th — and Mars, shrinking in size but still bright enough and red enough to be noticeable. The dust storm which blocked our views during the Martian opposition seems to be fading, but the planet's small size will make it challenging to see any detail.

Venus, Uranus, Neptune, and Pluto are all too close to the sun to be easily observable during January (except on the 7th, when it may be fun to try finding Neptune by its proximity with Mercury).

Tom Whittemore of Evergreen College (left) and Akkana Peck look over some of the telescope making equipment at the December holiday party in preparation for the telescope making class to begin in February.

Lecture on Mars Exploration
January 23 at Foothill College

Andrew Fraknoi

On Wednesday evening, January 23rd at 7 p.m., Dr. Scott Hubbard of NASA's Ames Research Center will give an illustrated talk on "Following the Water: the New Program for Mars Exploration. The event is part of the Silicon Valley Astronomy Lecture Series, at Foothill College in Los Altos Hills.

Admission is free and the public is invited. Call the program hot-line at 650-949-7888 for more information. The series is co-sponsored by the Ames Research Center, the Astronomical Society of the Pacific, the SETI Institute, and Foothill's Division of Physical Science, Mathematics, and Engineering.

The program will be held at Foothill College's Smithwick Theater in Los Altos Hills. From Interstate 280, exit at El Monte Road and travel west to the campus. Park in the first lot you come to and climb the stairs to the theater. Visitors must purchase a required campus parking permit for $2.

Dr. Hubbard will discuss the exciting new discoveries about our neighbor planet and the ingenious new missions that are being planned to get to know Mars more intimately. Evidence is mounting that early Mars (billions of years ago) had a thick atmosphere and rivers of flowing water. Two prime questions scientists are now asking is whether that "golden era" in Mars history might have led to the beginning of life, and how much of the water still remains on or in the planet today.

Scott Hubbard is the Deputy Director for Research at NASA Ames. Before that, he was the first Mars Program Director at NASA Headquarters and helped re-define NASA's Mars exploration plans. He also helped establish NASA's new Astrobiology Institute, serving as its Interim Director. Dr. Hubbard has had a management or scientific role in a number of space missions, including Mars Pathfinder, Mars Odyssey, and Lunar Prospector. Earlier, his research work involved creating new technology for instruments that detect invisible radiation, such as gamma rays.

Over 800 people attended several of the lectures in this series last year. Seating will be on a first-come, first-served basis. Children over 13 are most welcome.

Celestial Calendar
January 2002

Richard Stanton

Lunar Phases:		Date	Rise	Trans	Set
LQ	19:54 PST	05	00:10	05:29	11:53
NM	09:46 PST	13	08:38	12:18	16:00
FQ	19:46 PST	21	11:23	18:11	00:03
FM	14:50 PST	28	15:59	00:31	08:09

Nearer Planets:				R. A.	Dec.
Mercury, 0.83 A.U., Mag. 1.4					
07	08:35	13:32	18:31	20:30.5	-20:28
17	08:13	13:26	18:39	21:06.0	-15:54
27	07:03	12:16	17:30	20:38.9	-14:59
Venus, 1.71 A.U., Mag. -3.9					
07	07:21	12:08	16:55	19:05.9	-23:13
17	07:29	12:22	17:16	19:59.9	-21:34
27	07:32	12:35	17:39	20:52.2	-18:51
Mars, 1.61 A.U., Mag. 0.5					
07	10:38	16:30	22:22	23:29.6	-03:55
17	10:15	16:17	22:19	23:56.2	-00:51
27	09:53	16:04	22:15	00:22.6	+02:12
Jupiter, 4.23 A.U., Mag. -2.7					
07	16:18	23:39	07:05	06:42.6	+23:06
17	15:33	22:54	06:20	06:37.0	+23:13
27	14:48	22:10	05:37	06:32.1	+23:18
Saturn, 8.37 A.U., Mag. 0.6					
07	14:18	21:27	04:41	04:30.1	+20:02
17	13:37	20:46	03:59	04:28.1	+19:59
27	12:56	20:05	03:19	04:26.7	+19:59

SOL Star Type G2V Intelligent Life in System ?

Hours of Darkness						
11:12	07	07:23	12:14	17:06	19:12.9	-22:23
11:03	17	07:20	12:18	17:16	19:56.2	-20:45
10:49	27	07:15	12:20	17:27	20:38.3	-18:29

Astronomical Twilight:		Begin	End
JD 2,452,281	07	05:50	18:38
291	17	05:49	18:47
301	27	05:45	18:56

Sidereal Time:

Transit Right Ascension at Local Midnight

07	00:00 = 06:59
17	00:00 = 07:38
27	00:00 = 08:18

Darkest Saturday Night: 12 Jan 2002

Sunset	17:10
Twilight End	18:42
Moon Set	16:29
Dawn Begin	05:50
Hours Dark	11:08

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Ephemeris Staff

Editor Jane Houston Jones (415) 453-2885
Editor Morris Jones (415) 453-2885
Circulation
Bob Brauer (408) 292-7695
Lew Kurtz (408) 739-7106
Dave North (408) 297-5257
Printing Accuprint (408) 287-7200

School Star Party Chairman

Jim Van Nuland (408) 371-1307

Telescope Loaner Program

Mike Koop (408) 446-0310

Web Page

Bill Arnett bill@nineplanets.org

Publication Statement

SJAA Ephemeris, newsletter of the San Jose Astronomical Association, is published monthly, 12 times a year, January through December.

San Jose Astronomical Association,
P.O. Box 28243
San Jose, CA 95159-8243

SJAA Loaner Scope Status

All scopes are available to any SJAA member; contact Mike Koop by email (loaner@sjaa.net) or by phone at work (408) 473-6315 or home (408) 446-0310 (Leave Message).

Available Scopes

These are scopes that are available for immediate loan, stored at other SJAA members homes. If you are interested in borrowing one of these scopes, please contact Mike Koop for a scope pick up at any of the listed SJAA events.

# Scope	Description	Stored by
1	4.5" Newt/ P Mount	Tim Roberts
3	4" Quantum S/C	Hsin I. Huang
7	12.5" Dobson	Bruce Horton
8	14" Dobson	Jack D. Kellythorne
10	Star Spectroscope	Steven Nelson
15	8" Dobson	Daron Darr
19	6" Newt/P Mount	Ilkka Kallio
24	60mm Refractor	Al Kestler
27	13" Dobson	Gene Schmidt
32	6" f/7 Dobson	Sandy Mohan

Scope Loans

These are scopes that have been recently loaned out. If you are interested in borrowing one of these scopes, you will be placed on the waiting list until the scope becomes available after the due date.

# Scope	Description	Borrower	Due Date
6	8" Celestron S/C	Patrick Whalen	11/10/01
11	Orion XT6 Dob	Wai Tuck-Low	1/27/02
12	Orion XT8 Dob	Kevin Roberts	12/12/01
13	Orion XT6 Dob	Tobias Giles	1/12/02
16	Solar Scope	James Turley	1/13/02
23	6" Newt/P Mount	Wensheng Hua	1/27/02
26	11" Dobson	Tajinder Singh	1/12/02
31	8" f/8 Dobson	Jan Lynch	1/27/02

Extended Scope Loans

These are scopes that have had their loan period extended. If you are interested in borrowing one of these scopes, we will contact the current borrower and try to work out a reasonable transfer time for both parties.

# Scope	Description	Borrower	Due Date
2	6" f/9 Dob	John Paul De Silva	?
9	C-11 Compustar	Paul Barton	Indefinite
14	8" f/8.5 Dob	Dennis Hong	1/28/02
21	10" Dobson	Ralph Seguin	Repair
28	13" Dobson	Michael Dajewski	12/31/01
29	C8, Astrophotography	Eric Anderson	11/27/01

Waiting List: Orion 8", Dennis Hong; 4" Quantum S/C, Eric Anderson
Loaner Notes: Please let me know if you have storage space for a telescope or two!

Submit

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