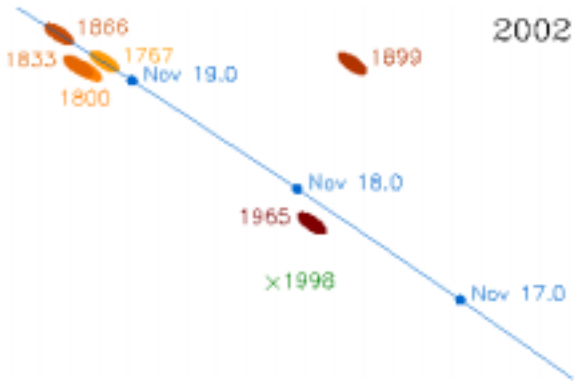
SJAA EPHEMERIS

Leonids peak November 19th

Jane Houston Jones

As in years past, several SJAA members will be participating in the NASA Leonid Multi-instrument Aircraft Campaign (MAC). This year two aircraft will fly from Edwards AFB/NASA Dryden to Torrejon AFB in Spain and back to Edwards. Mike Koop will be on the USAF FISTA (Flying Infrared Signature Technology Aircraft) — a modified NKC135-E with 20 upward-looking window ports oriented at different angles for maximum coverage of the sky. Jane and Morris Jones will be aboard the NASA DC-8 Airborne Laboratory. The DC-8 can accomodate remote sensing instruments at the zenith, 8 degree, and 62 degree elevation viewports.



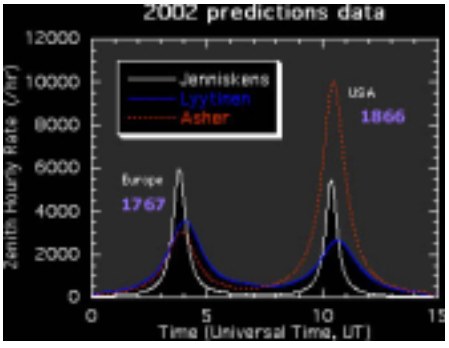
In 2002, Earth will travel through the dust of Comet 55P/ Tempel-Tuttle ejected in 1767 (visible from Europe at 0400 UT) and 1866 (visible from the Americas at 1036 UT). Image courtesy of David Asher, Armaugh Observatory

After landing in Spain two days before the storm night we'll do some meteor counting practice, some mandatory crew rest and some sightseeing and then we'll fly west into the two Leonid meteor storms, one over Europe, and one 6 hours later over the USA, before landing at dawn at Offut AFB in Nebraska.

We'll fly and observe the storm from above clouds and water vapor and away from city lights. The mission web site at http://leonid.arc.nasa.gov/ offers a Java applet that shows what rates to expect from your location. The rate estimator is here: http://leonid.arc.nasa.gov/estimator.html. It nicely demonstrates the change in rates between viewing from downtown, the suburbs, the countryside, or best, in the mountains.

We hope the November skies at all of our favorite local dark sites will be cloud free and meteor rich! Send your Leonid tales to the SJAA Ephemeris editors at ephemeris@whiteoaks.com. It will be the last time in our lifetime for Leonid storm reports after all!

— Jane Houston Jones, jane@whiteoaks.com



This graph shows the expected variation of Leonid meteor activity (in numbers per hour under ideal observing conditions). Image courtesy of Peter Jenniskens, SETI Institute

SJAA Activities Calendar

Jim Van Nuland

November

1 Astronomy class. Houge Park, 7:30 p.m.
1 Houge Park star party. Sunset 5:10 p.m., 11% moon rises 3:48 a.m.
2 Deep sky weekend. Sunset 5:07 p.m., 4% moon rises 5:01 a.m.
9 ATM class. Houge Park, 7:30 p.m.
10 **Sunday** Swap meet. Houge Park, noon to 4:00 p.m.
15 Houge Park star party. Sunset 4:58 p.m., 87% moon sets 3:32 a.m.
16 **General meeting**, Tony Misch, Lick Observatory, Houge Park. 8:00 p.m. *See inside*
21 ATM class. Houge Park, 7:30 p.m.
29 Houge Park star party. Sunset 4:51 p.m., 23% moon rises 2:40 a.m.
30 Deep sky weekend. Sunset 4:50 p.m., 14% moon rises 3:50 a.m.

December

5 ATM class. Houge Park, 7:30 p.m.
7 Deep sky weekend. Sunset 4:49 p.m., 18% moon sets 8:20 p.m.
13 Houge Park star party. Sunset 4:51 p.m., 73% moon sets 2:20 a.m.
14 **General meeting**, Houge Park. 8:00 p.m.
21 ATM class. Houge Park, 7:30 p.m.
28 Deep sky weekend. Sunset 4:58 p.m., 26% moon rises 2:20 a.m.

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

SJAA 2002 fall swap meet

The SJAA swap meet will be conducted at Houge Park in San Jose Sunday November 10, 2002 at 1:00 p.m.

Telescopes, eyepieces, mountings, mirrors, lenses, clock drives, books, camera equipment, star charts, finders, tubes, diagonals, photographs, space art — everything you need to make your hobby more enjoyable. You name it, it's likely to be there! Check your garage and closets for anything astronomical you would like to sell. Anyone can buy and sell! It's fun and easy! This is the second year for the swap, which is follow on to the spring auction that has been run for twenty-two years. There is no auction, just the swap sale. Get your holiday shopping done early this year! Joe Sunseri of Earth and Sky Adventures is expected to be there with many fine new and used items.

Doors open at 12:30 a.m. to set up tables and bring in material for sale. Selling will begin at 1 p.m., and will run as long as needed (probably 3 p.m.). Each buyer pays the seller. Sellers are to keep track of their sales and pay 10% commission (fully tax deductible), with a cap of $50 for any one item, $500 maximum per seller. There are no table fees. Please bring items that would interest the astronomical audience such as astronomical stuff, science items, and tech items. The SJAA reserves the right to turn away inappropriate items for the swap.

Do you have a large item to sell such as a telescope? Please email swap@sjaa.net with a description and a photo of the item or a link to your own website for some pre-swap publicity.

For more Information and directions, visit our web site at http://www.sjaa.net/swap.html

November speaker Tony Misch

Bob Havner

The November 16th meeting will feature Tony Misch of Lick Observatory. Tony will be speaking on the early solar eclipse expeditions of Lick Observatory. This is a must see for those of you going to far away lands to view December 4th's eclipse!

In the Shadow of the Moon: The Eclipse Expeditions of the Lick Observatory

Until well into this century, the nature and causes of the sun's outer atmosphere, the corona, were poorly understood. Total eclipses of the Sun provided the only chances to study the corona and other phenomena. Opportunities to observe eclipses were eagerly pursued.

Beginning in 1889, a year after its founding, the University of California's Lick Observatory inaugurated a series of expeditions to observe total solar eclipses. The tradition of Lick eclipse expeditions would continue for more than forty years. Observers and instruments traveled many thousands of miles, often to remote and exotic locations, to place themselves in the path of an eclipse.

In addition to their scientific contribution, the Lick expeditions left invaluable written and photographic records of their travels. More than 200 images on glass plates showing the eclipse stations and their surroundings — many virtually forgotten since they were made — have recently been brought back to light.

The written and photographic records left behind by the members of the expeditions form the basis for the talk. It is largely pictorial, having first developed around Misch's rediscovery of the many glass plate negatives of the camps, instruments, and surroundings at the eclipse stations — most unpublished and long unseen.

— *Bob Havner*, bhavner@earthlink.net

The Shallow Sky

Saturn spoken here

Akkana Peck

It's time to dust off that telescope and have a look at Saturn!

The ringed planet is visible most of the night throughout November, hanging in Taurus off the end of the bull's left horn. And it's nearly as far north as it ever gets — that means, to those of us in the northern hemisphere, that it rises higher in the sky, where there's less atmosphere waving and rippling and obscuring our view of the details of the planet and its ring system.

What can you expect to see? Well, first of all, any telescope will show you Saturn's rings — and that's an unreal sight the first few times you see them. Come to think of it, it's still an unreal sight decades later. Since Saturn is not yet at opposition (the point at which it's on the side of us opposite the sun), from our vantage point the planet is casting a shadow onto its ring system, which makes the view look eerily three-dimensional. (Around opposition, which is December 17, this shadow will get difficult to see, then gradually it will reappear on the east side of the planet.)

Look closer at the rings, and in nearly any telescope, unless the air is extremely unsteady, you'll see that it's really two rings: a broad inner ring, covering about 2/3 the width of the ring system, called the "B" ring, and a thinner outer "A" ring. The gap separating the A and B rings is called Cassini's division, after Giovanni Cassini, who first noticed the gap in 1675.

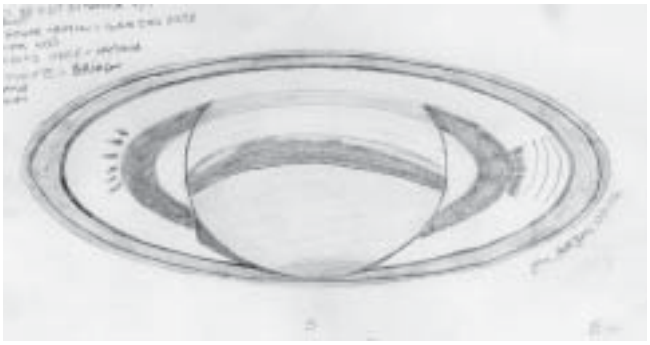
Look closely at the area just inside the B ring. There's actually a third ring there, called the "Crepe ring" or just the C ring. It's different from the other two: It reflects a lot less light than the other two, so it appears as a shadowy grey band, and it's easy to miss. The crepe ring is a funny thing — sometimes it shows up easily in an 80mm telescope, and other times it's hard to see in a 10". I suspect it's a

Continued on next page

Saturn

Continued from previous page

function of the sky's transparency, since the crepe ring is rather dim. Sometimes it seems to show up better in refractors than in reflectors, but that's not always the case. Don't be discouraged if you don't see the crepe ring right off; keep trying, and remember to look for it whenever you look at Saturn. When you do see it: what happens where the crepe ring crosses in front of the planet? Do you see the planet showing through the ring? Do you see the ring at all, standing out from the planet? This, too, may vary with your sky conditions, and it's an interesting feature to watch.



Saturn sketch by Jane Houston Jones, from observations on October 5, 2002, using an AP180EDT f/9 refractor at 480x.

While you're looking at the planet, don't forget to look for markings on its surface! Saturn is a much more subtle planet than Jupiter, with bands of yellows and off-whites and light-browns rather than Jupiter's reds and creams and blue-greys. The features, too, are a lot more subtle — few festoons or swirls or lingering storms —but often you can pick up white spots in the polar region (the south pole is the one visible to us now, since Saturn is on the more northern side of its orbit) or in the equatorial bands. A relatively large telescope with excellent contrast will help here — notice some of the details in the rings that Jane Houston Jones picked up in her sketch early last month through a 7" refractor. This month the planet will be both higher and closer: if you find yourself armed with good seeing and a good telescope, do look at the planet's globe!

You're seeing the Cassini division and the Crepe ring easily, and some details on the planet, and you want a little more challenge? There's lots more to see on Saturn. First, there's the gap in the A ring. There's some controversy over this gap: spacecraft photos show a hair-thin gap which is named after Johann Franz Encke; but what amateur observers from earth see is usually a much broader and less sharply defined dark area. This area was seen by several observers, such as Keeler and deVico, long before Encke's A ring observations; and Encke's sketches also show this gradual darkening rather than the sharp gap which is named after him. This darkening we see with earth-based telescopes doesn't correspond very well to what shows up on spacecraft photos. Is it an optical illusion caused by almost seeing the sharp Encke gap, or are we seeing something else entirely? The mystery continues, and many Saturn observers refer to the "Encke smudge", or, sometimes, the "Keeler or deVico smudge" to distinguish it from the sharp gap that appears in photos.

Want more? You've probably seen NASA photos of Saturn showing radial spokes in the B ring. What you may not know is that amateurs reported those spokes from telescopic observations before they showed up in spacecraft photos. It's somewhat rare to have a night good enough to see this level of detail, but it does happen, and it doesn't take a huge amount of aperture (again, see Jane's sketch for an example of what can be seen with an excellent 7").

This should be enough to get started ... get out the telescope and take a look! Oh, I'll be updating my Saturn's moons program soon; check shallowsky.com for more information.

In other planetary news: Uranus and Neptune are still well placed for evening observations, in Capricornus. Jupiter rises a few hours after Saturn, and is always an impressive sight. (I'll talk more about Jupiter next month.) Venus and Mars are both in the predawn sky, Venus showing a slim crescent that should offer a nice reward to early risers. Mercury and Pluto are too close to the sun for good observation this month.

— *Akkana Peck*, observer@shallowsky.com

Mooning

Don't forget your Leonid cap

Dave North

This month's question: what do you do when the Leonids are gonna be good, but it's a full Moon?

As the song goes: Look Away.

However, it will be just about as full as a Moon can get without actually being completely full, which isn't the most fun. What's worse, there won't be any strong librations ... which can make a near-full Moon an outstanding view ... but won't.

So what to do?

First, don't go anywhere unless you need to get away from clouds, or nearby lights are almost blinding. No matter where you go, there will still be plenty of light from the Moon. This does make choosing your observing site a little less demanding.

On the other hand, if it looks like there will be low clouds (but not high) it will mean going up some nearby mountain.

If you have to do that, you'll probably end up with some time on your hands, and might even want to look at the Moon.

Early on, it will be low in the sky.

Continued on next page

Mooning the Leonids

Continued from previous page

Probably you'll be getting to your observing spot later, since there's not much point in freezing all the way from sundown. If you are there early, though, you'll start with a deeply colored Moon near the horizon at dusk. That's a fine view in and of itself!

But the seeing won't be good. When that's the case, you're better off at low power, which means you'd better have a Moon filter.

I know, I'm no big fan of them, but this is one of the times when it would be handy. Best for such a situation is the standard old grey filter, usually sold (for example, by Orion) as a ... Moon Filter.

The dual polarized adjustable whammy filters tend to have internal reflections and flaws that kind of mess up the view, in my opinion, and I don't like them.

But there's a particularly good reason for a Moon filter tonight: you do not want to completely blast out your dark adaption to the point where your eyes are too dazzled to see a long burner if you hear the beginning of the oohs and ahhhs...

Full Moon is particularly good for observing rays (the bright radial lines coming from younger craters) and maria near the center of the disk.

(Maria are the darker areas, the remains of huge and ancient impacts that filled eventually with basalt, which is darker than the typical "highland" material).

The contrast between the dark "seas" and light "highlands" is particularly sharp at full Moon.

As the Moon comes up the seeing will improve. This gives you a chance to try some more detailed observing.

The first thing to do will be to take a look at the western (left) side, where there should be a terminator still.

Of particular interest will be the outer ring of Mare Orientale, the freshest of the huge impacts. The 'shock rings' are apparently a kind of resonance effect from such a huge impact, and if you've seen pictures of Orientale "from above" you know it looks like some weird dartboard or "bullseye."

The libration toward us will be quite weak — only a couple of degrees — or this would be a pretty good night for observing Orientale.

However, if you're up long enough, you should be able to glance now and then with any reasonable power and watch the light change.

Also of interest will be Bailly in the south (a huge old crater) and probably Pythagoras in the north. The latter has a way of presenting itself as an "edge on" crater, where you can look across it and see the terraces of the far wall.

It's hard to predict when the light will be exactly right for this to be really cool, but Leonid night offers an opportunity.

There may be several lesser 'edge' craters too, so they might be fun.

About now, however, you should be getting near midnight (and the Moon seemingly nearly overhead). At that point, you should pretty much be paying attention to large areas of the sky. The radiant has risen and you're moving into prime time.

So here are a couple of clues:

Often, the most spectacular meteors are early on, since they have a better chance of 'planing' the atmosphere, or even skipping. This makes for long or multiple trains all the way across the sky, which is wonderful. This is less likely later.

And here's a very useful tip: take a baseball cap (or something like it, with a bill). You can rotate it around and up or down to just block out the glare of the Moon, which will help.

If we get lucky and the moisture (and/or dust) level is low, you may find the Moon is not particularly a problem for meteor watching, especially if the action is fifteen or more degrees removed.

On the other hand, if there are hazy clouds, it may blow out just about everything.

A moderate hope would be only the dimmest meteors are washed out, and who cares about those except Peter and Mike? We're there for the Big Bada Booms!

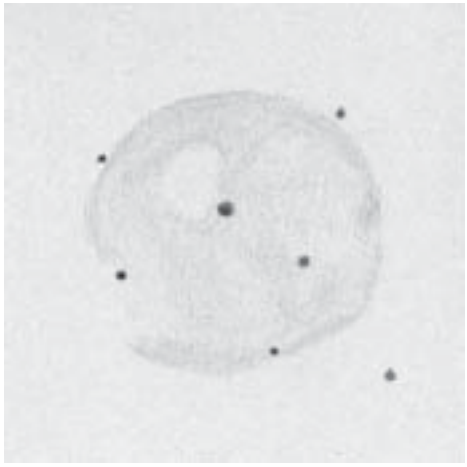
— *Dave North*, north@znet.com

Out There

Deep Sky November

Mark Wagner

This time of year south bay amateur astronomers look forward to observing from Dinosaur Point, arguably the darkest local site. Use conditions currently include access only via special arrangement with the park administration, so if you want to go it is best to watch for discussions on TAC's mailing list at http://www.observers.org to see when "gatekeepers" will be going.



NGC246 sketch by Andreas Domenico.

Located at the end of the Dinosaur Point Road at the summit of Pacheco Pass on Highway 152, between Hollister and Los Banos, this site can be excellent when winds die down between October and March. It features a large paved parking lot with shaded picnic benches, barbeques, bathrooms and a wonderfully tranquil atmosphere. But, do not attempt to go casually to this site. While the drive is no longer than to Fremont Peak or

Continued on next page

Out There

Continued from previous page

Henry Coe, knowing a group leader (gatekeeper) is going, and what times people will be able to leave during the night will prevent your being locked out.

This month our two hour eastern observing window beginning at astronomical dark is between right ascension 23h 30m and 1h 30m. Some outstanding targets are in that swath of sky — I'll include observing notes from several local deep sky observers.

Begin with NGC157 in the south, an elongated mag 10.4 galaxy in Cetus that appears dimmer with a surface brightness of 12.9 due to its large 4.2 x 2.7 size. Richard Navarrete described it as "big and bright between two bright stars" reminding him of M1 (12.5" dob).

Robert Leyland used a 17.5" newtonian to report on one of my favorite planetary nebulae NGC246, also in Cetus. "A really nice spherical outline, enhanced by changes in brightness across the face really pop this one into full 3-D perspective. Four brightish stars inside the nebula and a couple outside provide great contrast with the gauzy nebulosity. It is a fine sight at 100x, and an OIII filter at 200x provided wonderful contrast, clearly showing the increasing brightness on the edges of the bubble. One side of the nebula did seem a touch fainter also."

David Kingsley viewed NGC246 in a 7" Newtonian — "NGC246 is a beautiful large textured planetary nebula floating superimposed on 4 or 5 stars. This is one of the brightest, biggest, and most interesting planetaries I have seen that has not been awarded a common name." However, NGC2 246 has been (unofficially) referred to as the "Skull Nebula" and recently the "Voodoo Mask" Nebula. It shines at mag 10.9 and is large at 240" x 210".

While in the area, drop down from 246 to NGC253. If you have not seen this target before you are in for a great treat! NGC253 rivals any of the big bright Messier galaxies.

Jamie Dillon used an 11" Dob to report "NGC253 was once again unbelievable, the big galaxy with the long shapely legs in Sculptor, clear dust lanes, looping arms. Phwoo." This one is a must see!

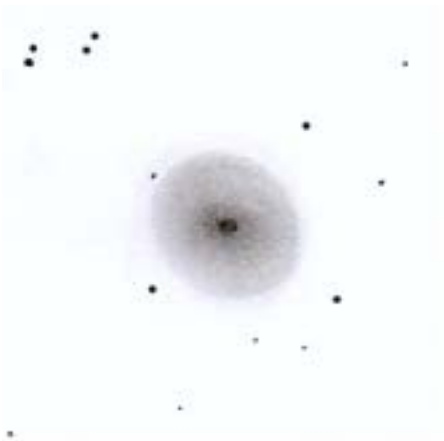
Take a quick side trip a few degrees south to see globular cluster NGC288. William Schultz remarks that in his 11" SCT the globular "was not too populated and very easily resolved below 200X." NGC288 has a visual magnitude of 8.1.

Before leaving Cetus follow Albert Highe's view though his 12.5" Newtonian of NGC584 a 4.2 x 2.3 mag 10.5 glow with a surface brightness of 12.9. Albert reports: "One of the highlights of that evening was a string of four galaxies in Cetus spanning approximately two degrees: NGC584, 596, 615, and 636."

Of course this time of year everyone will want to enjoy views of our sister galaxy, M31 The Great Andromeda Galaxy. On good nights you can see two prominent dust lanes and the glow of NGC206 a bright cluster of blue super giant stars in the galaxy's arms. Look too for the nice satellite galaxies M32 and M110 both worthy targets that would be more famous were they not situated so close to M31. Don't forget to look at the big galaxy in binoculars to appreciate its entire expanse in a single view.

If you didn't know, M110 and M32 are not M31's only satellite galaxies.

NGC185 is another. Its magnitude is 10.10, but the large angular size dims it considerably. NGC185's surface brightness is only 14.3. I estimated its size at about 10'x10', found it to contain a bright core and a possible hint of a spiral arm or some form of elongation along the object's western extremity.



NGC185 sketch by Andreas Domenico.

NGC253 sketch by Andreas Domenico.

NGC278 sits very close to NGC185. NGC278 is a bright and compact round galaxy with a bright core, at magnitude 11.5, surface brightness 12.2, and 2'x2' in diameter. The core seems to diminish noticeably about 2/3rds of the way toward its periphery. Look too at NGC147 also in the area, and another satellite of M31.

Want a really easy target? NGC404, a pretty bright round galaxy that resides in the same field as bright star Beta Andromedae. Bruce Jensen reports "The two make a striking pair, the bright pinpoint and the faint cottonball. The galaxy was plenty bright enough to overcome the distracting light of the star, which is not always the case with this type of arrangement."

Finally, Robert Leyland, using an 8" Newtonian writes "NGC436 & NGC457 — next to phi Cassiopeia, a neat little double star (wide separation), forms the edge of open cluster NGC457, two wings of stars spread out on either side of the cluster and give it the look of an F/A-18 on afterburners, with phi Cas being the engines. (45x)."

Ahead of 457 (in the direction the plane is flying :-), is NGC436 a small knot of stars. Going to higher magnification (85x) shows numerous fainter stars in the core area, returning to 457 at this same power show many double stars inside the cluster. Maybe NGC436 is the "target" of 457.

— *Mark Wagner*, mgw@resource-intl.com

The hearty Calstar crowd of intrepid observers gathered for a group photo.

Calstar scores big with California astronomers

Mark Wagner

Thanks to Mike Koop for his support and enthusiasm again this year helping organize Calstar. And thanks to the SJAA board for making the catered dinner possible. The entire event went off without a hitch and was enjoyed by all. The SJAA continues to differentiate itself from other clubs in the most positive of ways, by offering a unique program like Calstar. Amateur astronomers from north bay to Chico to Sacramento, south bay, Monterey, Bakersfield, San Luis Obispo, Atascadero, Santa Barbara, LA, Orange County and San Diego attended. Nice going SJAA!

Preparation is the key to an all-night observing session. Photo of Calstar organizer Mark Wagner by Randy Muller.

Next year I would like to look into: A) A repeat of the catered dinner for Saturday. B) Possibly having In-And-Out Burger cater on Friday for dinner. C) A big pot-luck on Thursday for dinner. D) Extending the event through Sunday night (several requests for this) E) Finding a way to offer espresso during the night. F) Daytime events — I like the winery tour idea.

I also have some good information from Robert Shelton (Lassen attendee over many years) he brought back from the Mt. Bachelor Star Party showing several daytime events that might work at Calstar.

And on a personal note, Mike ... next time *you* can drive to place the signs on the road ;-)

Silicon Valley astronomy lecture series

Wednesday, Nov. 13th, 2002, 7 p.m.:

Dr. Arno Penzias, recipient of the 1978 Nobel Prize in physics, will give a non-technical illustrated talk on: *A Personal View of the Big Bang* in the Smithwick Theater, Foothill College, El Monte Road and Freeway 280, in Los Altos Hills, California. The lecture is free and open to the public. Call the series hotline at 650-949-7888 for more information.

Co-sponsored by: NASA Ames Research Center, Foothill College Astronomy Program, SETI Institute, and the Astronomical Society of the Pacific

In this rare public appearance discussing the work that earned him the Nobel Prize, Dr. Penzias will describe how he and Robert Wilson used a sensitive radio telescope at Bell Laboratories in the 1960's to detect the "radiation echo" of the Big Bang — showing that the universe did indeed begin in an unimaginably hot, dense, explosive state.

Celestial Calendar November 2002

Richard Stanton

Lunar Phases:		Date	Rise	Trans	Set
NM	12:34 PST	04	06:17	11:53	17:19
FQ	12:51 PST	11	13:23	18:29	23:40
FM	17:33 PST	19	16:51	00:06	06:29
LQ	07:45 PST	27	00:20	06:15	13:12

Nearer Planets:				R. A.	Dec.
Mercury, 1.44 A.U., Mag. 1.3					
07	06:19	11:37	16:54	14:33.2	-16:15
17	07:02	12:01	16:59	15:36.6	-19:51
27	07:43	12:27	17:11	16:42.1	-23:43
Venus, 0.30 A.U., Mag. 5.5					
07	05:52	11:01	16:10	14:00.7	-16:44
17	04:50	10:12	15:34	13:50.6	-13:08
27	04:10	09:38	15:06	13:55.2	-11:15
Mars, 2.37 A.U., Mag. +1.4					
07	04:08	09:56	15:45	12:54.6	-04:45
17	04:00	09:41	15:21	13:18.3	-07:14
27	03:52	09:25	14:58	13:42.4	-09:38
Jupiter, 5.07 A.U., Mag. 2.3					
07	23:20	06:20	13:16	09:18.1	+16:19
17	22:44	05:43	12:38	09:20.9	+16:08
27	22:06	05:05	12:00	09:22.5	+16:03
Saturn, 8.19 A.U., Mag. +0.4					
07	19:34	02:55	10:12	05:53.1	+22:06
17	18:52	02:13	09:31	05:50.7	+22:05
27	18:10	01:31	08:48	05:47.8	+22:04

SOL Star Type G2V Intelligent Life in System ?

Hours of Darkness						
10:38	07	06:39	11:51	17:04	14:48.9	-16:15
10:53	17	06:49	11:53	16:56	15:29.6	-18:57
11:06	27	07:00	11:55	16:51	16:11.6	-21:06

Astronomical Twilight:		Begin	End
JD 2,452,585	07	05:10	18:32
595	17	05:19	18:26
605	27	05:28	18:22

Sidereal Time:

Transit Right Ascension at Local Midnight

07	00:00 = 02:57
17	00:00 = 03:37
27	00:00 = 04:16

Darkest Saturday Night: 2 Nov 2002

Sunset	17:09
Twilight	18:37
Moon Rise	03:47
Dawn Begin	05:05
Hours Dark	10:29

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

Submit
Submit articles for publication in the SJAA Ephemeris. Send articles to the editors via e-mail to ephemeris@sjaa.net.

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	Annette Reyes
10	Star Spectroscope	Lew Kurtz
24	60mm Refractor	Al Kestler
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	Anand Acharya	12/13/02
8	14" Dobson	Ron Gross	1/19/03
11	Orion XT6 Dob	Krishna Seshan	11/16/02
12	Orion XT8 Dob	Rajeev Joshi	10/19/02
13	Orion XT6 Dob	Mark Ziebarth	10/19/02
14	8" f/8.5 Dob	Patrick Lewis	12/21/02
15	8" Dobson	Vikram Keshavamurthy	12/13/02
19	6" Newt/P Mount	Daryn Baker	12/27/02
23	6" Newt/P Mount	John Bunyan	11/30/02
26	11" Dobson	Jan Lynch	1/19/03
27	13" Dobson	Richard Savage	12/21/02
29	C8, Astrophotography	Murali Balasubramaniam	12/27/02
33	10" Deep Space Explorer	Tod Irwin	11/28/02
34	Dynamax 8" S/C	Lee Barford	11/16/02
35	Meade 8" Equatorial	Carl Ching	12/13/02
37	4" Fluorite Refractor	Steve Sergeant	11/16/02
38	Meade 4.5" Digital Newt	Tej Kohli	1/12/03

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	?
3	4" Quantum S/C	Hsin I Huang	10/8/02
7	12.5" Dobson	Michael Lagae	10/19/02
9	C-11 Compustar	Paul Barton	Indefinite
16	Solar Scope	Bob Havner	11/18/02
21	10" Dobson	Ralph Seguin	Repair
28	13" Dobson	Michael Dajewski	10/31/02
36	Celestron 8" f/6 Skyhopper	Tajinder Singh	12/27/02

Waiting List:

3	4" Quantum S/C	Eric Anderson
8	14" Dobson	Doug Hendrix
10	Star Spectroscope	David Kingsley
13	Orion XT6 Dob	Lakshminarasimhan Venkatavaradan
16	Solar Scope	Suzanne P., Dwight Elvey, Jim Turley
32	6" f/7 Dobson	Vinod Nagarajan
36	Celestron 8" f/6 Skyhopper	Mik Macedo

San Jose Astronomical Association Membership Form

New __ Renewal __
Membership - $15
Junior (younger than 18 years old) - $6
Sky and Telescope - add $30 to membership
(Sky & Tel will not accept multiyear subscriptions)

Please write one check for the total payable to "SJAA"

Bring this form to any SJAA Meeting
or send (along with your check) to

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

Name: _____

Address: _____

_____

Phone: _____

e-mail address: _____

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**Swap meet! Sunday,
November 10, Houge Park**