The Ephemeris

May 2013
Volume 24 Number 5— The Official Publication of the San Jose Astronomical Association.

Houge Park May Events

5/3
Beginner Class 8:00 p.m.
Star party. 9 p.m. - midnight.

5/5
Solar observing. 2 - 4 p.m.
Fix-It Day 2 - 4 p.m.

5/17
7:00 p.m. Board Meeting
Star party. 9:15 p.m. - midnight.

5/24
Beginners Imaging Group 7:30 - 9 pm

5/25
7:30 - 8 p.m. Social time pot luck
8 - 10 p.m. Speaker: Timothy Ferris
"Keys to the Universe".

5/31
Beginners Class 8 - 9 p.m.
Star party 9:15 - midnight.

SJAA Contacts

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Vice President:	Lee Hoglan
Treasurer:	Michael Packer
Secretary:	Teruo Utsumi
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Director:	Greg Claytor
Director:	Mina Wagner
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Speakers:	Teruo Utsumi

From the Editor - Mina Wagner

Dear SJAA members,

Do not adjust your screen. This Ephemeris does look different. It is the first one with yours truly as editor. The Kohlmillers did such a great job for so long that I have huge shoes to fill. I only ask you for your patience.

My goal is to make the Ephemeris a reflection of the "new" SJAA, the increasing activities, and dynamic Board of directors. I would like us to be a close-knit community and hopefully the Ephemeris will help everyone keep up with our comings and goings and maybe you will join us for some of them. We have many plans and, with your help, we will be able to achieve them easily.

Please feel free to submit suggestions and comments, and we can also have a letters to the editor section.

SJAA member Photo of the month: Comet PanSTARRS and M31—Rogelio Bernal Andreo

In this issue:

About the SJAA

We are an open and welcoming club. If you have an idea, an interest, energy, you are encouraged to make it happen at the SJAA.

Contact our Board of Directors and let them know. They are interested, and just like you they do what they do in order to advance and share those things that are meaningful and interesting to them. They are much like you.

A club is only as vibrant and enjoyable as its members make it. Make that the SJAA.

Gas Giant Party
Shallow Sky

By Akkana Peck

May is a gas giant party -- because Jupiter and Saturn are the only planets available to look at this month.

Saturn is visible all evening, having just passed its April 28 opposition, with the rings tilted at 18 degrees at as May begins, narrowing to 17 degrees by the end of May.

Jupiter is still visible in the early evening, setting a little before midnight. That means it'll stay low, and it'll be hard to see much detail in its bands. So when you get tired of the lovely but mostly unchanging Saturn, Jovian moon events are the thing to watch this month.

There are plenty of single moon or shadow transits in May, but I only found one multiple transit. On May 26 starting before dark Ganymede, Io and their shadows all make transits. By then, Jupiter will be very low in the western sky, so you'll need a very good western horizon to catch it.

Ganymede begins its transit around 6:11, in broad daylight. You may be able to see the moon just before the transit starts , but it's unlikely you'll have enough contrast against

Jupiter as Ganymede moves in front. If you want to try anyway, consider using a single polarizing filter: you can pull apart one of those dual polarizers they sell for moon viewing, or try holding polarized sunglasses in front of the eyepiece and rotating until the sky darkens a little. The polarizing trick works better on first-quarter moons, and isn't optimal for something this close to the sun, but it might help a little.

It's still daylight at 7:13 when Ganymede's shadow appears, but at least you should be able to see the shadow clearly. Then at 8:12, Io starts its transit, with its shadow appearing a little later at 8:27 (finally after sunset! though the sky will still be fairly bright).

Once Io's shadow appears, keep an eye on the opposite side of the disk, because Ganymede ends its transit at 8:41. It should become visible at least a few minutes before it actually separates from Jupiter's disk; it's fun to see how early you can spot a moon as it moves from the center of the disk to the darker limb, and finally pops out away from its parent planet. You can watch the progress of the two moon shadows across Jupiter's face for almost another hour until Jupiter sets at 9:37.

As for Whac-a-moon eclipse events, there's only one in May, but it's a good one. On the night of May 8. Ganymede disappears behind Jupiter at 6:45 pm. As with the double transit, the sky will still be fairly bright. Some time around 9:43 Ganymede reappears from behind Jupiter, but it only stays visible for a couple of minutes before entering Jupiter's eclipse. Don't trust these times I'm giving you: set up at least five minutes early, preferably more than that. And set up somewhere with a good western horizon, because Jupiter will be very low, less than 8 degrees above the horizon.

As I write this, I've only watched Europa as it slid into eclipse by Jupiter's shadow. But Ganymede is so much bigger that I suspect the slow dimming effect will be much more obvious, and I'm looking forward to watching this one.

Pluto rises before midnight, so it's within reach if you're willing to stay up into the morning hours. Neptune is low in the early evening sky, and Uranus even lower, so they'll both be tough catches this month, and all of the inner planets are even worse. So have fun watching the Galilean moons!

C/2011 L4 Pan-STARRS
Hit And Miss Golden Comet

By Michael Packer

Don't get me wrong. Everyone who saw Pan-STARRS said it was worth the drive (or two or three) to check it out at an amicable site. But it was not an easy comet to track down for amateurs. And most of the public who heard about it on the news missed it. Starting around Thursday March 7th Pan-STARRS was a miss for most astronomers across the United States who wanted to get first looks. A few folks did catch it on the 7th but for several days there were a lot of “no” reports and a number of false sightings posted on Cloudy Nights, Facebook and other social sites. Jet plane contrails were fooling the public and amateur astronomers alike. It was not until Monday the 11th that reliable reports started to pour in to Space.com with photos and video. In the Bay Area, we had to deal with amber glowing sunset clouds - which make for nice sunsets - but “blew out” the western sky. However on Tuesday March 12 the comet was a big hit for folks set up at Fremont Peak, Skyline Boulevard, Mission Peak, Oakland - Berkeley Hills, and beyond. The 1.3 day old Moon was a great help in locating PanSTARRS which was 3 degrees to left of the thin crescent. Paraphrasing the amateur community, “Once the Moon was spotted the comet was pretty easy to find.”

On the following night the moon's position may have thrown off more comet hunters than it helped. But once you knew where the comet was in the sky, you could see it without binoculars. Several folks could just make out a tail. In binoculars the comet evoked a “Wow”, a “Finally” and an Austin Powers “Yeah Baby” from the people around me on Skyline. As a whole the comet was a beautiful golden color with a condensed coma or head and a witches broom tail extending 1.0 degree or two full-moon widths. Giant binoculars and small telescopes could see more tail detail. A couple of days later the comet was more readily observed in Silicon Valley at places like Shoreline and Houge Park. If you did not stop viewing the comet over a course of the week the relative movements of the Earth and the comet gave a more broadside view of its flat tail. All comet dust tails are flat, thin sheets confined to the comet's orbital plane. Everyday it subtlety looked wider and more fanned out. Peak

(continued on next page)

(continued from prior page: PanSTARRS) - magnitude reports of Pan-STARRS came in ranging from -0.5 to +2.5 with an average of +1. The sunlight reflecting off the dust tail toward Earth made the comet a little brighter than the very latest estimates.

Imagers captured striations in tail structure indicating a spinning and tumbling nucleus. And Imagers who followed the comet to the March 21st were rewarded with a chunk of the 1 kilometer nucleus breaking off and flying into space. The comet just escaped the powerful forces of the sun.

By the way, the "C/" in C/2011 L4 Pan-STARRS indicates that this is a long period or non-periodic comet. Any orbit over 200 years gets a C and in this case PanSTARRS period is about 106,000 years! Discovered in 2011, the "L4" tells us that it was the 4th comet found in 1st half of month of June. See www.nightskyhunter.com/An Observing Guide To Comets.html for more info. This long period and the comet's oblique orbital angle (84 degrees off solar system plane) tells us that it likely originated from a great distance well beyond the Kuiper belt where the minor planet Pluto resides.

Like tens of thousands of other comets, C/2011 L4 Pan-STARRS wasn't always orbiting this far out. It likely formed in the early solar nebula at distances far enough from the Sun to condense water ice from about 4 to 5 AU out to at least 50 AU from the Sun (1 AU = the distance from the Sun to Earth, about 93 million miles). In the traditional view, comets that formed in the giant planets region of the solar nebula between the orbits of Jupiter and Neptune were almost completely removed from this area owing to gravitational interactions with the gas giants. While many of these comets collided with the giant planets or their moons, some were ejected toward the inner solar system where they impacted the Sun and the inner planets, including Earth. In this way, comets are believed to have provided (seeded) a significant amount of raw materials to the early Earth, with the water contributing to the formation of the oceans, while other volatile ices and organic material within dust grains comprised the precursor chemicals needed for the origin of life. Other comets formed in the giant planets region were ejected out to great distances (i.e. Comet C/2011 L4) and formed the Oort cloud, a spherical reservoir of comets thousands of astronomical units from the Sun. Note that Comet C/2012 S1 ISON is also from the Oort Cloud and we will have an update on this potential "comet of a lifetime" in an upcoming issue. Finally, comets that formed outside the orbit of Neptune are thought to have remained close to where they formed and near the plane of the solar system. These comets make up a reservoir known as the Kuiper Belt.

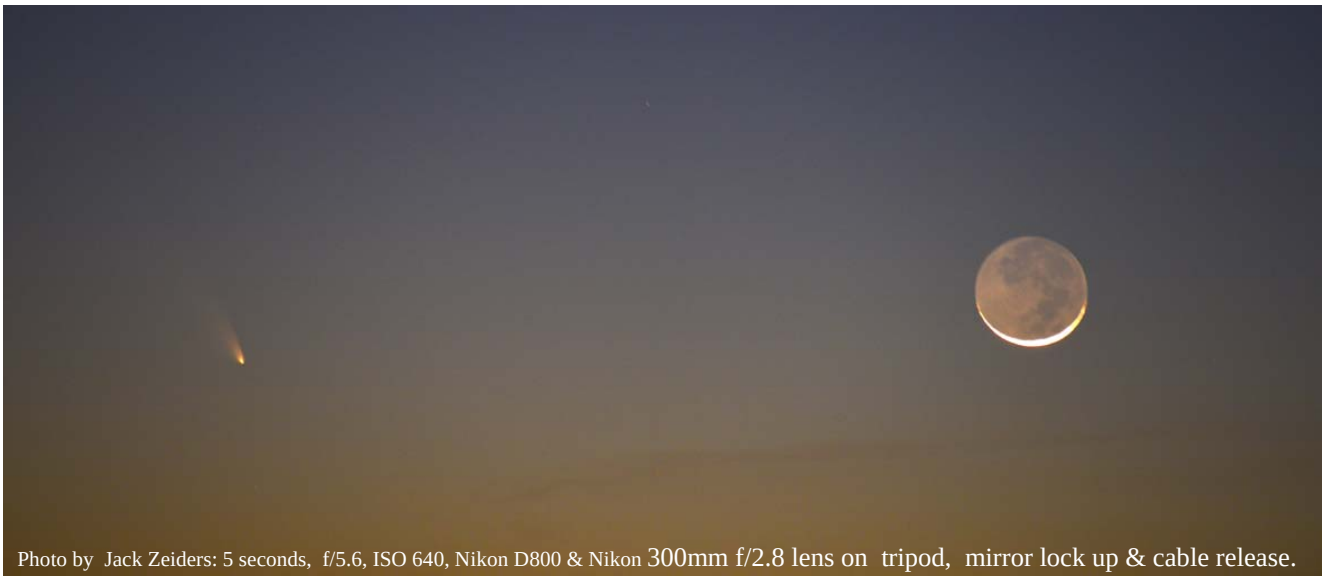


Photo by Jack Zeiders: 5 seconds, f/5.6, ISO 640, Nikon D800 & Nikon 300mm f/2.8 lens on tripod, mirror lock up & cable release.

Every new comet like Pan-STARRS builds up our statistical database on these icy rocky dirt clods and sheds light on the chemistry of our early solar system including Earth. In the Southern Hemisphere, early images of Pan-STARRS showed CO and C2 emission in an ion tail and coma respectively. These organic compounds are typical in comets and we expected to find them in C/2011 L4 Pan-STARRS. We would like to know if these icy rocky dirt clods contain the same order or more organic compounds found in richest Carbonaceous chondrites or carbon meteorites like the famous Murchison meteorite that NASA and other scientists began to analyze in 1970. According to Dave Deamer, UCSC, we have found 70 types of amino acids in this space rock including the nucleobase adenine, along with a few sugars-like molecules and amphiphiles – molecular chains that can form primitive cell membranes. This is one big reason why NASA is tuning up the mission importance of visiting carbonaceous asteroids and the carbonaceous icy rich comets.

SJAA's Earth Day Shines!

Clouds Did Not Stop SJAA's Public Out Reach at Cupertino's Earth Day

From 11 to 3:30 SJAA had about 250 folks stop by our booth and get some great views of a very active Sun. With Isaac Kikawada and Heidi Gerster's H-alpha and Standard solar setups and Bill O'Neil's and Club's scope, people of all ages got their first look ever at a massive sun spot and above average prominences around the solar disk. When clouds did block the sun we talked to numerous interested parents and kids (many the perfect age to get involved). SJAA handed out all of its brochures and also handed out Dark Sky pamphlets from the International Dark-Sky Association on the importance of preserving our night sky for present and future generations. A big thanks to the volunteers - they made this a successful day without question.

SJAA Volunteers Michael, Heidi, Bill, and Isaac.

L - Michael Showing H-Alpha Sun with the camera crew taking notice.
R - Looking at Sunspots. All photos credit: Isaac Kikawada

Upcoming Star Parties

SJAA Yosemite Public Star Party 2013
Jim Van Nuland

The annual SJAA Yosemite star party will be held on August 23 and 24, at Glacier Point in Yosemite National Park. Up to 30 people will be given free admission and camping, in exchange for two public events on Friday and Saturday evenings. In what time is left, we can be tourists.

We are expected to have at least one scope per two people, and to attend both star parties, not just Friday or Saturday. For these reasons, this is probably not suitable for a family camping trip.

The camping is rough by modern standards: no dining room, no showers, no hot water. Read about it on the SJAA Yosemite page http://www.sjaa.net/yosemite.shtml and the Yosemite FAQ page at <SJAA Yosemite Public Star Party 2013>. Then contact me with remaining questions. That first page also has sun and moon rise and set times.

The luck of the draw went against us this year -- this weekend is the 8th choice on our request list. The moon is full on the preceding Tuesday, so we'll have 88% and 80% illuminated moons rising mid-evening Friday and Saturday.

If you can tolerate the limitations, tell me the number of people you'll have, and the number of scopes that will be set up for the public. E-mail me at jvn@sjpc.org>. Priority is given to SJAA members.

Golden State Star Party
July 6 - 9, 2013 Frosty Acres, Adin, CA
http://www.goldenstatestarparty.org

In beautiful Big Valley of Lassen and Modoc Counties, in far north-east California - away from city lights. This great annual event is organized to maximize comfort and convenience for even beginning amateur astronomers. Join 400 like-minded friends under great skies!

Top Targets Of The Deep

By Mark Wagner

This month, let's dig into Ursa Major, Canes Venatici, Crater and Corvus - which are also the constellations covered in the May Beginner Astronomy Class. With the Milky Way out of our way, we see clearly into the depths of the observable universe. But we can throw in some local denizens of our own galaxy, for variety.

For beginners:

M97—The Owl Nebula

M97 Planetary Nebula. m11.2 RA 11h 15m 34s Dec +54°56'21" Owl Nebula - Ursa Major. A mostly round Planetary Nebula—under good conditions reveal two dark spots - the Owl's eyes. Locate using the two bottom stars of the Big Dipper's bowl—move about 1/3rd the distance from the lip end back, then a bit below the bottom line of the bowl.

M81 and M82 Galaxies. m7.9 & 9.2. RA 09h 57m 04s Dec +69°17'46" - Ursa Major. Fits together in a low power field of view. M81 - elegant elongated spiral galaxy. M82 is a disrupted, containing bright HII regions and dark intrusions. Hop from Gamma across the bowl to Alpha (10 degrees), continue that line another 10 degrees and nudge slightly north.

M3 Globular Cluster. m6.4. RA 13h 42m 48s Dec +28°18'50" - Canes Venatici. Bright, large, rich globular cluster visible in small finders. Located almost on a line between Cor Caroli and Arcturas—easy to find.
.
Want to go deeper? Get to a dark sky and try these:

Hickson 68 Galaxy Group. m11.4. RA 13h 53m 57s Dec +40°17'53" - Canes Venatici. NGC 5350 is the brightest of five galaxies in this gorgeous and easy group. Includes a beautiful double star of unequal mag and colors.


Hickson 68

NGC 4038/4039 Galaxy Pair. m10.7. RA 12h 02m 36s Dec -18° 56'23" - Corvus. "The Antennae" - Interacting galaxies—but quite dim. Using the distance between the top two stars in Corvus as a measure, continue the same distance away from Spica.

NGC 3513 Galaxy. m12.0. RA 11h 04m 04s Dec -23°09'16" - Crater
NGC 3511 fairly bright, large, very elongated, large bright core. Paired with NGC 3513 - fairly faint, moderately large, irregular surface brightness, slight central brightening (Steve Gottlieb). From Gamma to Beta Crateris then 1.2 degrees beyond, then NW 1.2 degrees.

Hickson 56 RA: 11h 54m 31.611s Dec: +53°36'56.883" —Ursa Major.
Indeed a challenge. Of the five members, the three brightest are mag 14.8 to 15.3. Their small sizes increase the surface brightnesses. If you're looking for this—you do not need my star-hopping help. Let me know if you are able to observe these!

Exploring the Water World

In some ways, we know more about Mars, Venus and the Moon than we know about Earth. That's because 70% of our solar system's watery blue planet is hidden under its ocean. The ocean contains about 98% of all the water on Earth. In total volume, it makes up more than 99% of the space inhabited by living creatures on the planet.

As dominant a feature as it is, the ocean—at least below a few tens of meters deep—is an alien world most of us seldom contemplate. But perhaps we should.

The ocean stores heat like a "fly wheel" for climate. Its huge capacity as a heat and water reservoir moderates the climate of Earth. Within this Earth system, both the physical and biological processes of the ocean play a key role in the water cycle, the carbon cycle, and climate variability.

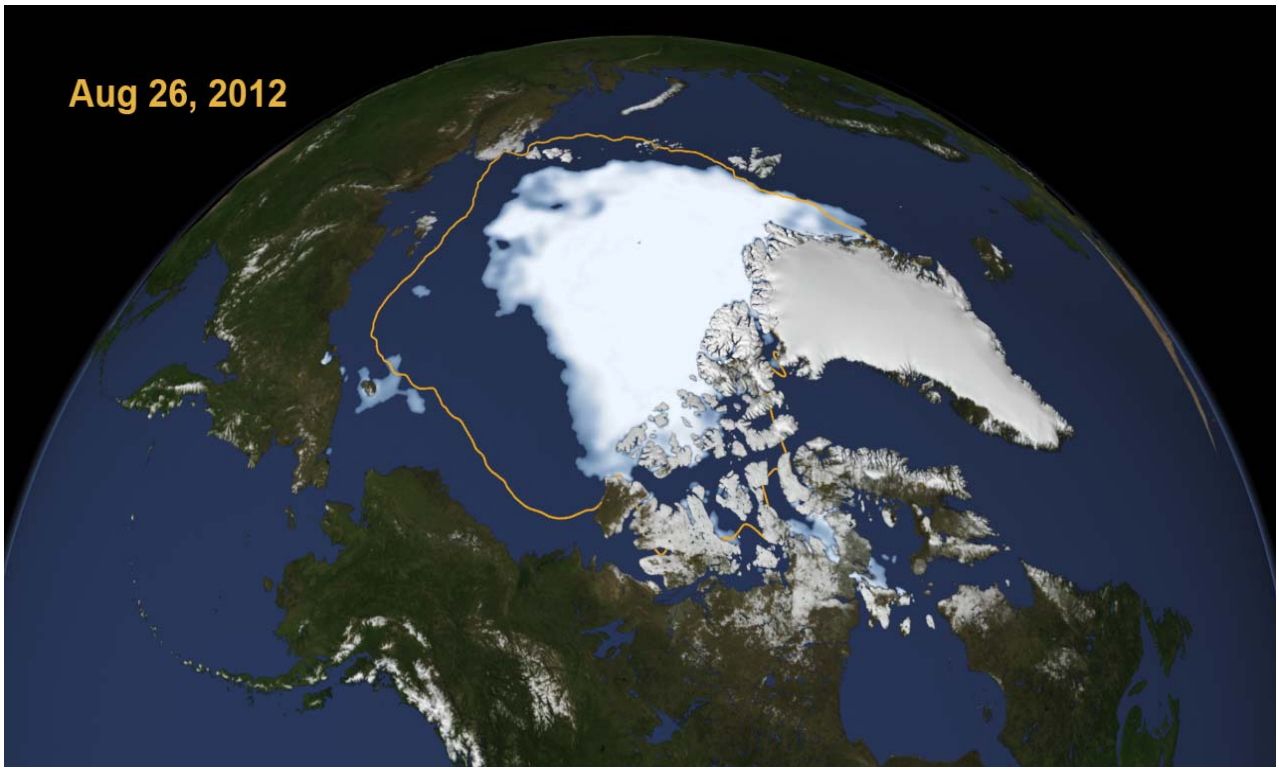
This great reservoir continuously exchanges heat, moisture, and carbon with the atmosphere, driving our weather patterns and influencing the slow, subtle changes in our climate. The study of Earth and its ocean is a big part of NASA's mission. Before satellites, the information we had about the ocean was pretty much "hit or miss," with the only data collectors being ships, buoys, and instruments set adrift on the waves.

Now ocean-observing satellites measure surface topography, currents, waves, and winds. They monitor the health of phytoplankton, which live in the surface layer of the ocean and supply half the oxygen in the atmosphere. Satellites monitor the extent of Arctic sea ice so we can compare this important parameter with that of past years. Satellites also measure rainfall, the amount of sunlight reaching the sea, the temperature of the ocean's surface, and even its salinity!

Using remote sensing data and computer models, scientists can now investigate how the oceans affect the evolution of weather, hurricanes, and climate. In just a few months, one satellite can collect more information about the ocean than all the ships and buoys in the world have collected over the past 100 years!

NASA's Earth Science Division has launched many missions to planet Earth. These satellites and other studies all help us understand how the atmosphere, the ocean, the land and life— including humans—all interact together.

Find out more about NASA's ocean studies at http://science.nasa.gov/earthscience/ oceanography. Kids will have fun exploring our planet at The Space Place, http://spaceplace.nasa.gov/earth.



This image from September 2012, shows that the Arctic sea is the smallest recorded since record keeping began in 1979. This image is from NASA's Scientific Visualization Studio at Goddard Space Flight Center.

This article was written by Diane K. Fisher and provided through the courtesy of the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

HEARD AND OVERHEARD… By Mina Wagner

Beginner's Class
Michael Packer

We had a about 30 folks including 15 kids at tonight's class. These kids and more who should up for the star party before 8:30PM were rewarded with seeing comet Pan-STARRS through tripod mounted binos (I am glad I brought mine). The paved walk-way that points west along the south edge of the tennis courts (and north edge of bas-ket ball courts) does not have any over-hanging trees and gave a good Western view low enough to view PanSTARRS for about 30min! Seeing as only 4 or 5 people raised their hands at the beginning of the class - that they had seen the comet earlier in the week - this evening rewarded a lot of the folks who came out. Thanks to the folks who set up their binos and scopes. The sky was clear enough to snag a few objects.

OBSERVING SITE
Informal survey is being conducted:
http://tinyurl.com/cd6kb4d

Please respond:
http://tucsonastronomy.org/cac

http://tinyurl.com/cg2t9du
http://tinyurl.com/d49978t
http://tinyurl.com/cemb72b

RCDO DIRECTIONS
Dave Ittner

For those of you who have not been to RCDO here are the directions: From High-way 101 or Highway 85. Turn west onto Bailey Avenue. At the intersection with McKean Road turn left. When you spot a long stretch of white fences on both sides of the road, get ready to take the next right. Just prior to where McKean Road becomes Uvas Road turn right onto Casa Loma Road. Rancho Cañada del Oro Open Space Preserve is roughly 2 miles down on the left. Turn your headlights off as you pull into the first parking lot which is paved. If this is your first visit to RCDO and you are arriving in the dark, please park your car there and then walk over to us who are set up on the gravel. We will then guide you to a spot. Otherwise drive slowly onto the gravel lot and then back in to a spot like the other cars are.

COMET PanSTARRS

Steve Gottlieb:

No problem seeing the comet after dark -- in binoculars, that is, about 45 minutes after sunset from Indian Rock in Berkeley. The very thin crescent moon made pinpointing the location a snap. In 10x30's, the head was fairly bright in twilight and haze and the tail was a nice spike extending towards 11:00. Unfortunately, the western sky was criss-crossed with crud, which meant I was probably viewing through thin clouds at best. Naked-eye it was just barely glimpsed, and there was no sign of a tail. PANSTARRS pales in comparison to com-ets such as Hyakutake, Hale-Bopp and McNaught but certainly worth checking out in the next few days as it pulls further away from the sun.

Teri Smoot:

PANSTARRS was also very nice here in Placerville. I observed with Canon 10x50 IS Binos and also imaged the comet using a DSLR and a 200mm f2.8 lens. Lots of crud here too

Guma:

I was able to observe the comet with the crescent moon yesterday from Mission Peak in Fremont.

Jeff Crilly:

Likewise here in Palo Alto. Just above the trees to the west, just south of the sliver moon. Initially didn't see it, but then used skymapro on the phone and figured out where it was related to the moon.

Caught it in the 15x50-IS and 9x63s.

Alexander Avtansky:

Easy to spot tonight from south San Jose. Nice wide tail, easily visible through my 7x35 binos and the small 4 1/2" reflector. Through the scope the pseudonucleus semed like a fuzzy elongated spot, but this might have been problem with the scope because I did not let the mirror cool down first. Naked eye - it was barely visible with averted vision, but we're talking _my_ averted vision (I wear eyeglasses about 0.5 diopters below prescription) - I suspect most people will not have any problem see-ing it.

Jim Varley:

I caught it in Pacifica (back in the Valley and saw it from my backyard), but top of skyline at Sharp Park Road pull out might be a good location until the Fog rolls in over the top. It looked much like the shot that Teri posted a link to in my 10x50 bino's. Hoping for more this weekend!

OBSERVING ADVENTURES
Monthly column

Yesterday afternoon, my wife and I decided to head out for some unspecified location, spend the afternoon, watch the sunset, and look for the comet. As we began the drive, we considered the coastal cliffs of La Selva Beach, south of Santa Cruz, which are 5 minutes from our house, or up to Natural Bridges State Beach at the northern end of Santa Cruz, which has a good western hori-zon. But it dawned on me, that sunsets from the western edge of Fremont Peak were made for occasions such as this - aside from the nostalgia of an astro-event at a place I had spent so many great nights at doing astronomy with friends from TAC.

Considering the options - a quick dinner at either Dona Ester or Jardine's in San Juan Bautista - we opted for the great to-go food at the Windmill Market, just off highway 152, at the turn up San Juan Canyon Road and the 11 mile drive up the Peak. Veggie burrito (delicious!), sandwich, sangria and treats in hand, the drive up the road was beautiful, with llamas, horses, wild turkey, boulders, streams, and quarter horse stables on the lower portions, then views of coast toward Santa Cruz, up the Coyote Valley toward San Jose, and across to the moun-tains bisected by Pacheco Pass. Grand views, greens of late winter, and a truly pleasurable drive. Like the old days.

Arriving at the Peak I found the top of Coulter Row nearly full of set up with cam-eras, hoping to capture the comet. I was unsure of where precisely it would be, so I asked one person there, who had an 8" Coulter set up on a table - where he thought the action would be. It appeared to me it the view would be in the trees to our south. He graciously instructed me where the sun would set, not knowing if I had a clue. It confirmed by estimation that this was not the best place to try watching from.

(continued on next page)

(from prior page: Observing Adventures)

We drove over to the southwest lot, scene of many TAC parties past - where I found a great horizon, clear view of where the sun would set, and a number of people with cameras. Turned out, they were mostly the Board Of Directors of the Fremont Peak Observatory Association. Rob Hawley, John Parker, Chris Angelos, Doug Brown - Frank Dibbel were at the observatory. We were also treated by having Jack Zeiders there, and a sunset appearance by Dr. Robert Armstrong, and a few others who wandered in. I had a good chuckle at Zeiders telling some of the history of the FPOA and astronomy at Fremont Peak - he is a life member of FPOA, and helped build the observatory. He also told some great stories about the area back in the 70's, when there was no Windmill Market - it was a small Mexican market, and times back at the Donkey Deli in San Juan Bautista.

The fun and camaraderie was great, and very reminiscent of old TAC days at the Peak.

As the sun fell below the horizon, the close low haze seem lost its brightness and the coastline revealed itself. From Monterey to Santa Cruz. At sunset, Rob and I swore we had a nice green flash, although others were not so sure. Green is green, I know what I saw. The low clouds on the horizon, to about ten degrees, lit up vibrant red-orange, and put on a great show. As is became dark enough, we could tell the low clouds were going to skunk us.

And so, a few at a time, we left. Some to go to their telescopes by the observatory, others, like Mina and me, to drive home, and try the comet again the next day.

We pulled over on the open ridge halfway down the road back to SJB, and as darkness settled in, looked at the lights. Of course, these are the enemy of the FPOA, but there was no arguing about the spectacular display. The coastline and Watsonville lit up. The Coyote Valley down to Gilroy showing to the right of the dark outlines of the Santa Cruz Mountains. Little San Juan Bautista to our left... and the spread of Hollister in front of us.

I looked to my right, pointed toward the darkness on the land in that direction, and said "there's Willow Springs - where darkness still lives"...

La Selva, tonight....

SJAA Board Meeting

Raw Minutes from 24 Feb 2013

Meeting called to order at 6:05PM.

Board members attending: Lee Hoglan, Mark Wagner, Rob Jaworski, Greg Claytor, Michael Packer, Mina Wagner, Rich Neuschaefer
Board members not attending: n/a
Contributors and guests present: Ed Wong, Robert Armstrong, Teruo Utsumi, Dave Ittner

Reports submitted via email; no questions or discussion.
Member report: All pending memberships are approved.
Previous minutes approved.

Coverage for Houge Events: April needs a closer.

Priority Items:

Consideration is given to Dave taking Kevin's place on the board. Mark makes motion, Mina seconds. Unanimously passes.

Auction: Mark, Greg run the accounting, Robert, Dave, Rich, Lee confirmed they will attend and work the room

Refreshments Costs, acquiring equipment: coffee maker; mark makes motion to spend $75 on a 100 cup coffee maker, Dave seconds, most vote for, motion passes.

Old business: Dave reports the Advanced Loaner program needs a go-to type mount. Lee has one to sell. The program also needs a Sirius mount. Dave is asking for about $1400 for all these things. Mark makes motion to provide $1400 for go to mount, Lee's alt az, longer cables, bag for the go to mount. Mina seconds. Unanimously passes.

Losing members: Mark will come up with a recommendation on what to do. Survey idea will recirculate.

New Items

Officer Elections - One sweeping motion is made to elect Rob Jaworski president, Lee Hoglan as VP, Teruo Utsumi as Secretary, and Michael Packer as Treasurer. Mina seconds, motion passes with majority vote.

Observing site - Several members went on a field trip to the property in question. Mina will come to the next board meeting with a plan and cost estimates.

Battleship Binoculars - Teruo suggests we have it professionally appraised, and perhaps contact the company to see if they have any info (Rob/Teruo will create a letter), then the board can determine what to do with the binoculars. Dave Ittner will ask Jack Zeiders if he has any backstory on the binoculars.

RASC items - We still have calendars and books. Need to advertise them. Pre-orders in the future? We may want to consider it.

Santa Teresa County Park Cooperation for Perseid shower OSA is partnering with Santa Teresa County Park. Dave will contact the ranger at Santa Teresa and let him know the SJAA is on board.

Publicity - We have business cards that people should have to hand out. People should carry these. Also, there are many hard copy pamphlets about the SJAA. People should bring these with them to events such as OSA's Starry Nights program.

Newsletter Editor - Mina has taken over the editor job. The board may want to discuss how to acknowledge Paul's 8+ years of doing the editor job.

Board Mailing List Usage - There are lots of Attn mails that are going to the board list. Mark will look into setting up another Google group for these kinds of inquiries.

8" Go To Dob - Board will discuss at the next board meeting.

Adjourn at 7:25PM.

Publication Statement

SJAA Ephemeris, newsletter of the San Jose Astronomical Association, is published monthly, and is the official document of the San Jose Astronomical Association.

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

Articles for publication should be submitted by the 16th of each month for inclusion in the next month's issue.

SJAA's May 25th General Meeting Speaker:

Timothy Ferris

"Keys To The Universe"

Timothy Ferris is the author of a dozen books, among them Seeing in the Dark, The Whole Shebang, and Coming of Age in the Milky Way, which was translated into fifteen languages and named by The New York Times as among the leading books published in the twentieth century. A former newspaper reporter and editor of Rolling Stone magazine, he has written over two hundred articles and essays for publications such as The New Yorker, National Geographic, The New York Review of Books, Forbes, Harper's, Life, Nature, Time, Newsweek, Readers' Digest, Scientific American, The Nation, The New Republic, and The New York Times.

Ferris has made three documentary films, all of which premiered in prime time on PBS—"The Creation of the Universe," "Life Beyond Earth," (www.pbs.org/lifebeyondearth) and "Seeing in the Dark" (www.pbs.com/seeinginthedark).

Ferris produced the Voyager phonograph record, an artifact of human civilization containing music, sounds of Earth and encoded photographs launched aboard the twin Voyager interstellar spacecraft now exiting the solar system. He was among the journalists selected as candidates to fly aboard the Space Shuttle in 1986.

Called "the best popular science writer in the English language" by The Christian Science Monitor and "the best science writer of his generation" by The Washington Post, Ferris has received the American Institute of Physics prize and a Guggenheim Fellowship, and his works have been nominated for the National Book Award and the Pulitzer Prize.

A Fellow of the American Association for the Advancement of Science, Professor Ferris has taught in five disciplines – astronomy, English, history, journalism, and philosophy – at four universities. He is currently an emeritus professor at the University of California, Berkeley.
(Above from http://www.timothyferris.com)

General Meetings begin at 7:30 PM and are held in the Hall at Houge Park. Social time from 7:30 to 8:00 p.m. Speaker begins at 8:00 p.m. Please be on time.

For directions, see http://www.sjaa.net/directions.shtml

Coming June 22: - Dr. Dana Beckman speaking on SOFIA and Infrared Astronomy.

SJAA Programs you may like!

Quick STARt

Dave Ittner has started a very popular program for beginners. Quick STARt gets newcomers up and running in the hobby, with hands-on mentoring. If you'd like to help, contact Dave via the web-page.

Fix-It Program

As the saying goes, "who'd a thunk?" The SJAA has started a once monthly program headed up by Ed Wong, which encourages people to bring in astro-gear that they can't get to work, or needs repair. This has proved very popular, and gets people using their equipment. Dave Ittner and Phil Chambers are also active in the program. Bring in your gear (let them know in advance), or come lend a hand. Nice way to spend a few hours on a Sunday afternoon!

Solar Observing Program

Along with the Fix-It Program on Sunday afternoons, Michael Packer heads up the SJAA's Solar-Sundays at Houge Park. The SJAA has a beautiful new Lunt 100mm H-Alpha solar telescope, which performs magnificently. This is one of the very few safe ways to observe the sun, and the views can be simply breathtaking. Come have a look or help by bringing your solar astro-gear in support.

Imaging SIG

Perhaps the most popular advent to amateur astronomy over the past fifteen years, CCD Imaging fires the imaginations and creative juices of techie amateur astronomers and newcomers to the hobby. Harsh Kaushikkar lead a beginners group, introducing the subject and helping newcomers understand some of the tricks of the trade. Watch our web-page and schedule for upcoming meetings.

Board Meetings

OK… so the joke is "are you going to the bored meeting"… but our meetings are anything but boring. New ideas are welcome and encouraged, and this is a place to meet others who like to expand and share their interests in amateur astronomy. Board meetings are general from 6:00 - 7:30 p.m. on the nights of the club's General Meeting. Come join in!

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San Jose Astronomical Association Membership Form

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

☐ **New** ☐ **Renewal** (Name only if no corrections)

Membership Type:

☐ Regular — $20
☐ Regular with Sky & Telescope — $53
☐ Junior (under 18) — $10
Junior with Sky & Telescope — $43

Subscribing to Sky & Telescope magazine through the SJAA saves you $5 off the regular rate. (S&T will not accept multi-year subscriptions through the club program. Allow 2 months lead time.)

☐ **I prefer to get the Ephemeris newsletter in print form (Add $10 to the dues listed on the left). The newsletter is always available online at** http://ephemeris.sjaa.net.

Questions? Send e-mail sjaamemberships@gmail.com

Bring this form to any SJAA Meeting or send to the address (above). Make checks payable to "SJAA", or join/renew at http://www.sjaa.net/membership.shtml

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