

Sonoma Skies

Newsletter of the Sonoma County

A nonprofit scientific and

www.sonomaskies.org



Astronomical Society

educational organization

May 2004

Volume XXVII No. 5

The Double Comet Show of 2004

by Greg Bryant, John E. Bortle, and Alan M. MacRobert

Comets C/2001 Q4 (NEAT) and C/2002 T7 (LINEAR) were discovered in August 2001 and October 2002, respectively, by the automated sky-survey programs for which they're named: Near-Earth Asteroid Tracking (NEAT) and Lincoln Laboratory



This 2-image mosaic of Comet C/2002 T7 was acquired 4/17/04, using the 14-inch SoTIE telescope in Las Campanas (Chile). LINEAR's short antitail is clearly visible. Courtesy Gianluca Masi and Franco Mallia

Near Earth Asteroid Research (LINEAR). Amateurs have been tracking the comets for over a year as they've been approaching the inner solar system and gradually brightening. How bright will they get? One or both could become distinctly

visible to the naked eye. Or they could remain targets only for binocular users who know just where to look. As of late April both comets were brightening and could be nicely visible to observers in both hemispheres during the upcoming months.

On May 5 Comet NEAT passes 9° from Sirius. On the 6th NEAT is closest to Earth (0.321 a.u.) and should be at its peak brightness, perhaps magnitude 2.5. On May 7 NEAT passes 1° northwest of the 5th-magnitude open cluster M47 in Puppis.

Comet NEAT reaches perihelion on May 15, 0.962 a.u. from the Sun, barely closer to the Sun than Earth is. At this time the comet will be just a couple of degrees away from M44, the Beehive Cluster.

May 19th brings Comet LINEAR's closest approach to Earth (only 0.266 a.u.) and its time of greatest brightness, perhaps magnitude 2. On May 22 (local date for North America), only about 3° will separate LINEAR's head and Sirius.

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Project 40

with Bill Russell

SCAS May 12 Meeting, Proctor Terrace School

When I was a boy of six my father introduced me to astronomy with a visit to the Carnegie Observatory near Pittsburgh, Pennsylvania. The director of the observatory demonstrated something that has had a lasting effect on me. With the push of his hand, he moved and positioned a massive telescope which was so precisely balanced that it moved effortlessly.

Decades later that impression inspired me to attempt a similar feat. A salvaged, unfinished 24", 160 pound Pyrex mirror counterbalanced the opposing weight of a tubular truss system, a secondary mirror, support, finderscope, Telrad, 2" eyepieces and more. Despite the weight of this structure, I designed a platform with the same silky smooth positioning precision demonstrated so many years ago.



First Light, Mt. Diablo 10/24/92

Today, this 24-inch telescope is located at the Robert Ferguson Observatory in Kenwood, CA. Housed in a wing with a roll-off roof and facilitated by a team of dedicated docents, this scope is shared with scores of parents and children.

With Project 40, a team of docents from the observatory is designing and will construct an even larger telescope. The project commenced with the August 2002 purchase of a 40" 3.6F curved Pyrex mirror blank and accessories.

Project 40 has been driven by one mission—public access. Innovative optical designs have been formulated with the purpose of lowering the eyepiece height, eliminating the necessity for a ladder. The public will be treated to a visual experience that only a truly superb 40-inch telescope can deliver. With a projected completion date of December 2005, the West Wing of Robert Ferguson Observatory will serve astronomy and the public for countless generations to come.

Please join us for this exciting talk on May 12.

Young Astronomers: See page 7

SCAS MEMBERSHIP

MEETINGS AND STAR PARTIES

Membership Meetings take place at 7:30 PM on the second Wednesday of each month, in the Multipurpose Room of Proctor Terrace Elementary School on Bryden Lane near Fourth Street in Santa Rosa, unless otherwise announced in this publication. The public is invited.

Star Parties are held monthly on the Saturday nearest the 1st quarter moon at Youth Community Park in Santa Rosa.

Access to Geysers Observing Site: The site is locked to public access. For use during monthly star parties, SCAS members can obtain the combination to the gate lock to the site by contacting any board member listed to the right.

DUES

Membership dues are \$25, renewable June 1 of each year. New members joining between December 1 and May 31 may pay partial-year dues of \$12.50.

DISCOUNT SUBSCRIPTIONS

SCAS offers discount subscriptions to *Sky & Telescope Magazine*. New subscribers, send a check for \$32.95 payable to "SCAS", along with your complete mailing address, directly to: Larry McCune, 544 Thyme Place, San Rafael, CA 94903. For renewals, send him your check with the completed renewal card and return envelope.

Discount subscriptions to *Astronomy Magazine* occur yearly in October. Check *Sonoma Skies* for details.

RENTAL TELESCOPES

SCAS members are eligible to borrow telescopes for a \$5 per week donation. Five telescopes are available: 8" and 5" Celestron SCTs, each complete with clock drive and inverter; 8" and 12.5" Newtonians on Dobsonian mounts; an 80mm refractor on motorized equatorial mount. Contact Joan Thornton at 707-762-0594.

NEWSLETTER

Sonoma Skies is the newsletter of the **Sonoma County Astronomical Society (SCAS)** and is published each month. Subscription is included as part of membership to the Society.

Articles, news items and member announcements for *Sonoma Skies* are welcome. Submissions must be typed or, if on computer media, in a commonly used word processing and/or graphics format, and may include graphics (pictures, drawings, etc.) They are published on a FCFS basis, space permitting, and may be edited.

The deadline for submissions is the last Wednesday of each month.

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Bruce Lotz 576-7833 ablotz@sonic.net

LIBRARY

SCAS has a library of astronomy books that may be checked out by members at SCAS meetings. College textbooks donated by Joe Tenn of SSU are available. Books may be borrowed for a period of one month and returned at the next meeting. Videotaped lectures on astronomy are available for rent at \$3 per month. Requirements: SCAS membership and your name and phone number.

For more information, contact Joan Thornton at 762-0594, phonyjoanie@earthlink.net

SCAS EGROUP URL

Any SCAS member is welcome to join. Hosted by Robert Leyland at r.leyland@verizon.net the majority of traffic is about going observing, observing reports and astronomy-related news. We get news items from AANC and Sky & Telescope and chat about astronomy.

To join, either visit <http://groups.yahoo.com/group/scas> and click the "Join" button, or send an email to scas-subscribe@yahoo.com

The S e m i - S t r o n o m e r s

by
Herb
Larsen



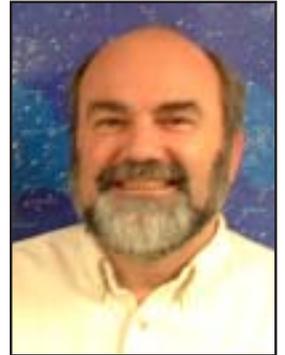
Wow, the Universe must be expanding faster than I realized. Last night I could see the Spiral Galaxy M105, but tonight I can't!

President's Column

Does anybody really know what time it is?

by Keith Payea

How we tell time today is the result of a long and tortuous path that is still unfolding. As astronomers we can easily understand why a year or a day is what it is, but what about hours, minutes, and seconds? It turns out that we can thank the Babylonians of 4000 years ago. I ran across an article which explains all of this: http://www.imakenews.com/symmntp/e_article000251521.cfm courtesy of Symmetricom. The Babylonians were fascinated with the number 60 and used it as the basis for many things. They are the ones who originally divided the sky into 360 degrees, and 12 signs of the zodiac. I can't be sure, but I suspect that the length of the second came from the human heartbeat, just as 100 degrees Fahrenheit came from the human body temperature. Then, using their base 60 arithmetic, they came up with 60 seconds to the minute, and 60 minutes to the hour. Twenty four hours in a day is the result. I also found it interesting that they knew there were 365¼ days in a year, but chose to have 12 months of 30 days each. Every six years they added a month to the calendar to compensate.



Fast forward a few thousand years. With some minor changes, we are still using the same system in the western world. Every major city had a person or agency which observed the sun and set the local time. This worked fine, because travel was slow and clocks were inaccurate. However, in the mid 1800's the English had a well developed rail system and needed accurate timetables over the entire country. Greenwich Mean Time (GMT) became the standard time in England, and eventually the basis for time around the world. The time was set by the observatory in Greenwich, and distributed by telegraph.

Fast forward again to the 1960s. Scientists needed something better than daily observations of the sun for determining the time. The earth has a nasty habit of speeding up and slowing down from day to day. Luckily, the atomic clock had been invented, based on the natural resonance of the Cesium atom. By a huge political effort, the world agreed to cut their ties to the rotation of the earth and switch over to the atomic second. Now scientists had a nice stable time standard for measurements. The downside is that every now and then a leap second has to be added to keep Atomic Time within a second of solar time.

If you would like to learn more about the history of time and timekeeping, check out this excellent site about time at: <http://physics.nist.gov/GenInt/Time/time.html> which is run by the National Institute of Standards and Technology.

MEMBERSHIP NEWS

We are pleased to welcome the following new members: Merri Ellis, Angelo Parisi (rejoining), and John Cranston. This brings our dues-paying membership to 157, in addition to the 20 Striking Sparks winners for 2003 and 2004.

If you have address or email changes, contact our Membership Director, Harry Linder, at 542-9167 or via email at harry@sonic.net

FOR SALE

10" F 5.6 mirror (56" f.l.); 12" diameter tube; Teflon bearing material; All plywood cut for Dobsonian mount described in Richard Berry's book *Build Your Own Telescope* (book included)

All for \$250. See/call Bud Nystrom at 707/544-8880

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Events Around the Empire and Beyond

EXPLORATORIUM WEBCAST

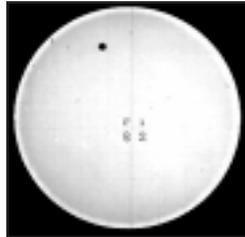
**Transit of Venus—An Astronomical Event
Last Witnessed in 1882!**

June 7 at 10PM PDT in the museum and online

June 8 at 4PM PDT online only

Join Exploratorium staff astrophysicist Dr. Linda Shore, live from Greece, at www.exploratorium.edu/venus, for the 1st, 2nd, 3rd, and 4th contacts of Venus and the sun, respectively.

For the 10PM transit, the public is invited to also take part from inside the Exploratorium in San Francisco, where planetary physicist Dr. Paul Doherty will field questions from the crowd. Roving astronomers will train their telescopes on the stars, while hands-on activities and Greek music, food, and dancing will set the ambience.



The 4AM Transit of Venus will be available only online. In the hours in-between, high-resolution still images of the transit's progress will be posted to the Exploratorium's award-winning website in intervals of fifteen minutes. Go to: <http://www.exploratorium.edu/pr/documents/04-6Transit.html>

SRJC PLANETARIUM

“GALAXIES—CITIES OF STARS”

Ends May 16

Santa Rosa Campus, Lark Hall, Room 2001

Galaxies can be thought of as cities of stars. And like cities, galaxies come in many varieties of size and shape. In this program we'll learn about our own Milky Way galaxy and the discovery of galaxies beyond. We'll also learn about the basic types of galaxies and how they gather together into galactic clusters. You'll see many spectacular images of unbelievable galaxies through the eye of the Hubble Space Telescope.

Shows are Fridays and Saturdays at 7:00 PM and 8:30 PM, Sundays at 1:30 PM and 3:00 PM during the regular Fall and Spring semesters (No Shows Sunday, April 11). Admission is \$4 General; \$2 Students and Seniors. Tickets are sold at the door only, beginning 30 minutes before show time. No children under five, please.

A parking permit is now required at SRJC and is included in the Planetarium show admission price. Pick up a parking permit at the planetarium when you pay admission. Please arrive early enough to place your permit on your vehicle's dashboard before the show starts. Contact: (707) 527-4465 or 527-437 <http://www.santarosa.edu/planetarium/>

ROBERT H. FERGUSON OBSERVATORY

Public Viewing: Saturday, May 15

Solar Viewing Noon - 4:00 PM

Night viewing Begins 9:00 PM

Three scopes are operating: The 14-inch SCT with CCD camera in the east wing, the 8-inch refractor under the dome and the 24-inch Dobsonian in the west wing.

There is no admission fee for the solar viewing, but donations are appreciated. The Park charges \$4 per vehicle for entry. A \$2 donation is requested for admission to the observatory during the night viewing sessions. SCAS members are welcome to set up telescopes in the observatory parking lot to assist with public viewing. However, automobile access closes at dusk, so arrivals after dusk need to carry their equipment in from the parking area by the horse stables.

Classes

May 10: Using Your Telescope, 7:30 PM

May 11: Night Sky Spring/Summer Series, 7:30 PM

May 13: Using Your Telescope, 7:30 PM

May 18: Night Sky Spring/Summer Series, 7:30 PM

May 29 The Moon, The Stars and More! 8:00 PM

June 5: The Moon, The Stars and More! 8:00 PM

June 8: Night Sky Spring/Summer Series, 7:30 PM

Classes are held at the Observatory. Reservations required for Night Sky Series, recommended for Using Your Telescope classes.

Contact: (707) 833-6979, or visit <http://www.rfo.org>

MORRISON PLANETARIUM DEAN LECTURE SERIES

June 7—Mars Exploration Rover Science, Dr. Joy Crisp, Mars Exploration Rover Project Scientist, NASA/JPL

This ambitious mission to land rovers at two different locations on Mars in January 2004 features twin rovers equipped as “field geologists” and designed to look for evidence of past water activity and assess whether past environments on Mars were favorable for life.

New Location: During reconstruction of the Academy, the Dean Lectures have moved to the San Francisco Jewish Community Center at 3200 California Street (at Presidio Avenue). Parking is available across the street in the UCSF Laurel Heights campus parking lot for \$1.25 per night. Parking in the JCC garage is \$1.25 per half-hour.

Contact: (415) 750-7141

<http://www.calacademy.org/planetarium/>

SCAS-Sponsored Star Parties

SCAS SPARKS STAR PARTY

Saturday, May 22

Mark your calendar for a picnic and evening with the stars at Robert Ferguson Observatory for members and their families. We have also invited about 25 past Striking Sparks winners who have indicated an interest in attending. They span many years of awards, so it should be interesting to meet them again. Many will bring their awarded scopes.

The moon will be only three days past new, so we should have good dark sky conditions for observing Jupiter, Saturn, and the spring constellations if weather conditions are favorable. Here's a chance to use the big telescopes without the crowds.

Overnight camping is optional. Bring your own picnic type fare for your group. Fire will be lit at 6:00.

Len Nelson will present a short slide show about the Moon, Saturn and Jupiter around 7:00 or 7:30, preparing us to view the real thing. Plan on joining us!

THE GEYSERS STAR PARTY

Saturday, May 15 and/or May 22

Both nights look good, so contact Mario to see if a group is going up. Excellent dark sky observing for members and their guests. Dress warmly, and take your Thermos bottles!

Location: Palmieri Observatory, Mercuryville, CA (on the slopes of Geyser Peak near The Geysers)

Altitude: ~2700 feet
Longitude: 122deg 49min
Latitude: 38deg 46min

If you plan to attend, especially if you are going for the first time, please contact our coordinator, Mario Zelaya, at (707) 539-6423, zelayadesigns@sbcglobal.net

YOSEMITE PUBLIC STAR PARTY

July 9 and 10

Join SCAS and RFO at Glacier Point for a Public Astronomy weekend. Admission to Yosemite and Bridalveil Creek Campground (about 9 miles from Glacier Point) is free because participants will provide public astronomy to Yosemite visitors. Bringing an appropriate telescope is mandatory.

Thus far, 17 people have signed up. Two of the 2004 Striking Sparks winners will be going, too. The group campground can accommodate up to 30, so there is yet room for about 13 more.

If you are interested contact Len Nelson soon at 763-8007, lennelsn@comcast.net

PUBLIC STAR PARTY

Saturday, May 29

These are public events—all are invited. Members with scopes are encouraged to attend. It is an opportunity to do some planetary astronomy with fellow observers at an easily accessible site.

Sunset: 8:27 PM PDT

End Astronomical Twilight: 10:20 PM PDT

Moonset: 3:04 PM PDT

Youth Community Park in Santa Rosa, on the west side of Fulton Road, between Guerneville Road and Piner Road, just opposite Piner High School.

Contact: Bruce Lotz, Coordinator (707) 576-7833
ablotz@sonic.net

SILICON VALLEY ASTRONOMY LECTURE SERIES

Wednesday, May 19, 2004, 7:00 PM

In the Heat of the Night: Searching for the Heat of Infant Stars, Comets, and the Building Blocks of Life

Dr. Yvonne Pendleton of NASA's Ames Research Center will give an illustrated talk showing some of the first images and information from the Spitzer Telescope, a new orbiting instrument designed to show us the universe in heat rays.

In the Smithwick Theater, Foothill College, Los Altos Hills. Free and open to the public. Parking on campus costs \$2. Call the series hot-line at 650-949-7888 for more information.

CHABOT SPACE & SCIENCE CENTER

Saturday, May 22, 6:30 PM

Teaching Spaceships: Will We Ever Build One?

Dr. Gibor Basri

Dr. Basri's talk will take a look at the realities of actual space flight. We grew up reading science fiction promising speedy flight faster than light to exotic places throughout the galaxy. But will mankind ever be able to fly between the stars? Dr. Gibor Basri is an astrophysicist at UC Berkeley who specializes in stellar formation. He also teaches a class titled "The Science in Science Fiction."

Contact: (510) 336-7377 <http://www.chabotspace.org>

Voyage to a Double Planet

by Patrick L. Barry and Tony Phillips

Download a “nine planets” screensaver for your computer with spectacular photos of our solar system, and you’ll notice that one planet is conspicuously missing: Pluto. Icy and mysterious, Pluto is the only planet never visited and



Dan Durda

Artist's idea of the New Horizons spacecraft flying by Pluto and its moon, Charon.

photographed by NASA space probes. In fact, the clearest image we have of Pluto is a tiny, pixelated blob of light and dark patches taken by the Hubble Space Telescope in 1994.

It's tantalizing, but not much more. Earth-based telescopes have succeeded, however, in discovering one amazing fact: Pluto is not a lone world, but a double-planet system. Its companion, measuring about half the size of Pluto itself, is named Charon.

Work is underway to launch a robotic probe to visit and photograph Pluto and Charon. The project, called New Horizons, will map both worlds. Sensors will chart surface minerals and ices, and catalog the gases that make up Pluto's wispy atmosphere. “It's the second epoch in the exploration of the planets,” says Alan Stern, the principal investigator for New Horizons at the Southwest Research Institute in Colorado. “We're going to the very edge of the solar system.”

The probe is scheduled to launch in January 2006. Its journey will be a long one. Pluto is more than 30 times further away from the Sun than Earth is! Even with a speed boost from a flyby of Jupiter, the probe won't arrive at Pluto until July 2015. Afterward, the probe will venture on to explore the Kuiper Belt, a distant “halo” of small, frozen objects surrounding the solar system, from which comets originate.

Aside from sheer curiosity about these distant worlds, scientists are motivated by questions about the formation of the solar system. Orbiting in the deep freeze far from the sun, Pluto and Charon have undergone less change than the inner planets during the solar system's 4.5 billion year history. These two worlds will provide a glimpse into the past.

Pluto could also shed light on the origin of our own Moon. Earth, with its single, large moon, is unusual. The Pluto-Charon system is the only other pair like it in the solar system. In fact, some astronomers consider Earth and the Moon to be a double planet, too. So knowing more about Pluto and Charon could give clues about how the Earth-Moon system formed.

And, of course, the spectacular, up-close photos of Pluto and Charon are going to look great as a screensaver!

<http://spaceplace.nasa.gov/news>

May Observing Notes

May 5-6: Eta Aquarids peak before dawn

May 11: Last Quarter Moon in the south-southeast at dawn

May 14: Mercury at greatest elongation

May 18: New Moon. Tomorrow night (the 19th) at sunset, a thin, almost 23-hour old crescent Moon will be visible. Slightly above will be Venus and, a little higher, Saturn and Mars.

May 21-22: Saturn creates a cluster with Venus and Mars, with the Moon passing nearby. Mars and Saturn about 1.6 degrees apart May 24. Saturn disappears into the sunset by mid-June, not to be seen again until August in the predawn sky.

May 27: First Quarter Moon with Jupiter nearby.

June 2: Full Moon rises in Scorpius near the bright reddish star Antares, the Scorpion's heart.

With Virgo high in the sky, it's a great time to view M104, the **Sombrero Galaxy**. It is found in the southwestern part of Virgo, near Corvus the Crow. Start at the star Gienah, the northwestern star in the Corvus trapezoid. Just north of Gienah, look for a 6th-magnitude star, the first in a line of five 6th- and 7th-magnitude stars that extends to the northeast and ends at a small triangle of faint stars. Together, they form an unmistakable arrow-shaped asterism that points almost directly at M104.



The arrow is actually aimed toward a small knot of six 7th- to 11th-magnitude blue-white stars just to the west-southwest of M104. This group of stars is one of those unexpected treasures that you bump into every once in a while when starhopping. Although the stars are apparently a chance alignment, they form an isosceles triangle within another isosceles triangle. The natural symmetry is unmistakable and quite striking.

M104 lies just beyond, and should be just visible through 50-mm finderscopes and binoculars. A 4 to 6 inch telescope is all that's needed to show the Sombrero's dust lane slicing its way across the south side of the galactic core. Add another couple of inches in aperture, and the dust lane is easily traced fully across the galactic “brim” of M104. The best views are usually at magnifications between 150x and 200x.

Comet Show *continued from page 1*

Late in May midnorthern observers get their turn to see both comets at once — NEAT high in the western evening sky at about 4th magnitude, LINEAR emerging low in the west-southwest a little past its prime.

During June both comets should fade to below naked-eye visibility. NEAT will turn circumpolar for those in north temperate latitudes. As LINEAR fades it will move back into the glare of the Sun for northerners.

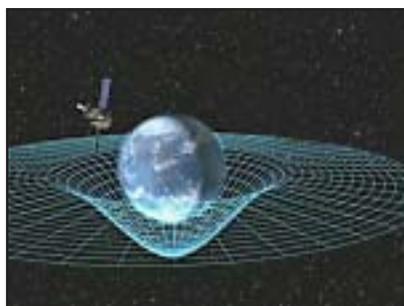
Courtesy www.skyandtelescope.com

Young Astronomers



SPACECRAFT TO TEST ONE OF EINSTEIN'S THEORIES ABOUT THE UNIVERSE

On Tuesday, April 20, NASA launched a mission to test two important predictions of Albert Einstein's Theory of General Relativity. Gravity Probe B lifted off from Vandenberg Air Force Base, Calif., and all tests indicate that its systems are operating normally.



Artist concept of Gravity Probe B orbiting the Earth to measure *space-time*, which is a four-dimensional description of the universe including height, width, length, and time.

The spacecraft is in an almost perfect circular polar orbit around the Earth at an altitude of 400 miles. "We are very pleased," said GP-B program manager Rex Geveden of NASA's Marshall Space Flight Center, Huntsville, Ala. "The Gravity Probe B ... seeks to answer some of the most important questions about the structure of our universe," he said.

The experiment being undertaken on this mission was conceived of over 40 years ago. However, the technologies needed to make the super-precise instruments it requires have only recently been perfected. The GP-B mission will use four ultra-precise gyroscopes, as part of perhaps the most challenging scientific instrument ever designed, to test Einstein's theory that space and time are distorted by the presence of massive objects. To accomplish this, the mission will measure two things—how space and time are very slightly warped by the presence of the Earth, and how the Earth's rotation very slightly drags space-time around with it.

In-orbit checkout and calibration is scheduled to last 60 days, followed by a 12-month science-data collection period and a two-month post-science period for calibrations. By 2005 the GP-B mission will be complete. During the mission, data from GP-B will be received at least twice daily. For information about the GP-B mission on the Internet, visit:

<http://einstein.stanford.edu/>, <http://www.gravityprobeg.com>

Adapted from a NASA press release

CHANDRA, HUBBLE, COMPTON AND SPITZER

Sky and Telescope's article on page 30 of the April issue explains the differences between NASA's great space observatories in layman's language, and features images taken in infrared and visible light. Here is a partial excerpt:

To understand how these telescopes image the sky, imagine a forest. To a storybook giant tromping through it, the trees are so small beneath his toes that they don't impede his progress. To an ant running through, the space between the trunks is so big that the tiny creature can go from one end to the other without hitting anything. In both cases it's as if the trees aren't even there. But if an astronomer runs through the field, he or she is going to quickly smack into a tree.

The same is true for light passing through a dusty interstellar cloud. Radio and infrared rays have wavelengths much larger than dust grains, so they pass through the cloud like the giant. X-rays and gamma rays have wavelengths that are much smaller than the dust particles, so they pass through the cloud as the ant would. But visible light has a wavelength about the same size as the dust specks, so it gets stopped. Thus, dusty regions appear opaque to our eyes. Space-based infrared astronomy enables us to see celestial objects that remain hidden at visible wavelengths.

For more on this fascinating subject see the article and their website, www.skyandtelescope.com. Keep watching Spitzer—we can expect a flood of discoveries in the next five years.

—Editor

YOUNG ASTRONOMERS CALENDAR

The Young Astronomers meeting on April 9 was our last scheduled meeting for this school year. Regular meetings will resume in September and will be announced in *Sonoma Skies*. YA members will also be notified by email or telephone. Meanwhile, all Young Astronomers are invited to the **SCAS SPARKS Star Party** on May 22 (see details on page 5). YA members are also welcome to attend the annual SCAS Star-B-Q this summer. We hope to see you at these events!

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**Sonoma County
Astronomical Society**
P.O. Box 183
Santa Rosa, CA 95402



May 2004 Sonoma Skies

Bill Russel
Project 40 at RFO
SCAS May 12 Meeting

Reminder:
It's Membership Renewal Time

IT'S TIME TO RENEW YOUR MEMBERSHIP!

The \$25.00 Annual Membership dues for 2004-2005 are due June 1. Please give your cash or check to Harry Linder at the May 12 meeting, or send a check with this completed form to:

SCAS, P.O. Box 183, Santa Rosa, CA 95402

Name: _____

Address: _____

City: _____ Zip: _____

Phone: _____ email: _____

Your renewal dues include membership in the Astronomical League, our monthly newsletter *Sonoma Skies*, access to the Palmieri Observing site at the New Moon, discounted subscription costs for *Sky and Telescope* and *Astronomy* magazines, great guest speakers at our monthly meetings, and opportunities to meet new and exciting people who share your interest in many aspects of astronomy.

ASTRONOMY DAY 2004

by Len Nelson

What a stellar Astronomy Day we had April 4! At McDowell Elementary in Petaluma, we attracted 100+ individuals who saw clear views of Saturn's Cassini Division, Jupiter and its four Galilean moons. Venus looked exactly like the half Moon that night. I would ask "What did you see?" and get the answer: "I saw the Moon." "But that's Venus," I'd say. Back came a look that clearly said "Do I look that stupid?" I used a diagram to show why Venus had a crescent shape.

The Moon's crater Theophilus was about half illuminated, with sunlight just touching the tip of one of its central peaks at 7:30. By 8:30 two peaks in the crater were illuminated. Between waves of attendees, I took these images.

By 9:50 everyone had gone except for Steve A., Tom B., Duane and Mark B. We were packing up when I remembered that Jupiter's GRS would cross the central meridian at 10:00 PM. We found it in my 130mm refractor and tried various filters to see which did the best job of clarifying it. Without doubt, Tom's High Performance blue filter from Lumicon was best. Especially in combination with his 2.5mm Type 6 Nagler eyepiece!



Venus



Moon



Theophilus