

Sonoma Skies



The Newsletter of the Sonoma County Astronomical Society
a non-profit scientific and educational organization

November 2003

Volume XXVII No. 11

Nov. 12 Speaker:

Greg Schmidt on Astrobiology and NASA

Mr. Schmidt is the Associate Director for Strategic Planning in the Astrobiology and Space Research Directorate of NASA's Ames Research Center. He will discuss the history and future of astrobiology, focusing on NASA's Astrobiology Roadmap, the NASA Astrobiology Institute, and recent discoveries in this new field.

Astrobiology is the study of the origins, evolution, distribution, and future of life in the universe. It requires fundamental concepts of life and habitable environments that will help us to recognize biospheres that might be quite different from our own. Astrobiology embraces the search for potentially inhabited planets beyond our Solar System, the exploration of Mars and the outer planets, laboratory and field investigations of the origins and early evolution of life, and studies of the potential of life to adapt to future challenges, both on Earth and in space. Interdisciplinary research is needed that combines molecular biology, ecology, planetary science, astronomy, information science, space exploration technologies, and related disciplines. The broad interdisciplinary character of astrobiology compels us to strive for the most comprehensive and inclusive understanding of biological, planetary and cosmic phenomena.

Greg Schmidt leads the Astrobiology Integration Office, which focuses on developing and applying new technology in the search for life. He has worked on the NASA headquarters staff and as a Spacelab project manager. Mr. Schmidt holds NASA's Outstanding Leadership Medal for his contributions to astrobiology and space biology.

Spotlight on the Rental Fleet

SCAS has a nice assortment of telescopes available for rent. We'll show these from time to time, as many newer members haven't seen them, and some old-timers don't realize what new stuff has been added. This month's featured scope is an 80mm Refractor with Orion motorized mount and a solar filter. It uses standard 1.25-inch eyepieces, and comes with two, 12 and 25mm. This is a very fine scope for planetary and lunar viewing, and will do well even in an urban setting. It is a good choice as a first rental because it is small and light enough to be easily transported. It is easy to set up for family viewing, where the tracking feature is particularly nice. Contact Joan Thornton at 707-762-0594 for more information.



SCAS Membership, Renewals and Subscription Information

SCAS new membership dues are \$25 from June 1st through November 30th; and \$12.50 from December 1st through May 31st. SCAS annual renewal membership dues are \$25 per year; due and payable on June 1st each year. Membership is dropped if dues become delinquent.

SCAS Membership and Meetings

As a benefit of membership, discount subscriptions to *Sky & Telescope* and *Astronomy* magazines are available. Membership meetings take place on the second Wednesday of each month at 7:30 pm in the Multipurpose Room of Proctor Terrace Elementary School on Bryden Lane near Fourth Street in Santa Rosa unless otherwise announced in this publication. Star Parties are meetings held each month at our viewing site on the Saturday evening nearest to the new moon. The Public is invited to both.

New or renewal subscriptions for *Sky & Telescope* through SCAS: send your \$29.95 subscription check (**payable to SCAS**) along with your complete mailing address (for new subscriptions) or the *Sky & Telescope* **renewal card** and **return envelope** provided by *Sky & Telescope* (for renewals) directly to **Larry McCune, 544 Thyme Place, San Rafael, CA 94903**.

Subscriptions to *Astronomy* through SCAS occur yearly around October. Check *Sonoma Skies* for details.

Telescopes Available

As a benefit of membership, SCAS members are eligible to borrow telescopes for a \$5 a week donation. Four telescopes are available: a Celestron 8" SCT and a 5" Celestron SCT, complete with clock drive and inverter; an 8-inch Newtonian on Dobsonian mount; and a 80 mm refractor on a motorized equatorial mount. Contact Joan Thornton at 707-762-0594

Access To Palmieri Observing Site

The Palmieri Observing 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.

Publication

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

Articles, news items and member announcements for *Sonoma Skies* are welcome. The deadline for articles for December is the 28th of November. Submissions must be typed or, if on computer media, in a commonly used word processing and/or graphics format, and may have graphics (pictures, drawings, etc.) They are published on a FCFS basis, space permitting, and may be edited.

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SCAS Appointed Positions

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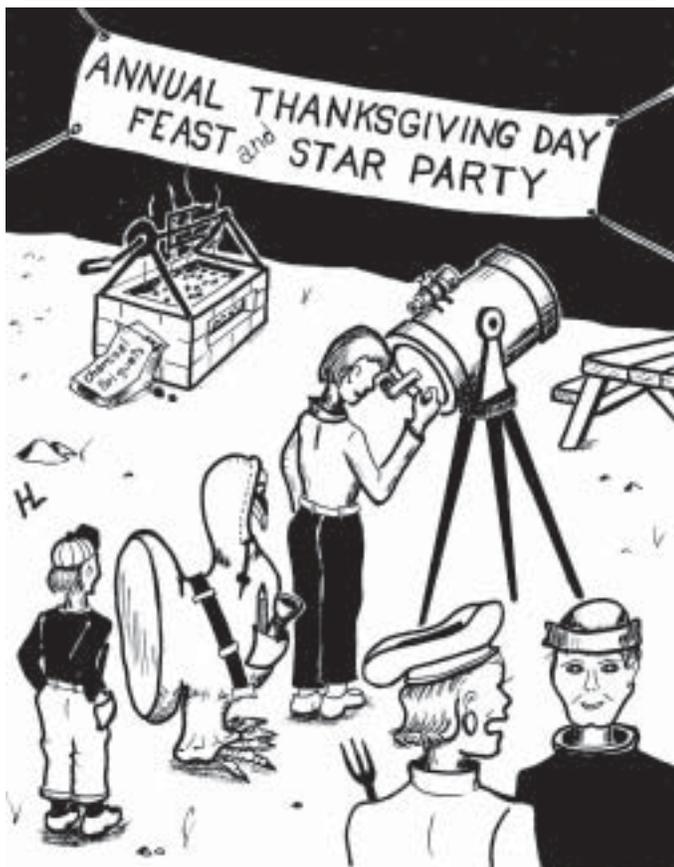
phonyjoanie@earthlink.net

SCAS has a library of over 70 books that may be checked out by SCAS members. A book may be checked out until the next meeting or for one month. Requirements to check out a book:

1. Be a SCAS member.
2. Give me (Joan Thornton) your name and phone number.

The Semi-Sirius Astronomer

by Herb Larsen



*“Say, have you seen our turkey?
I have looked all over for it.”*

SCAS Membership

Harry Linder, Membership Director
harry@sonic.net

The SCAS is pleased to welcome the following new members: Kathy and Katie Monson (rejoining) and Julia and Olivia Turnross.

We now have 157 regular members, plus the ten 2003 Striking Sparks winners.

Each month a few members don't get their paper or electronic newsletters on time because we didn't learn about their latest address change. Please let Harry know when you change email or snail mail addresses. Thanks.

Public Astronomy

by Len Nelson

SCAS Community Activities Director

lennelsn@comcast.net (707) 763-8007

School Star Party

November 18 at Windsor High School

Contact Len if you are interested in assisting at this event.

CALENDARS - Only one copy of the RASC **Observer's Calendar** for 2004 is still available at \$7.50. We have six copies of the **Observer's Handbook 2004**. These regularly sell for \$23.95 but the SCAS gets them for members at \$14.50. Such a deal! The 2004 **Year in Space** desk calendars are here, and nine are not yet spoken for. You can get them at the Nov. 12 meeting from Len for the measly sum of \$9.00 each.

Mount Wilson Observatory

I went to the AANC meeting at Berkley last month and I met one of the assistant astronomers from the Mt. Wilson Observatory. I learned that the 60" reflector rents for \$900 a night and that the months of April/October are the best months to be there. See Jane Houston Jones' article on page 7 for a nice description of what an amateur night can be. If you would like to join a similar SCAS group, please send me an email to register your interest.

SCAS Calendar

Wed. November 12 7:30 pm General Meeting at Proctor Terrace Elementary, Santa Rosa

Fri. November 14 7:30 p.m. Young Astronomers meet at Apple Blossom School

Mon. Nov. 17 and **Tue. Nov. 18** Leonids meteor shower peaks.

Thurs. November 20 Board meeting

Sat. November 29 Palmieri Observatory star party

Wed. December 10 7:30 pm General election and Meeting at Proctor Terrace Elementary, Santa Rosa

Sat. December 27 SCAS Public Star Party, Youth Community Park, Santa Rosa

SCAS "Public" Star Party

Bruce Lotz, Coordinator (707) 576-7833
ablott@sonic.net

Location: Youth Community Park, located in Santa Rosa on the west side of Fulton Road, between Guerneville Road and Piner Road, just opposite Piner High School. Almanac data for the star party:

Saturday, December 27

Sunset: 4:57 p.m. PST

End Astronomical Twilight: 6:32 p.m. PST

Moonset: 10:02 p.m. PST

SRJC Planetarium

<http://www.santarosa.edu/planetarium/>
(707) 527-4465 or 527-4371

Santa Rosa Campus, Lark Hall, Room 2001

Shows are on Fridays and Saturdays at 7:00 PM and 8:30 PM and Sundays at 1:30 PM and 3:00 PM during the regular Fall and Spring semesters. 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.

Through November 23: Jovian Journey

Explore the four outer gas planets, Jupiter, Saturn, Uranus and Neptune, and the small ice world of Pluto. Learn about their many strange and fascinating moons. Learn why Triton is most likely not a natural satellite of Neptune, discover the strange motion of Uranus and see the rings of Saturn close-up.

November 28 - December 14: Stars Of Christmas

We take an extended look at our winter sky and some of its fascinating stars and deep sky objects. One star not found on any star chart is the Christmas star. We'll look at astronomical events that could have been the Christmas star. We'll also take a traditional look at the only scriptural mention of the star of Bethlehem in the book of Matthew.

SCAS "Geysers" Star Party

Mario Zelaya (707) 539-6423
zelayadesigns@sbcglobal.net

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

Altitude: ~2700 feet

Longitude: 122deg 49min

Latitude: 38deg 46min

The next scheduled star party night will be November 29, one week past new moon. For the last several months this has been a greatly underutilized resource for viewing or astrophotography. Now would be a great time for veteran club members to invite a newer member along to learn about the facility. Please call Mario Zelaya if you plan to attend, especially if you are going for the first time. The almanac data for November 29:

Sunset - 4:51 p.m. PST

Moonset - 11:11 p.m. PST

End of twilight - 6:25 p.m. PST

Begin twilight - 5:34 a.m. PST

Robert H. Ferguson Observatory

Public Observing

Phone: (707) 833-6979

<http://www.rfo.org>

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

November 17 Leonids Meteor Shower- free!

7 p.m. open, outdoor viewing all night

November 22

Solar Viewing 11:00 a.m. - 3:00 pm

Night viewing 7:00 pm - midnight

November 28

Solar Viewing 11:00 a.m. - 3:00 pm

There is no admission fee for the solar or Leonids 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 the public viewing. However, automobile access is closed at dusk, so arrivals after dusk will need to carry their equipment in from the parking area by the horse stables.

**SSU Dept. of Physics & Astronomy
Observatory - Public Viewing**

(707) 664-2267

November 14 7:00 - 9:00p.m.

Triangulum Galaxy, Cocoon Nebula

December 5 7:00 - 9:00p.m.

The Moon, Dumbbell Nebula

The observatory is inside the football field at the SE corner of the campus, East Cotati Avenue and Petaluma Hill Road, 2 miles east of U.S.101 at Cotati.

**SSU Lecture Series
"What Physicists Do"**

<http://www.phys-astro.sonoma.edu/wpd/>
(707) 664-2119

Mondays at 4:00 p.m. Darwin Hall Room 108

Coffee at 3:30 p.m.

**Nov. 10 CRAWLING AND SEARCHING:
RESEARCH ROBOTS AT JPL**

Robert Hogg of the Jet Propulsion Laboratory.

**Nov. 17 THE DYNAMIC LIFE OF ATOMS
IN MATERIALS**

Dr. Roger W. Falcone of the U. C. Berkeley will describe how the movement of atoms in solids and liquids can be observed on ultrafast time scales and ultrashort distance scales.

Nov. 24 NEUTRINOS AND NOBELS

Dr. Joseph S. Tenn of Sonoma State University will recount some history of the mysterious neutrinos and the scientists who have been honored in Stockholm for discovering their properties.

Dec. 1

**INTO THE DEPTHS OF THE UNIVERSE:
THE SLOAN DIGITAL SKY SURVEY**

Dr. Stephanie Snedden ('83) of New Mexico State University and the Sloan Digital Sky Survey will describe how positions and absolute brightnesses of more than 100 million celestial objects and distances to more than a million galaxies and quasars are being measured in the short span of five years.

Morrison Planetarium

Dean Lecture Series

<http://www.calacademy.org/planetarium/>
(415) 750-7141

November 18

**Taking the Universe's Baby Picture: Results From
the Wilkinson Microwave Anisotropy Probe**

Dr. David Spergel, Princeton University

By observing the tiny variations in the microwave background, the left-over heat from the big bang, cosmologists can infer the physical conditions in the early universe. What are the implications of its measurements for the age, composition, and fate of the universe? These observations provide insight into the first moments of the big bang and test the bold speculation that the universe underwent a period of superexpansion called inflation.

Chabot Space and Science Center

<http://www.chabotspace.org>

(510) 336-7373

Thursday, **November 20**, 7:30 pm

Target Earth: The Search for NEO's

Chabot Astronomer Ryan Diduck will speak on NEO's (Near Earth Asteroids) and why there is now an international effort to search for and track these potential Earth-killers.

Check out the Chabot website for info on the telescope buyer's expo in November as well. Lots of scope demos.

Silicon Valley Astronomy Lecture Series

<http://www.foothill.edu/ast/>

(650) 949-7888

Wednesday, **November 12**, 7:00 pm

The Mystery of Black Holes

Dr. Alan Dressler, Carnegie Institution, will give a non-technical illustrated talk on: "The Mystery of Black Holes" in the Smithwick Theater, Foothill College, Los Altos Hills. This event is free and open to the public. Dr. Dressler will discuss what black holes are, how they are formed, and how astronomers have suspected, and then proven, that black holes — from the relatively small mass of a single star to the colossal size of billion stars — actually exist.

“The Amateur Scientist” on CD-ROM

A Review by Keith Payea

One of my earliest inspirations was the “Amateur Scientist” column in Scientific American magazine. I went through all of the back issues in my High School library, and finally convinced my parents to get a subscription for me. While I didn’t always understand the articles in the rest of the magazine, that column made every issue worth the price. Unfortunately, Scientific American has dropped the column in the last year or so. The good news is that you can now get every column on a CD-ROM! I purchased a copy a few months ago, and still find it very interesting.

The Amateur Scientist column began in May of 1928, and for the first 25 years or so, it was dedicated entirely to amateur astronomy. There are hundreds of articles about the construction of telescopes of every kind, as well as other kinds of astronomical instruments.

Each article is rated for cost, difficulty, danger, and utility. Obviously, with articles that go back 75 years, some of the information is out of date and of historical use only. Amateur scientists were also less obsessed with safety in years gone by.

The articles appear to have been scanned in with an Optical Character Recognition program, and then edited and formatted to resemble the style of the original columns. The OCR gives better results than a simple scan, but there are a few spelling errors which crept in during the process. The drawings are represented by thumbnails, which can be enlarged. I found it useful with some of them to open the drawings in a separate window so I could refer to them as I read the text.

The CD-ROM can be browsed by date, or by subject. The subject index contains eight primary areas of interest, and each of these is further divided by sub-topic. For instance, Astronomy has: Astrophotography, Celestial Mechanics, Deep Space Objects, Lab Techniques, Planetary Astronomy, Radio Astronomy, Solar Astronomy, Sundials, and Telescopes.

My copy of the CD-ROM came with a second disk containing a “Science Software Library”. This “free” software proves the old adage that “you get what you pay

Miss the RTMC Swap Meet? You Can Still Go to Mt. Diablo!

The Mt. Diablo Astronomical Society has its annual sales meeting on November 18. We welcome people to bring items for sale or to come and browse for items to purchase. We only ask that you donate 5% of the sales price to the club. We welcome all items that are related to amateur astronomy which is interpreted to include telescope making, photography, CCD and other related materials. The sales meeting begins at 7:15 and doors open at 6:45 p.m..

The meeting is at the Concord Police Training Center, located conveniently near the intersection of Route 4 and Willow Pass Road. For detailed directions, contact me and I will send them.

Jim Scala

e-mail: jscala2@comcast.net

web: <http://home.comcast.net/~jscala2>

for”. Many of the programs are very old and will run only under DOS. Others are demo versions of expensive software. There are a few gems buried in there, but it takes some serious digging.

Here are a few of the programs you might find interesting:

- Win Orbit - This program will track and display the orbits of satellites. It is intended for Amateur Radio, and will drive an antenna rotator to track the satellite for radio communication. I don’t see any reason why it couldn’t drive a motorized telescope, assuming the scope could keep up with the satellite as it crossed the sky.
- There are about a half dozen star charting programs, including one pair called SkyChart and SkySight which team up to control CCD camera equipped telescopes.
- NEWT is a Newtonian Telescope design program which does ray tracing and can help optimize the diagonal design and check for common optical problems.
- Interactive Ray Trace is a more general purpose optical design program which includes some other optical elements such as lenses and gratings

These are just the astronomy-related programs. There are others, covering Biology, Chemistry, Physics, and Earth Science. If you are like me, and Astronomy is just one part of a general interest in science, you can’t beat this CD-ROM. It will give you hours of enjoyable, thought provoking reading.

The SFAA's Visit To Mt. Wilson

by Jane Houston Jones

A trip to Mount Wilson is always amazing. The sunset colors the 100-inch Hooker telescope dome to a subtle shade of pink. A walk on the wooden walkways between the 60 and 100-inch domes traces the steps of famous astronomers, past and present. After sunset this time of year the sky darkens quickly. By 7:30 p.m. October 18, 2003 we were observing through the historic 60-inch George Ritchey f/16 telescope. You can read more about the telescope and the others on the mountain in Mount Wilson Observatory Association VP Mike Simmon's article on the Mt. Wilson webpage.

<http://www.mtwilson.edu/>

Our telescope operator for the night was Dave Jurasevich and Mike Simmons assisted him. Virginia Bogdanovich, who operates the adjacent Mt. Wilson 16-inch, and is the LAAS VP too, also helped out and showed me her Mars sketches. We had a small group on this SFAA club night - just 8 observers - so that meant we got to view many more objects than usual between dusk and dawn. Groups can reserve the telescope for nights such as this. Details are on the MWOA website.

Our first targets in the 60-inch were Epsilon Lyra, M 13 and Campbell's Hydrogen Star, Pk 64+5.1, 19h 34m 45.2s +30 31.01" in Cygnus. This small planetary, shows a small red disk around the orange star. In amateur telescopes this is one object that responds well to a H-Beta filter. 240X using the 100mm (4-inch diameter) Kellner eyepiece. Next we moved to the Ring Nebula, M57. My sketch revealed two stars in the center. The mag 15.7 central star, a planet-sized white dwarf, and a fainter companion. I also observed knots and bright spots in the shell around the star. Mike and Dave pulled up Brian Skiff's Ring Photometry and we compared my sketch to the chart. I saw and sketched the mag 14.7 and 14.9 double stars north of the planetary nebulae, and the mag 15.6 star on one side. Here's a nice chart for this project. http://c3po.cochise.cc.az.us/astro/images/M57!dss2_3.jpg.

These were observed at 240X using the 100mm (4-inch diameter) Kellner eyepiece and 400x using the 60mm (4-inch diameter) Erfle. The dome was rotated and our next targets were Neptune and its moon Triton, Mars and Deimos, and Uranus showing 4 moons, mag 14 Titania,

mag 14.2 Oberon, mag 14.4 Ariel and some of us saw mag 15.1 Umbriel. We did not see mag 16.6 Miranda. I thought I saw a lighter area on the planet disk, but it could have just been that the opposite limb darkening made the rest of the planet look lighter.

We next tried some faint globulars within galaxies. G1 or Mayall II, 00 32 46.5 +39 34 41 Mag 13.7. A globular cluster in the Andromeda galaxy definitely looked just like Roland Christian's image here.

<http://voltaire.csun.edu/roland/mayall2.html>

A fuzzy oval with two fainter stars made a triangle. The two fainter stars are mag 15 to the SW and an even fainter star to the NW. Deep Sky Magazine issue 32, has a great article and finder charts by Paul Hodge, which I have used on previous observing nights with my 17.5 incher to see these objects.. G156 00 42 25.3 +40 57 18 Mag 15.6 was very near the core of M32. Faint stellar object in-between two stars. Then we observed G57 in M110. Exactly 5 years ago to the date, I observed these same globulars at Fiddletown!

<http://www.sjaa.net/eph/9812h.html>

I was really enjoying these but everyone else wanted to get back to the big and the bright, so on we moved. High surface brightness objects look best through this telescope, so we looked at several planetary nebulae and I sketched some of them. Two planetaries are worth noting: NGC 1514 in Taurus was visible while holding an OIII filter between eye and eyepiece. IC 418 (the red Planetary) in Taurus is a great object showing two shells, the outer one red.. We also observed the Saturn Nebula, the Blue Snowball (everyone's favorite), the Perseus Double Cluster, M76, M42, Sirius B, Gamma Andromeda, and later Jupiter and Saturn.

Our last target was the moon. It was aimed at Copernicus everyone thought, except when I took a look, I noticed it was Buliadius (RUKL 53), another deep crater with a crumpled rim and debris all around. So I showed everyone Kies and the dome Kies Pi and another unnamed dome nearby. Then we moved the telescope to Copernicus, and observed the many lunar domes in the region. (RUKL 31). Dawn was brightening the sky. It was after 6:00 a.m. It was time to call it a night.

My sketches from this Mt. Wilson trip are here:

<http://www.whiteoaks.com/sketches/60inch.html>

Young Astronomers

October Meeting Report

The October 17th meeting at Apple Blossom School featured Jane Houston Jones giving a presentation on the Milky Way Galaxy. After the presentation, there was a small star party, in which Jane pointed out some of the more interesting sights in the Fall sky, emphasizing the bodies in and around the Milky Way.

The evening started off at about 7:15 with Melissa Downey, the new club President, asking for nominees for the position of Vice President. Nobody was voted into the position, but some people volunteered. The floor was then turned over to Ms. Jones for her talk.

Jane distributed activity sheets and pencils to start her talk. The activity sheets required that the participant fill out his or her galactic address, from the classroom of the person's school up to the name of the galaxy cluster (the Local Group). In her talk, Jane elaborated on this, and also gave information about what the Milky Way galaxy looks like and of what material it is composed. Jane's talk was filled with wonderful photographs of stellar objects.

After the talk, there was a small reception, with cookies, juice, and coffee available, and then the star party.

Telescope Raffle

SCAS has received an unused Meade beginner's telescope which will be raffled as a fundraiser in time for Christmas. It is a 4.5-inch Newtonian on a motorized equatorial mount. The telescope will be available for inspection at the Nov. 12 meeting, and the drawing held at the end of the Dec. 10 meeting. Tickets are \$1.00 each or 6 for \$5.00 and can be purchased at either meeting. You do not need to be present to win. This is a great opportunity to invite non-SCAS friends to come join in the fun. This scope is ready to use as you see it in the picture, no assembly required. Comes complete with a videotape users guide.

Specifications:

Model Number: 114EQ-DH4

Mirror: 4.5" Focal length: 910mm Focal ratio: F/8

Eyepieces - 3 Modified Achromatics: 25mm, 12.5mm, and 4mm plus a 3x Barlow, all 0.965-inch diameter

Rack & pinion eyepiece focuser; 5 x 24mm finderscope

Hand controller (uses 5 AA batteries, not included)

Net Weight: 23 pounds

Young Astronomers' Calendar

Nov. 14 - **The Leonids Meteor Shower**

Presenter, Jane Houston Jones

Dec. 12 - **Auroras**

Presenters, Merlin Combs and Len Nelson

Meetings start at 7:30 p.m. at Apple Blossom School, 700 Water Trough Road, Sebastopol. The multi-purpose hall is the 'large' building on the right side of the school that one sees from the main parking lot.

Young Astronomer Off To Saturn!

We have late word that the November 14 meeting will be our last opportunity in some time to hear Jane Houston Jones speak as a 'local.' She has just been appointed Senior Outreach Specialist for the Cassini mission at the NASA Jet Propulsion Laboratory (JPL) in Pasadena. Cassini is the unmanned space probe on its way to Saturn, where it will go into orbit in June 2004. Jane will be writing and managing projects having to do with outreach with kids of all ages. She and Mojo will be moving to Pasadena soon, so don't miss this opportunity to hear one of Jane's wonderful presentations, and to wish her and Mojo well in their new venture. Hmm, how about a condo at Mt. Wilson?



The Meade 114EQ Raffle Prize