



AU AstroNews

The Newsletter of the Astronomical Unit

December 2001

Sponsored by the Santa Barbara Museum of Natural History

Last Month's Meeting

Chris Butler took us on another entertaining visit to the stars in our neighborhood. Thanks for a great tour!

Holiday Party

The AU's annual **Holiday Banquet** will be held again this year at the Beachside Bar & Grill at Goleta Beach, on Thursday, December 6. Arrive at 6:30 PM, and we'll start eating at 7. Thanks to Bob Michael for doing all the work setting us up.

Another holiday tradition is the **White Elephant gift exchange**. Rules: no purchased gift must cost over \$20.00. When you arrive and submit your gift you will receive a ticket. This will make you eligible for the exchange. There will be a drawing during the course of the evening for the various gifts. When your ticket is called, you get to choose from the remaining gifts. You must tell those present how you will use your gift in an astronomical manner.

December's Meeting

The last meeting of the year means it's **election time** again. Club officers to be elected are the President, Vice President, Treasurer, and Secretary. In addition, the President appoints a webmaster, newsletter editor, outreach coordinator, refreshments coordinator, and other helpers as she/he sees fit. We really need you to step in and volunteer. Our club is only as good as we make it, so have some fun while helping out!

We'll also have another **Silent Auction** to benefit the club. Bring working astronomical items you wish to donate. There will be bid sheets which will have a

description, starting bid, and bid increments, provided by Tony. Only usable items, please!

December's Speakers

After the election is Members' Night. Our scheduled speakers this year are: Jiri Polivka - Observation of Solar and Lunar Noise at 4 and 12 GHz With Small Radio Telescopes, Laurence Harms - On the Road Again to Guam to Observe the Leonid Meteor Storm, Warren Bitters - Building a 10" Dobsonian Telescope, and Bob Michael - A Visit to "Olympus Mons on Earth."

Thanks, Volunteers!

Outreach for late October and November suffered from some cloudy weather. Nevertheless, AU volunteers Gretchen & Greg Brinser, Art Harris, June Kelley, Pat McPartlin, Edgar Ocampo, and Wayne Rothermich showed the sky (or gave handouts) to **390** customers.

The outreach schedules are subject to change, so to get the latest information, check the web page bulletin board (under the "Observing" topic), or contact Edgar or Chuck. Try to let one of us know ahead of time if you are planning to show up at an outreach event.

AU Observations for December

Wednesday, December 5, setup 6:30 PM - Cub Scouts at El Rancho School.

Saturday, December 8, 8:30 PM - SBMNH Monthly Star Party.

Wednesday, December 12, setup 7 PM - La Colina Junior High School.

Saturday, December 15, all night – Dark Sky at West Camino Cielo and/or Figueroa Mountain. Contact Tony Galván or Paul Winn to find out where to go.

Friday, December 21, 7 PM – Monthly public observation at Westmont.

Sunday, December 30, 7:30 PM – Elderhostel observation at Camp Ramah in Ojai. Contact Chuck.

Leonid Meteor Storm

AU members who trekked to Figueroa Mountain or West Camino Cielo on the night of November 17/18 were not disappointed. A bunch of us gathered at the Shotgun Range for a night of telescoping and meteor counting, plus snacks. We had good skies all night for several scopes, and feasted on goodies like Gamma Andromedae, Albireo, the Andromeda Galaxy, the Crab Nebula, Comet LINEAR WM1, the Double Cluster, the Veil Nebula, the Rosette Nebula, Jupiter, Saturn, and the Orion Nebula, to name a few.

Meteor rates really picked up after midnight, with lots of simultaneous bolides, some ending in bright flashes and leaving persistent glowing trails. The mountains were packed with people, with each bright meteor eliciting a communal “oooooh” in sensorround sound. We seemed to have a broad peak, instead of the predicted narrow one, with rates of 700-900 per hour around 2 AM, and high rates for about 3.5 hours starting at 1 AM. The shower was still going strong as the Sun rose, heralded by a towering pillar of the zodiacal light reaching up into Leo’s haunches.

Wanted - Leonid Pictures

If anybody got some nice images of Leonid meteors, Steve would be interested in getting a print from you for a possible Museum exhibit. Bring your photos, along with any information on time and exposure, to the December meeting. The exhibit will be similar to the Hale-Bopp exhibit that used to be in the Museum’s Space Lab.

Meteors and Comets this Month

Speaking of meteors, the Geminid shower peaks for us from 5 to 10 PM on Thursday, December 13. This shower is unique among the major ones in that it is not associated with the orbit of a comet, but with the orbit of the Apollo-group asteroid 3200 Phaethon. The ZHR is pretty good, at around 120 per hour. The Moon is new, so skies will be dark. The radiant point for the shower is in the constellation Gemini, along the eastern horizon. Brilliant Jupiter, now in the middle of the Twins, will help you find it.

During the first two weeks of December, Comet LINEAR WM1 should be a dim naked-eye object cruising in our southern skies, passing through Cetus and Sculptor to Grus. After about the 19th, it will be below our horizon. On Leonids night, the comet was easily visible in binoculars, and moving rapidly through Perseus toward Taurus. Pausing 30 minutes between observations was sufficient to show its movement against the background stars in a 1/2 degree field of view.

Solar Eclipse

Last year we had the Christmas Eclipse. This year we get a similar partial solar eclipse on the afternoon of Friday, December 14. The Moon will begin chewing on the Sun at noon, and will cover parts of it until a little after 2 PM. Since at maximum only about 20% of the Sun’s surface will be covered, make sure you use a safe filter of at least ND 5 (#14 welder’s glass) to observe the eclipse.

Moon Occults Saturn

On the night of Thursday, December 28 (actually Friday morning), the Moon will once again occult the planet Saturn. This is a spectacular sight through even a small telescope. Starting 6 minutes after midnight, the dark limb of the Moon will swallow up Saturn’s moon Titan, then Tethys, and then reach the rings at 00:14. After taking two minutes to munch Saturn, the Moon will go after Enceladus, Dione, and Rhea. Titan will re-emerge along the bright limb of

the Moon at 01:25, Tethys at 01:31, and Saturn at 01:32. When all of Saturn is occulted but the leading or following ansae of the rings, it truly looks like someone has opened a McDonald's on the Moon!

Earth Occults Moon (almost)

Early Sunday morning, December 30, there will be a penumbral eclipse of the Moon. The action starts at 00:30, and ends at 04:30. A crescent of the Moon will remain outside the penumbra for the entire eclipse, so it will look somewhat like a young crescent Moon instead of the Full Moon it really is.

Goodies for Lunatics

A gentleman by the name of Alwyn Botha has produced two detailed photographic maps of the moon, available (for free) online at <http://www.moon-phases.com/>

This website also has 300 quizzes about these maps of the moon. Each question has a small picture of a part of the moon. You have to identify craters, rills, mountains, etc. You are welcome to link to any of these maps of the moon - or the website itself.

It's Winter!

The Winter Solstice will occur at 11:20 AM PST on Friday, December 21. At that moment, the tilt of the Earth's axis and its orbital position will conspire to cause the Sun to appear to stop moving South – solstice means “Sun stands still” – and it will start heading higher in our sky. That means that you'll be getting less observation time each night!

January's Speaker

Dr. Alex Filippenko, Professor of Astronomy at UC Berkeley, and a member of the Santa Barbara Astronomy Club (now merged with the AU) from 1973 through the early 1980s, will speak at our January meeting about “Einstein's Biggest Blunder? The Case for Cosmic ‘Antigravity’.” Dr. Filippenko is known for his speaking talent, as well as his astronomical achievements.

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Current annual membership rates are:

Single \$15 Family \$25

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