



AU AstroNews

The Newsletter of the Astronomical Unit

September 2001

Sponsored by the Santa Barbara Museum of Natural History

Monthly Meeting

Regular monthly meetings will resume on Friday, September 7, at 7:30 PM in Farrand Hall at the Museum of Natural History. The topic this month will be "**Solar Eclipse 2001; An African Odyssey.**" Enjoy the exotic sights and sounds as the first total solar eclipse of the new millennium touched Southern Africa – brought to you by Joan and Tony Galván.

AU Auction

Several items recently donated to the club will be auctioned off at the meeting, with the proceeds going to the Astronomical Unit's treasury. The items will be on display in Farrand Hall prior to the meeting. Auction sheets will be available at the table by the door. Write your name and the amount you wish to bid on a sheet, and turn it in to Tony.

The winning bid will be chosen at 9:30 PM. Winners are responsible for payment and pick-up at the end of the meeting, and for writing a thank you letter to the donor.

This is your opportunity to buy the following astronomical equipment at less than retail cost.

One Unitron 60mm refractor with 0.965" eyepieces, alt-azimuth tripod, and case. Excellent condition. Starting bid: \$20.00

One Dynascope 3 inch reflector with 1.25" eyepieces, German Equatorial Mount (AC powered), and case. Excellent condition. Starting bid: \$20.00

One mirror blank, 8" diameter (manufacturer unknown). Starting bid: \$25.00

One mirror blank, 10" diameter (manufacturer unknown). Starting bid: \$35.00

One mirror blank, 12" diameter (manufacturer unknown). Starting bid: \$45.00

California Star Party

There will be an AU contingent at the 2001 CalStar at Lake San Antonio from September 13 – 15. You can still register for this event: see your August AstroNews, the AU web page, or contact Chuck to find out how.

Griffith Observatory

If you're interested in participating in a field trip to Griffith Observatory before it closes for remodelling, make your wishes known at the September meeting.

Thanks, Volunteers!

AU outreach volunteers in August (through August 20) were Jim Billig, Gretchen and Greg Brinser, Joe Doyle, Coni Edick, Art Harris, Pat McPartlin, Edgar Ocampo, Helen Osenga, Craig Prater, Wayne Rothermich, Clem Voss (a brand new member), and Jim Williams. This month felt rather somnolent after July, with only **227** 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 September

Saturday, September 8, 8:30 PM – SBMNH Star Party. Maybe we won't set off any alarms this month!

Saturday, September 8, setup 11:30 PM – Yes, we're crazy. Right after the Museum Star Party, some of us will drag our scopes to the American Cancer Society's all night **Relay for Life** event at UCSB, on the soccer fields behind Robertson Gym.

Thursday – Saturday, September 13 - 15 – CalStar at the Lake San Antonio campground. Join amateur Astronomers from Northern and Southern California as they meet in the middle to share some dark skies.

Friday, September 21, 8:00 PM – Westmont Public Observation at Van Kampen Observatory. Cruise the sky with a 16 1/2 inch reflector.

Saturday, September 22, setup 7:30 PM – Campground outreach at Refugio State Beach. Somehow, we almost always get great observing conditions.

Bright Gas Giants Meet the Moon

The Moon has been real busy occulting various planets during daytime over the past few months. In September, we get a spectacular occultation of Saturn in the early morning darkness of Monday, September 10. Starting at 04:46 AM PDT, the bright limb of the Last Quarter Moon will occult Saturn's large moon Titan, followed 4 minutes later by the ringed planet itself, which will take 2 minutes to be completely obscured. If you wait around as the sky brightens, you can see Saturn emerge from behind the dark limb of the Moon starting at 06:12 AM.

If you miss this one, you can still catch the Moon occulting Saturn early on the morning of December 28. It happens around two o'clock, though, so it's harder to decide when to get some sleep!

It won't be an occultation for us (unless you're going to Alaska), but at 03:45 AM PDT on the morning of

Wednesday, September 12, Jupiter will pass within a low-power field of view of the Moon.

Is It Autumn Yet?

The Autumnal Equinox, which occurs this year at 4:02 PM PDT on Saturday, September 22, marks the start of Fall in the Northern Hemisphere and Spring in the Southern Hemisphere. On this date, the Sun officially passes through the projection of the Earth's equator onto the sky, and it enters the Southern Hemisphere. It's the Equinox, which means "equal night," signifying that the number of hours that the Sun is above the horizon is the same as the number of hours when it is below the horizon.

For Santa Barbara on that day, the Sun will rise at 6:48 AM, and set at 6:54 PM. Wait a minute! That's more than twelve hours. What's going on here??? Where did we get those extra 6 minutes?

It turns out that the instant of the Equinox is defined by the transit of the center of the Sun across the celestial equator. But the Sun has an angular extent of about half a degree, so there's still some solar surface rising ahead and setting behind to give us our extra daytime. A tiny sliver is all you need to light things up.

That's not the only effect prolonging our illumination. It turns out that our atmosphere also acts like a giant refractive lens, bending the passing sunlight so that the Sun is visible even though it is actually below our horizon. If we had no air, we would have less daytime.

The end result is that we get a couple of more days of virtual Summer before the time from sunrise to sunset spans exactly twelve hours. For Santa Barbara, that day comes on September 25, when the Sun will rise and set at 6:50.

Of course, these inequitable equinoxes also mean that we get fewer good dark observing hours than we might otherwise have. Maybe that's a good argument for getting a solar filter.

Annual AU Campout

The AU campout is all set for the weekend of October 19/20/21 at the Lopez Lake Recreation Area. We will be in the Live Oak Group Area, near Mallard Cove at lake level, which has a large barbecue, water, electricity, nearby restroom with hot showers, full shade, and good views. Daytime activities include boating, canoeing, fishing, hiking, wind boarding, bicycling, and bird watching.

Lopez Lake is just ten miles east of Arroyo Grande off Highway 101. Within easy driving range are wineries, golf courses, shopping, historic sites, and Hearst Castle.

The Marina Store has groceries, fishing tackle, tee shirts, souvenirs, and a laundromat. Motorboats, paddle boats, kayaks, and hydro-bikes are available for rental.

It doesn't matter how many campers or day visitors we have at the site, but automobile access is limited. Our first six vehicles are covered by the reservation fee. An additional two vehicles may park at the group site for a \$12 per vehicle per night fee. Additional vehicles will pay the same fee, but must park in the overflow lot. The AU will cover the parking fees. Pets are an additional \$2 per day. Non-motorized watercraft are \$2.50 per day, and motorized craft are \$5 per day, if you bring your own.

We'll have our usual potluck dinner on Saturday evening, and observing on Friday and Saturday nights. The Moon will be 3-4 days old, so we'll have plenty of dark sky to peruse, and the Orionid meteors may give us a show.

For more information, visit their website at <http://www.slocountyparks.com/lopezlake/>

We'll have a sign-up sheet available at the September and October meetings for camping and the potluck, or you can contact Pat & Chuck at MACPUZL@west.net or 964-8201.

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AU AstroNews is the monthly publication of the **Astronomical Unit (AU)**, mailed to the general membership. Contact Chuck before the 20th day of the preceding month to contribute to the newsletter.

Current annual membership rates are:

Single	\$15	Family	\$25
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16	17	18	19	20	21 Westmont Obs	22 Refugio Obs, Fall Equinox
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