# AU AstroNews

The Newsletter of the Astronomical Unit

October 2003 Sponsored by the Santa Barbara Museum of Natural History

## African Eclipse at the AU

At the last AU meeting, Tony Galvan broadened our knowledge of the Greater Yellowstone Ecological area. He showed some wonderful slides of the region, including many steaming springs and geysers. Thank you, Tony, for a very hot talk! Our speaker for October will be long-time AU member Brother Laurence Harms, who will tell us about his trip to Africa, and the 2002 total solar eclipse.

## August Outreach Volunteers

The last month was full of great outreach events, especially with the Mars opposition. The Elings Park event drew a crowd estimated at 3,500, and resulted in cars parking all up and down Las Positas. When the park folks shut us down just after 11 PM, there were still long lines waiting at the telescopes. We had a fantastic turnout of 27 scopes for viewing Mars. AU volunteers at outreach events were Robert Bernstein, Jim Billig, Warren, Liliana, & Ceci Bitters, John Boyd, Greg Brinser, Bob Brown, Joe & Margaret Brown, Tom & Maria Bún, Bill Clausen, Tim Crawford, Joe Doyle & Coni Edick, Dora Drake, Chey Hahn, Laurence Harms, Art Harris, Marv & Janie Johnson, June Kelley, Nicole Lemaster, Dale Lowdermilk, Pat & Chuck McPartlin, Edgar Ocampo, Helen Osenga, Ron Pembleton, Ken & Kathy Pfeiffer, Ken Pierskalla, Craig & Kenyon Prater, John West, Jim Williams, Paul Winn, and Tim Wittenburg. Other helpers included Rob Birkla & Jennifer Moliterno, Mark Delaney, Ramsey Harris, Carl & Autumn Magagnosc, and Marylove Thralls & Michael Hackett. Our total for people shown the night sky was a staggering 4,048 this month! Thanks to all the AU volunteers!

At the top of the next column on this page is a picture of some of the many AU members and other eager observers preparing for the monumental Mars event at Elings Park. Right below that is a picture of Joe Doyle alongside his marvelous 18" Dob, being filmed and interviewed by the KEYT news crew. For the sharp-eyed, look closely at the cameraman's t-shirt. Yes, Joe has even more fans than we realize!


## AU Events forOctober

Friday, October 3, 7:30 PM – Monthly AU meeting in Farrand Hall at SBMNH.

Saturday, October 4, setup 7:00 PM – Slide show and scopes for Cachuma Lake Campgrounds. Scopes set up at Dakota Plains.

Thursday, October 9, setup 5:00 PM – Corporate event at the Bacara. Contact Chuck (**macpuzl@west.net**) for details.

Saturday, October 11, 5:30-6:30 PM – AU Planning Meeting at SBMNH, Krissie's office. All members are encouraged to help plan future AU activities.

Saturday, October 11, 7:00 PM – Monthly Public Star Party at SBMNH.

Friday, October 17 to Sunday, October 19 – Annual AU Campout at Cachuma Lake. Sign up at the meeting and let us know what goodies you'll bring for the Saturday potluck. On Friday evening we'll set up an outreach for the campers, and on Saturday after the potluck we'll have an AU observation at the campsite (Mohawk Shores).

Saturday, October 25, setup TBA – Telescopes for Starry Story Nights in Pioneer Park in Santa Maria.

Saturday, October 25, all night – Dark sky observing. Contact Paul Winn (**strg8zn@cox.net**) or Joe Doyle (**jdoyle@mrl.ucsb.edu)** to find out where and when.

Scheduled events are subject to change and additions with little notice! For the latest and greatest, contact Edgar Ocampo (**eocampo26@earthlink.net**) or Chuck McPartlin (**macpuzl@west.net**) for the latest developments.

## Should We Buy a New Solar Scope?

The AU officers and planning committee are proposing that the AU make a club purchase of a Coronado Maxscope 70 for solar viewing. The Maxscope 70 (formerly the "NearStar") is hydrogen-alpha filtered telescope that provides unparalleled views of the sun, showing much more detail than can be seen with a white light solar filter. Many AU members remember the outstanding presentation on solar observing with hydrogen-alpha filters given at a recent AU meeting by David Lunt, founder and president of Coronado Instruments. A typical image showing solar prominences through a Coronado telescope is shown here. Many more images are at: **www.coronadofilters.com**. The overall cost would be $3400-3800, depending on final selection of a mount. The club currently has over $7000 in cash. If the proposal is approved, the telescope will be available for rental by active club members for $10/week. The telescope will be available at no charge to use for public outreach events. For details on the proposed purchase and the use policy, see the AU website, **www.sbau.org**. (In other news, the Museum's lawyers have also notified us that all AU members are covered by the Museum's liability insurance policy at public outreach events.) At the October meeting, AU secretary Craig Prater will explain the details of the proposal, and then the members present will vote on whether to approve the purchase.

**For Sale: Classic 5" Astrophysics Refractor w/ Accessories**

Excellent Condition — Completely refurbished by Astro-Physics in August of 1990. Includes Custom Made Mahogany Telescope Case, 2.7" Rack & Pinon AP Focuser w/ 2" and 1-1/4" Adapters, 2.7" Diameter by 2.5" Long Focus Extender, Super Polaris Mount w/ Celestron right Ascension Drive Motor and Drive Speed Electronics, Illuminated Polaris Finder, Wooden Super Polaris Tripod, Accessory Tray, 5 Premium (Brandon or equivalent) Eyepieces, Astro-Physics 2" Barlow Lens, Vernonscope 2" Star Diagonal, Telrad Finder, 11x80 University Finder w/ Illuminated Reticle eyepiece. Price for all items purchased separately is $3975, but you can buy them all together for only $3400. Contact new AU member Jack Engel at 687-1490

NASA's Space Place

**(un)Fasten your Seatbelts**

by Patrick Barry and Dr. Tony Phillips

The "fasten seatbelts" light turns off, and you get up to ask the stewardess for a pillow; it's going to be a long flight. Only a kilometer ahead in the cloudless sky, a downward draft of sheering winds looms.

When the plane hits these winds, the "turbulence" will shake the cabin violently and you could be seriously hurt. You don't know about those winds, of course, and neither does the pilot. Today's weather satellites can't see winds in clear skies: they rely on the motion of clouds to infer which way the winds are blowing. "Believe it or not, their best indication of wind sheer right now is warnings from aircraft that have gone through it ahead of them," says Bill Smith of NASA's Langley Research Center. But a new satellite technology being pioneered by NASA and NOAA could improve this shaky situation. It's called GIFTS, short for Geosynchronous Imaging Fourier Transform Spectrometer. GIFTS is an infra-red sensor that can detect winds in cloudless skies by watching the motions of atmospheric water vapor. Water vapor is mostly invisible to the human eye, but it reveals itself to GIFTS by the infra-red radiation it absorbs. Smith is the lead scientist for EO-3, a satellite designed to test out this new technology. Slated for launch in 2005 or 2006, EO-3 will carry GIFTS to Earth orbit where it can produce 3-dimensional movies of winds in the atmosphere below. These wind data will not only improve safety, but also help the airlines save money. Knowing the winds along a flight route allows airlines to adjust the plane's fuel load accordingly, thus reducing the weight that the engines must lift. Saved fuel means saved money and less pollution. GIFTS can help planes avoid another potentially lethal problem, too: Ice forming on their wings. If a cloud contains "super cooled" water droplets whose temperature is below freezing, those droplets will form ice on the wings of planes that pass through it. By looking at about 1700 different frequencies of the light coming from clouds, GIFTS can measure the temperature of the cloud top and determine whether it contains water droplets that could cause aircraft icing. With information from GIFTS in hand, pilots can simply avoid clouds that appear dangerous. Once EO-3 demonstrates the accuracy of GIFTS, airlines will be able to capitalize on this potential to make flying a cheaper and safer experience. Learn more about the GIFTS instrument and other advanced technologies being tested on the EO-3 mission at **nmp.jpl.nasa.gov/eo3**. Kids of all ages can go to The Space Place to play a data compression game related to EO-3 at **spaceplace.nasa.gov/eo3_compression.htm**

**AU Information Box**

| | | |
|---|---|---|
| **President:** | Pat McPartlin | 964-8201 |
| | parsnip7@yahoo.com | |
| **Vice President:** | Chuck McPartlin | 964-8201 |
| | macpuzl@west.net | |
| **Secretary:** | Craig Prater | 683-5784 |
| | cbprater@cox.net | |
| **Treasurer:** | Bob Brown | 683-2138 |
| | BobBrownSB@cox.net | |
| **Outreach:** | Edgar Ocampo | 964-0914 |
| | eocampo26@earthlink.net | |
| **Webmaster:** | Paul Winn | 685-5646 |
| | strg8zn@cox.net | |
| **Refreshments:** | Jim Williams | 736-4723 |
| | j_alison_w@hotmail.com | |
| **Newsletter:** | Ken Pfeiffer | 687-2327 |
| | Keagle10@cox.net | |

**AU Astronomy Information Pager**
(leave a short message) 564-9002

**SBMNH Astronomy Programs Coordinator**
Krissie Cook 682-4711x316
kcook@sbnature2.org

**SBMNH Astronomy Programs Tape**
Updated weekly 682-4711x405

**AU AstroNews** is the monthly publication of the **Astronomical Unit (AU)**, mailed to the general membership. Submit stuff by the 20th of the month! Current annual membership rates are:

Single $15 Family $25

Our address is:

Astronomical Unit
C/O Santa Barbara Museum
of Natural History
2559 Puesta Del Sol Road
Santa Barbara, CA 93105-2998

**On the Web: `www.sbau.org`**