

San Diego

Astronomy Association

Celebrating 40 Years of Astronomical Outreach



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A Non-Profit Educational Association
P.O. Box 23215, San Diego, CA 92193-3215

SDAA Business Meeting

Will be held at:

SKF Condition Monitoring
4141 Ruffin Road
San Diego, CA 92123-1841
March 9th at 7:00 pm

Program Meeting "Photo Night"

March 17th at 7:00PM

Mission Trails Regional Park
Visitor & Interpretive Center
1 Father Junipero Serra Trail
San Diego, CA 92119

Snacks * Prizes * Info * Fun
Doors open at 6:30PM
See page 6 for details

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News and Notes

March 2004

Messier Marathon by Kin Searcy

Astronomical Spring Fever? SDAA is holding its annual Messier Marathon at TDS the night of March 20-21, the new moon night. At this time of year, it is possible to observe all 110 of the Messier objectives in a single night. We will have coffee, donuts, oatmeal, log sheets, and certificates for the participants. Join the group with telescope or binoculars prior to dusk on Saturday March 20.

The Messier Marathon is an endurance race against the sun. You should be prepared to begin observing as soon as darkness permits and to catch the final objects in the dawn sky. Advanced planning is a must. Popular astronomy sites have guides with cross-references to popular star charts.

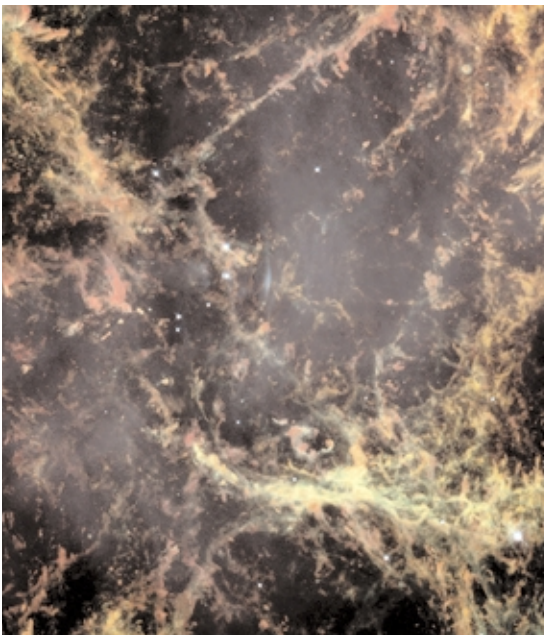
The preferred method of locating objects is star hopping. Scoring is on the honor system. Check off objects when you are

comfortable that you have seen them. This is a good opportunity for beginners to see the "pros" at work. We will have reference material and a computer at TDS so that you can follow the action.

How to play:

- * You must find the objects the old fashioned way, by star-hopping (or pure luck) - no computers.
- * You must find them yourself (i.e., simply looking at M1 through your neighbor's scope doesn't count as a find).
- * Fill out a Sweep Sheet as you go (provided by the night's host)
- * Return your completed form to the host or an SDAA Board member.

Last year's Messier Moguls were Gene Dolphin and Vince Bert, who found 102 and 104 objects, respectively. Think you can beat them? Get out there on March 20 and give it a try.



Peering into the Heart of the Crab Nebula. "In the year 1054 A.D., Chinese astronomers were startled by the appearance of a new star, so bright that it was visible in broad daylight for several weeks. Today, the Crab Nebula is visible at the site of the 'Guest Star.' Located about 6,500 light-years from Earth, the Crab Nebula is the remnant of a star that began its life with about 10 times the mass of our own Sun. Its life ended on July 4, 1054 when it exploded as a supernova. In this image, NASA's Hubble Space Telescope has zoomed in on the center of the Crab to reveal its structure with unprecedented detail."

Courtesy of NASA Image eXchange:
<http://grin.hq.nasa.gov/ABSTRACTS/GPN-2000-000895.html>



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Astronomy 101

Astronomy 101 by Scott Baker

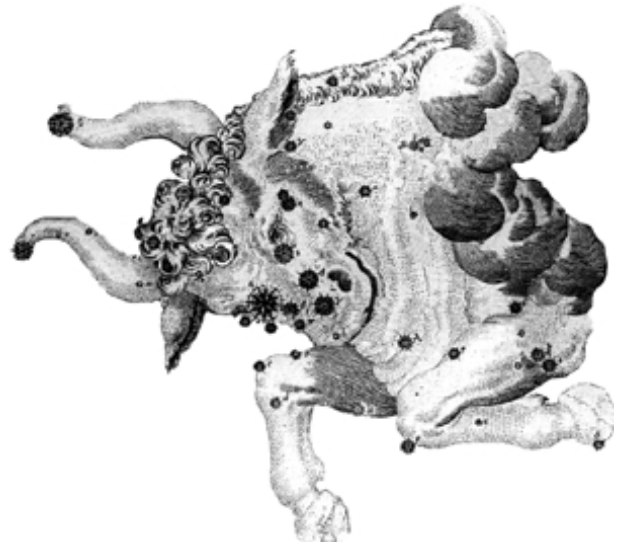
Taurus the Bull - or - Zeus does it again

In many ancient Greek myths, Zeus, the supreme ruler of the heavens, the King of Gods, fell in love with mortal women, and the tale of Taurus the bull is no different.

So here we have Zeus, viewing the Earth from his home on Mt. Olympus, when he spied his true love (again), the beautiful Europa, daughter of Agenor, the king of Tyre. Entranced with her beauty, Zeus came to Earth to woo her but found she was well guarded by her father's servants and couldn't approach her. Moving out into the pastures by the sea where the King's cattle graze, Zeus, using his great power, changed himself into a handsome white bull with golden horns. He wandered amongst the cattle, keeping his eye on Europa as she walked the nearby beach. Europa, seeing the magnificent bull, approached it slowly, offering it sweet grasses. Seeing that the bull was gentle

and friendly, she couldn't resist climbing up on its back, feeling its soft white hide on her thighs and grasping its golden horns. The bull moved slowly towards the beach, with Europa on its back, and when the moment was right, it charged into the water. Before Europa knew what had happened, she was far out to sea. The bull carried Europa to the Isle of Crete, where Zeus changed himself back into his normal form and took Europa as his lover.

Europa became the first queen of Crete, giving Zeus three sons. Sadly realizing that he could not stay on Crete with Europa, he gave her to Asterius, the king of Crete, to wed. To help him remember his beautiful Europa, Zeus placed the white bull in the heavens for all to see. When you look in the heavens and see Taurus the bull, you only see the front half



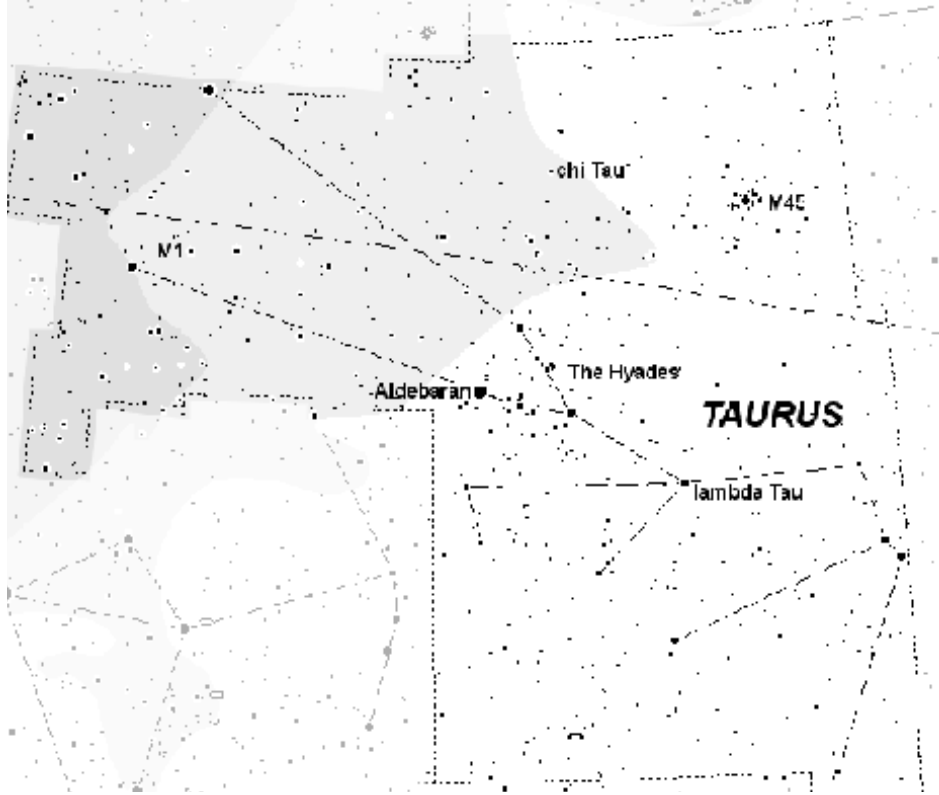
because the sea hides the other half as the creature swims to Crete.

In the constellation of Taurus, there is another short story to tell. The V-shaped cluster of stars that form the face of the bull is called "The Hyades." The Hyades were the sisters of Hyas, a mighty hunter who was killed by a boar. The Hyades wept so much for Hyas that Zeus felt pity for them and gave them the task of watching his daughter Dionysus (the Goddess of Wine) to help them forget their grief. Zeus later placed the sisters in the heavens to honor them for their service and for their grief, where they still weep for their lost brother.

For the amateur astronomer, Taurus, straight overhead at nightfall, holds several interesting objects. For the binocular observer, the aforementioned Hyades are a large, loose, open cluster of some 200 stars about 150 light years away. The bright orange-red star at the edge of this group is Alderbaran, the 13th brightest star in the sky. Alderbaran, shining at magnitude .85, is 68 light years away and marks the eye of the bull.

Another open cluster is M45, the "Pleiades," or "Seven Sisters." How the Pleiades came to be is a nice story for you to research on a cloudy night (the story is too long for me to tell here). The Pleiades,

(continued on page 3)





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Astronomy 101

(continued from page 2)

a cluster of over 500, hot young stars, is approximately 380 light years distant. This cluster is a good test of seeing conditions and your ability to see with the naked eye. On any average night, six stars are easily visible to most people. Under dark skies, 7, 8, or 9 are visible to the acute observer. There are even records of Johannes Kepler seeing 14 stars! At the heart of this cluster are visible remnants of the dust and gas cloud that they formed from, now being pushed away by the energetic young stars. The dust gives the brightest stars an almost fuzzy appearance, as if one is looking at them through a dewed-up lens.

For the deep sky observer, M1, the "Crab Nebula" makes an interesting target. M1 is the remnant of a super-nova that occurred in 1054 AD and that is recorded in many ancient texts. The light of the supernova was visible even in broad daylight and was seen as a portent of doom. M1 can be seen with 8X50 binoculars under excellent conditions as a faint smudge on the sky. In progressively larger scopes, its appearance will show an oval shape with hints of structure running through it. Using a deep sky or UHC filter will help one to see some of the detail. It has the classification of "M1" after Charles Messier found it in 1758 and thought it a comet. After finding it had no apparent motion, he entered it as the first item in his now-famous catalog of 110 non-cometary objects.

For the double star observer, a very attractive pair is chi Tau, which consists of a white main sequence star of 5.37 magnitude and an 8th magnitude star of golden color.

For the variable star observer, there's the very interesting eclipsing binary, lambda Tau. This binary system varies in magnitude from 3.4 to 4.1 over a four-day period.

I hope you've enjoyed this little romp in the pasture with the mighty Taurus, the bull. Clear Skies!

Board Meeting Minutes by Diana Baker

The meeting was called to order at 6:59 pm February 10, 2004. In attendance were Brian Staples, Scott and Diana Baker, Bill Griffith, Christopher Watson, Shawn Kelly, Jerry Hilburn, Brian McFarland, Michael Finch, Rich Strobel, Lou Jackson and Peter DeBaan.

Last meeting's minutes were read online. A motion was made to approve the minutes; it was seconded and approved.

Michael Finch gave the Treasurer's Report: There are now 615 members. A motion was made to approve the Treasurer's Report; it was seconded and approved.

Shawn Kelly gave the Site Maintenance Report: The clearing and shredding of the area for the water tanks is going well, and the water tanks should take no longer than two months to be completed. No action has been taken towards the pump house roof or the plumbing.

The Observatory Report was given: The 30" telescope and dome project is stalled, and the 14 1/4" mirror should be here next week.

Brian McFarland gave the Private Pad Report: There is one new person on the waiting list.

Rich Strobel gave the Star Party Report: There were five school star parties in January, seven are scheduled for February, 9 are scheduled for March, and 3 are scheduled for April. April 24th is National Astronomy Day. The SDAA will be participating in events at the Reuben H. Fleet and at Mission Trails. May 8th is Space Day at the Aerospace Museum.

The Library/Education Report was given: Jerry Hilburn has volunteered to handle the library, and a list of the available books will be printed, put on the Yahoo Group, and put on the web site.

Scott Baker gave the Membership Report: There are 315 members on the Yahoo Group and there were approximately 60 people at the January Program Meeting.

Lea Zernow requested to be an Associate Member; it was motioned, seconded, and approved.

The Newsletter Report was given: Chris Hoffman has volunteered to take over the newsletter.

Christopher Watson gave the Web site Report: There are about 420 registered members on the web site, and a notice will be put on the web site for Safari Mac users telling them that they have to find an alternate way of paying besides PayPal.

Jerry Hilburn gave the AISIG Report: The weather's been bad. They will hold the official meeting in town and then go out to TDS. AISIG has volunteers to help with the water tanks project at TDS, and there will be a meeting at Paul Leikand's house on the 21st.

In Old Business: The Annual Banquet made approximately \$1400, 100 people attended, the food was good, and El Indio and Brian McFarland saved the day when the bartender didn't show by getting the keg and the emergency bar. The banquet may change next year; ideas will be discussed at the next board meeting.

The SDAA will talk about the border-lighting issues and have a meeting March 20th with Bob Filner, the Tisdale back county group, and maybe the IDA.

In New Business: The SDAA may get a patent on Peter DeBaan's observatory; the new committee chairs are Bill Griffith for Site Maintenance, Jim Traweck for Observatory Chair, Brian McFarland for Private Pad Chair, Rich Strobel for Star Party Chair, Jerry Hilburn for the Library/Education Chair, Scott Baker for the Membership Chair, Christopher Watson for the Newsletter Chair, Jerry Hilburn for the AISIG Chair, the Ad Hoc Committee as needed, and there may be a social committee soon. Christopher Watson will handle the Donation Tax Letters. The board is considering a dues increase; further discussion is required.

A motion was made to adjourn at 9:15pm.



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Deep Space Network 2-for-1 Sale! by Patrick L. Barry

Call it a "buy one, get one free" sale for astronomers: Build a network of radio dishes for communicating with solar-system probes, get a world-class radio telescope with a resolution nearly as good as a telescope the size of Earth!

That's the incidental bonus that NASA's Deep Space Network (DSN) offers the astronomy community. Designed to maintain contact with distant spacecraft in spite of the Earth's rotation, the large, widely spaced dishes of the DSN are ideal for performing a form of radio astronomy called "very long baseline interferometry" (VLBI).

VLBI produces very high resolution images of the cosmos by combining the output from two or more telescopes. The result is like having a giant "virtual" telescope as large as the distance between the real dishes! Since bigger telescopes can produce higher resolution images than smaller ones, astronomers need to use dishes that are

as far apart as possible.

That need dovetails nicely with the DSN's design. To maintain continuous contact with deep space missions, the DSN has tracking stations placed in California, Spain, and Australia. These locations are roughly equally spaced around the Earth, each about 120 degrees of longitude from the others—that way at least one dish can always communicate with a probe regardless of Earth's rotation. That also means, though, that the straight-line distance between any two of the stations is roughly 85 percent of Earth's diameter—or about 6,700 miles. That's almost as far apart as land-based telescopes can be.

"We often collaborate with other VLBI groups around the world, combining our dishes with theirs to produce even better images," says Michael J. Klein, manager of the DSN Science Office at NASA's Jet Propulsion Laboratory. "Since our 70-meter dish in Canberra, Australia, is the largest dish in the southern hemisphere, adding that dish in particular makes a huge difference in the quality of a VLBI observation."

Even though only about 1 percent of the DSN's schedule is typically spared from probe-tracking duty and scheduled for radio astronomy, it manages to make some important contributions to radio astronomy. For example, the DSN is currently helping image the expanding remnant of supernova 1987A, and Dr. Lincoln Greenhill of the Smithsonian Astrophysical Observatory is using the DSN dishes to explore a new way to measure the distances and velocities of galaxies.

And all this comes as a "bonus" from the dishes of the DSN.

To introduce kids to

multi-wavelength astronomy, NASA's website for kids, The Space Place, has just added the interactive demo, "Cosmic Colors," at spaceplace.nasa.gov/cosmic.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

Banquet Supporters by Julie Quinn

The SDAA thanks Scott Kardel of Palomar Observatory for providing an informative and very entertaining talk at this year's banquet. A club favorite due to his quick wit and extensive knowledge, he did not disappoint the banquet attendees. Be sure to visit Palomar to learn more about this exquisite facility. Thanks also go to El Indio Restaurant for providing not only the terrific food we'd planned on but an emergency bar as well. And a huzzah also goes out to Brian McFarland for pulling a keg out of his hat.

The following vendors made generous contributions of gift certificates and merchandise for the banquet raffle. We count on raffle ticket sales to raise revenue for the club, so these donations are vital. Please consider these companies when you make your purchasing decisions.

We are proud to have the support of:

- Astronomical Society of the Pacific**
- David Chandler Co.**
- Discovery Telescopes**
- Jim's Mobile Inc.**
- Kendrick Astro Instruments**
- Meade Instruments Corp.**
- Oceanside Photo and Telescope**
- Orion Telescopes & Binoculars**
- Reuben H. Fleet Science Center**
- Scope City**
- Space.com**





San Diego Astronomy Association

SkyWatch for March, 2004 John Mood



[Times PST] [* = Easy] [** = Moderate] [*** = Difficult]

Sat., 6 March ---- FULL MOON, 3:14 p.m.

Sat., 13 March ---- PUBLIC STAR PARTY @ Tierra del Sol.

Wed., 17 March ---- ST. PAT'S DAY & the Wearing of the Green!

Fri., 19 March ---- EQUINOX, 10:49 p.m. Spring has sprung!

Sat., 20 March ---- NEW MOON, 2:41 p.m.

---- MEMBERS' STAR PARTY @ Tierra del Sol.

Sat., 27 March ---- PUBLIC STAR PARTY @ Tierra del Sol.

EVENING PLANETS:

MERCURY [* 1/2] becomes visible in Pisces the Fishes the 2nd half of the month. VENUS [*] leaves Pisces the Fishes, crosses Aries the Ram & ends the month in Taurus the Bull & hasn't been this high in the sky since 1996 & won't again 'til 2012. MARS [*] is in Taurus the Bull. SATURN [*] is still in Gemini the Twins w/ rings wide open at their best! JUPITER [*] is still in Leo the Lion & at its best!

NOTICE!!! ---- ONE CAN VIEW ALL 5 NAKED-EYE PLANETS SIMULTANEOUSLY in the evenings from about 18 March 'til about 8 April, joined by the MOON from 22 March 'til 4 April!!!

MORNING PLANETS: None.

FOR ALL OBSERVERS, BEGINNING & EXPERIENCED

This is the 3rd installment of my review of what I consider to be the best astronomy book ever written, BURNHAM'S CELESTIAL HANDBOOK: An Observer's Guide to the Universe Beyond the Solar System by Robert Burnham, Jr., pub. in 3 vols. (2138 pp, 750 photos, 450 diagrams & charts) in '78. Last month I explained why the book's age presents no factual difficulties. Now I want to present its observational advantages, even for computerized telescopes.

The book is arranged alphabetically by constellation. And each constellation begins w/ a listing of double & multiple stars, a listing of variable stars, & a listing of deep sky objects (star clusters, nebulae & galaxies), giving in each case info about the brightness & size & separation of the objects, thus enabling the observer to estimate their difficulty.

The wondrous thing about Burnham's is that each list is arranged to account for the Earth's rotation, that is, by Right Ascension, that is, from West to East. So one can sit at one's scope (I always sit!) & move from star to star or nebula to galaxy w/ a minimum of motion, starting in the westernmost part of the constellation & going eastward.

This is an absolutely perfect set-up for observing, & I know of no other book or any computer program that offers such a convenient feature. Whether you're an experienced observer & tackle every one of Burnham's choices, or a beginner who only goes for the brighter objects, this is an ideal way to go about it. I never observe without the 3 volumes of Burnham's by my side as a guide.

& there's more! Next month, how Burnham's is also a perfect choice for those cloudy nights.....

TIERRA DEL SOL

LAT = 32° 36' 48" N (± 0.1"), LONG = 116° 19' 55" W (± 0.1"), ELEV = 3710' (± 5'), at the bathroom, as determined from USGS 7.5 min 1/24000 map.

Send comments & questions to me by phone (619/225-9639), USPS (4538 Long Branch Av., San Diego, CA 92107) or my e-mail address.

¡HAPPY VIEWING!

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Diana Baker
Scott Baker
Patrick L. Barry
Michael Finch
John Mood
Kin Searcy



San Diego Astronomy Association

March Program Meeting by Scott Baker

March's Program Meeting, on the 17th, will be "Member Photo Night"! We held this format last year, and it was very well received, enough so that it will now be an annual club meeting, much like Gadget Night. So all of you Astro-imagers out there, get busy tweaking your photos and snapping pictures, and bring them to the March Program Meeting to share with the rest of us. This sounds like something our Astro Imaging Special Interest Group should be all over.

Come on guys show us your pictures! We'll have a slide projector and computer projector with CD-ROM drive available for you to display your images.

Treasurer's Report by Michael Finch

With the addition of the following members we now have a total of 609 SDAA members. We have gained a lot of new members over the last couple of months. Please welcome Derek Armstrong, Mark Borger, Michael Boyd, Doc Burke, Susan Christenson, Kim Crosser, Pat Downing, Terry Esterly, Harold Gillung, Louisa Golden, Daniel Hall, Michael Harris, Jim Haynes, Susan Holden, Derrik Jerman, Carey Johnson, Michael Kent, Han Lam, Sev MacPete, Angel Morales, Ed Morrison, Michael Needham, Denise Pollard, Wayne Ryther, Mark Smith, Jim Tello, Monroe Wightman, David Wood and Lea Zerman. Welcome to SDAA and may you enjoy clear dark skies!

Desert Sunset Star Party May 13-16, 2004

The 2004 Desert Sunset Star Party will be held at the Caballo Loco Ranch, about 11.5 miles south of Three Points, AZ, on Rt. 286, and then east for 8 miles. This RV ranch is in a secluded area of Arizona with dark skies. The telescopes of Kitt Peak are in clear view to the west. The DSSP begins on Thursday night and runs through Saturday night. We will have a speaker on both Friday and Saturday evenings along with door prize giveaways. Registration information will be posted on the Desert Sunset Star Party website - <http://chart-marker.tripod.com/sunset.htm>



Clip and Save

2004 Board of Directors and Chairpersons

President: Brian Staples
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SDAA Calendar of Events

March 2004

S	M	T	W	T	F	S
	1	2	3 Stars in the Park Balboa Park	4	5	6 ○
7	8	9 SDAA Board Meeting SKF 7pm	10	11	12 Stars in the Park MTRP	13 ● Star Party at TDS Camp w/ the Stars Lake Jennings
14	15	16	17 Program Meeting "Photo Night" MTRP 7pm	18 Star Party at Garden Rd Elem, 7:00pm	19	20 ●
21	22	23 Star Party at Lilac School, 6:30pm	24 Star Party at Castle Park, 7:30pm	25 Star Party at Mt. Everest Acad, 7:00pm	26 Star Party at Adobe Bluffs Elem, 7:00pm	27 Star Party at TDS
28 ●	29	30	31 Star Party at Lafayette Elem School, 7:00pm			

The Back Page

For Sale

9.25" Celestron Schmidt-Cassegrain, with Starbright XLT coating, OTA only. Includes: 1.25" visual back; Aluminum tube; Dovetail slide bar; 1.25 star diagonal; 6x30 finder scope; Telrad finder with shield; Bob's knobs; Dew shield; 6 Plossl eyepieces and 2x Barlow with metal case. 3 months old - \$950.

Jay Price
jprice182@cox.net
(619) 656-5453

Address Change?

Be sure to submit your new information to treasurer@sdaa.org to ensure you don't miss out on SDAA news. If you ordered a magazine subscription through the club, you'll still need to notify the magazine as well (see each magazine for change of address instructions).



MEMBERSHIP INFORMATION

Send dues and renewals to P.O. Box 23215, San Diego, CA 92193. Include any renewal cards from Sky & Telescope, Astronomy, or Odyssey magazine in which you wish to continue your subscription. The expiration date shown on your newsletter mailing label is the only notice that your membership in SDAA will expire. Dues are \$35 for Contributing Memberships; \$25 for Senior (Basic) Membership; \$3 for each Family membership. In addition to the club dues the annual rates for magazines available at the club discount are: Sky & Telescope \$32.95, Astronomy \$29, and Odyssey \$25.46. Make checks payable to S.D. Astronomy Assn. PLEASE DO NOT send renewals directly to Sky Publishing. They return them to us for processing.

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