

SDAA

San Diego Astronomy Association

Promising the Sun, the Moon, and the Stars...and Delivering!



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

News and Notes

March 2003

SDAA Business Meeting

Will be held at:

SKF Condition Monitoring
4141 Ruffin Road
San Diego, CA 92123-1841
March 11th at 7:00 pm

Program Meeting
"Astrophotography"
Bring your photos!

March 19th at 6:30PM
Mission Trails Regional Park
Visitor & Interpretive Center
1 Father Junipero Serra Trail
San Diego, CA 92119

Snacks * Prizes * Info * Fun
See page 4 for details

Viewing Saturn by Bret Akers

Saturn is possibly the most interesting planet to observe due in large part to its ring system, which is the only ring system prominently visible in Earth-based telescopes. The rings are a relatively thin structure, only about a mile or so thick, but the visible area is about as wide as Jupiter.

The earliest known recorded observations of Saturn, a few primitive naked eye observations made by Babylonian priests on clay tablets, date back to 650BC. Most of the observations only refer to the planet's position, but one report from that time does refer to an occultation of Saturn by the moon.

The first telescopic observation of Saturn was made by Galileo in 1610 when he used his largest telescope, which gave a

modest magnification of 32x. He detected the ring system, but couldn't correctly explain what he was seeing. It wasn't until 1656 when Huyghens discovered Saturn's largest moon, Titan, using a telescope that he built with a 10.5-foot focal length and 50x magnification, that the rings around the planet were correctly identified.

As Saturn orbits the sun, which takes about 29.5 years, its rings appear to slowly "open" and "close." This is due to Saturn's axial tilt, which is about 26.7 degrees. About every 15 years, when Saturn's rings are edge-on to the Earth, the rings are almost invisible, which demonstrates how thin they really are.

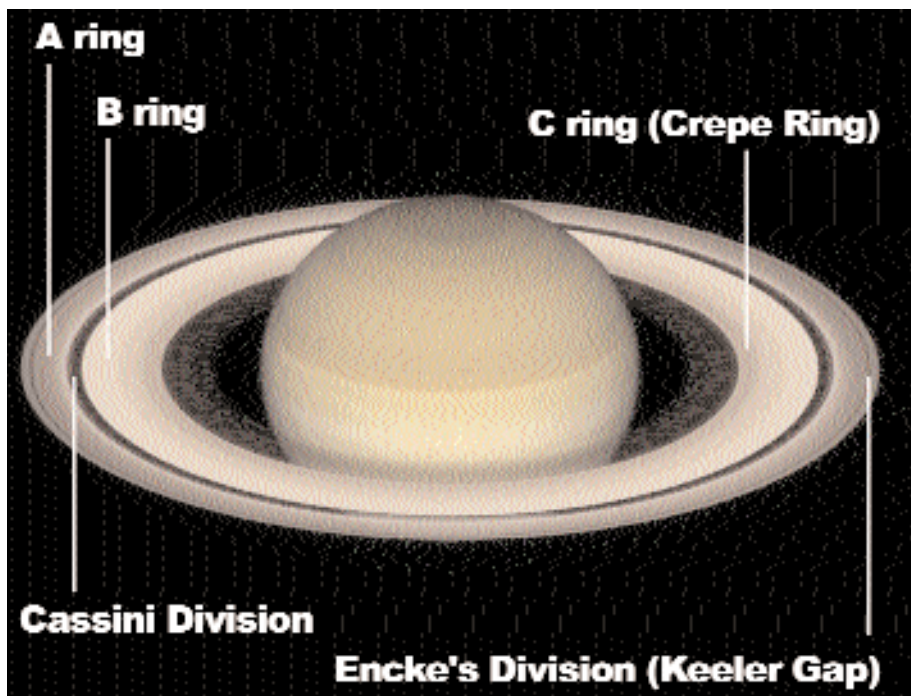
So what do you need to see the rings? Not much. They can be detected with as little as 3x in a 3" refractor (similar to

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March 2003 Vol. XXXIX Issue 03
Published Monthly by the
San Diego Astronomy Association
75¢/\$8.00 year
Incorporated in California in 1963

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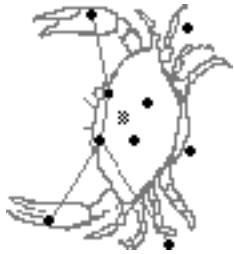


Astronomy 101

Astronomy 101 by Scott Baker

Where's the cocktail sauce?

This month's constellation, Cancer, the crab, is a rather non-descript and small constellation found just to the east of Gemini the twins. How did a crab become a constellation?



The story goes like this: Hercules had to perform twelve labors, one of which was to kill the great Hydra. The Hydra, a great snake with nine heads and breath that could kill on contact, lived in the great swamps of Lerna. Hercules went to the swamps to do battle with the Hydra, but the fight was a stalemate; for every head of the Hydra that Hercules cut off, another grew in its place. The Hydra, fearing for its life, called upon a giant crab to rise from the swamp and attack Hercules. The crab bit into Hercules foot, but Hercules slew the crab, and in the confusion, lopped off the one immortal head of the Hydra, killing it as well. In sacrificing its life, the crab was given a place in the heavens by the gods, but since it failed to defeat Hercules, the gods didn't give Cancer any bright stars to mark its position in the sky. Scholars believe that astrologers added the crab to the story of Hercules and the Hydra so that the twelve tasks of Hercules could match the twelve signs of the Zodiac. It may be difficult to associate the twelve signs of the Zodiac with the labors of Hercules, but the crab did figure in the battle with the Hydra, his second labor, and is now the second sign of the Zodiac.

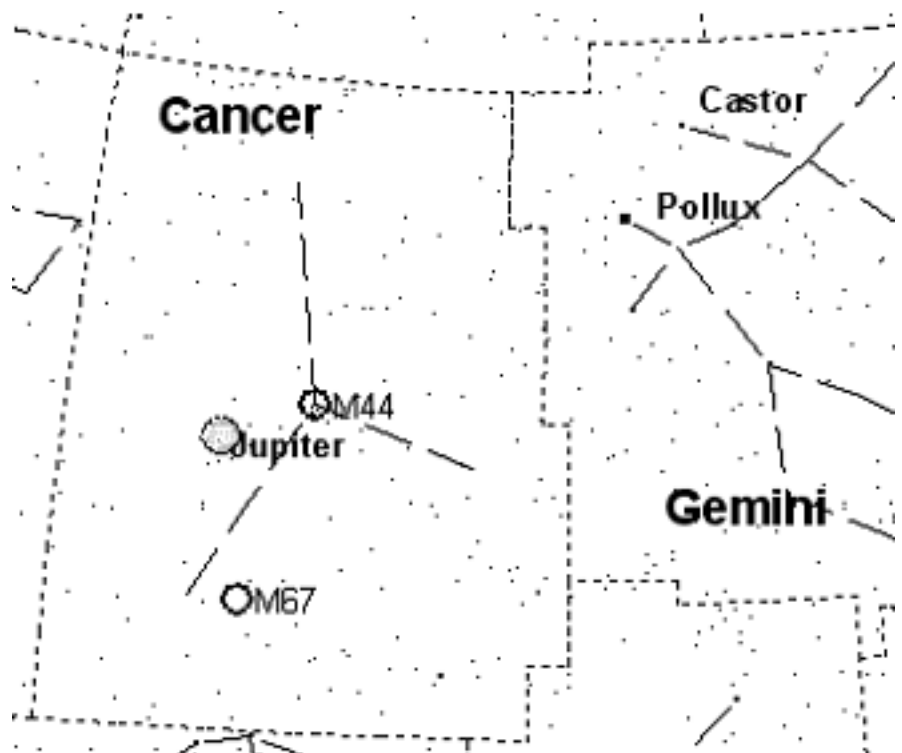


For amateur astronomers, Cancer holds two fine objects to observe with binoculars or small telescopes. The first, M44, better known as the Beehive Cluster, is also called by the Latin word Prasepe, which not only means 'hive' but also 'crib' or 'manger.' M44 is an open cluster, or galactic cluster, some 520 light years distant, containing over 300 stars. It is very large, spanning the distance of three full moons (1.5 degrees) and is easily visible to the naked eye. The grouping of stars is so large that it was well known in antiquity, when it was thought to be a nebula. Galileo was the first to study its stars with a telescope.

He counted over forty members, putting to rest the idea of its nebulosity and introducing the idea of star clusters.

Another open cluster in Cancer is M67. It is one of the oldest open clusters known and is by far the oldest to be observed by Messier, who first cataloged it. Its age is estimated to be 4 billion years, younger than our solar system yet old for clusters, which usually destruct easily. The cluster is expected to be around for another 5 billion years, gradually dissipating as the stars move away from each other.

M44 and M67 can be easily found right now due to the location of the second brightest planet, Jupiter, which resides in Cancer this month. Find Castor and Pollux, the two bright stars in Gemini, and draw an imaginary line between them and extend it down to the Southeast. They point right at M67. Look due north from there and you'll see Jupiter. Move slightly west and you'll spot M44. Jupiter, M44 and M67 - definitely a fine grouping of objects in our winter sky.



Eyepiece Shootout 10, More Power... by Bret Akers and John Kuhl

We had it all planned out...but this time the plan came together. Just like last month, the planets were high in the sky with no significant clouds over Tierra Del Sol. The best part, however, was the seeing. We had one of those special nights where for a few hours we could push the power to ridiculous levels without any image breakdown. So here we go with a comparison of three somewhat high-power eyepieces: The Meade 6.7mm UWA, the 7mm Pentax XL, and the Tele Vue 7mm Nagler Type 6.

The competitors:

Last month we reviewed the Meade 14mm UWA, one of those special, must-have eyepieces. This month we were taking a look at one of its little brothers, the Meade 6.7mm UWA. Although this eyepiece has been around for a while, it has aged gracefully and still garners good reviews. Comments such as "excellent contrast" and "sharp to almost the edge of field" are

common. So what's the line on this eyepiece? It's a 7-layer multicoated, 8 lens element eyepiece with a threaded 1.25" barrel. It's also light at only 6 oz and narrow enough for binoviewing. In addition this eyepiece has a huge 84-degree apparent field of view and is rated as having 10mm of eye relief. How much? About \$200.

Another small eyepiece in the same focal range is the new Tele Vue 7mm Nagler Type 6. Its field of view is 82 degrees, it has 7 lens elements, and the rated eye relief is 12mm. It also has a 1.25"-only barrel and is fairly lightweight at only 8oz. This is another eyepiece that would work well for binoviewing. Unfortunately, as with most of the new Naglers, it isn't cheap. The street price is about \$280.

On the other end of the size and weight spectrum is the 7mm Pentax XL. This eyepiece is tall, wide, and heavy at 15oz. You may want to think twice before using it in a binoviewer. Like the others this month, it's a 1.25"-only eyepiece. It has 7 multicoated lens elements including one that uses ED glass. The apparent field of

view is 65 degrees and it has 20mm of eye relief, plenty for eyeglass wearers. You can pick one of these up for about \$235.

Testers and observing conditions:

The 12.5" f/5 Dobsonian was pushed to about 230x with these eyepieces. However, with the great seeing we had, this wasn't even a challenge.

On-Axis Sharpness:

Sharp. Sharp. Sharp. That's the general impression we got with these eyepieces. If we were just using the Meade and never saw the Nagler or the Pentax, we would have been happy. However, the Nagler and the Pentax were just a little bit better. Rank: Nagler-Pentax draw, Meade close behind

Off-Axis Sharpness:

Off-axis, there was a bit more of a difference. The Meade was clearly the least sharp of the bunch when you got away from the center of the field of view. The Pentax did well and looked pretty sharp all

(continued on page 4)



This month's competitors: (l-r) 7mm Pentax XL, Tele Vue 7mm Nagler Type 6, and Meade 6.7mm UWA.



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Eyepiece Shootout (continued from page 3)

the way to the edge. The Nagler, however, again demonstrated how sharp a widefield eyepiece should be at the edge of the field. Rank: 1. Nagler, 2. Pentax, 3. Meade

Contrast:

With the great seeing, we just had to take a long look at the planets. We decided to use Jupiter as the test subject. With the history of Pentax eyepieces, we expected it to wipe out the other two eyepieces in this regard. Not quite. Both the Pentax and the Nagler proved to be superior to the Meade, but picking a winner was difficult. After a considerable amount of time behind the eyepieces, some interesting trends were becoming evident. Certain details on Jupiter were more evident in the Pentax and others were more evident in the Nagler. If you were to divide the planet into thirds, one third consistently looked better in the Nagler, and the other two thirds looked better in the Pentax. This was really close, much closer than we expected. We're going to call the Pentax the winner on this test, but it is by the narrowest of margins. One other thing was noticed in this test--light scatter. On something as bright as Jupiter, the Pentax scattered noticeably more light than the other two eyepieces. Some may find the extra scatter objectionable, but if you can look past it, you will see more detail with the Pentax. Rank: 1. Pentax, 2. Nagler, 3. Meade

Chromatic Aberration:

All three of these eyepieces did fairly well in this test. It was a wash between the Nagler and the Pentax. Not enough difference to report. The Meade was noticeably worse, but still acceptable. Rank: 1. Nagler/Pentax, 2. Meade

Field Flatness:

This is another test where they all performed well. The Nagler at one point looked like it could have had an ever-so-slightly flatter field than the Pentax. But, we wouldn't bet on it because it was too tough to tell the difference. The Meade

followed behind again, but not by much. Rank: 1. Nagler/Pentax, 2. Meade

Light Transmission:

This test can be a real pain in the neck when you have eyepieces like these three that are all pretty close to each other in performance. Rank: 1. Pentax, 2. Nagler, 3. Meade

Coatings:

No surprise here. Once again the Pentax is king. They are smooth and dark...really dark. Next in line is the Nagler with the Meade coming in last. Rank: 1. Pentax, 2. Nagler, 3. Meade

Eye Relief and Comfort:

Once again the Meade came in third, but it's not at all hard to use. The other two eyepieces are just easier. We had to debate quite a bit before deciding on the winner for this test. Both the Pentax and the Nagler had ample eye relief, unless you wear glasses in which case the Pentax is a slam-dunk. Both the Pentax and the Nagler were fairly forgiving with head placement. The Nagler was a bit less forgiving, but it was probably due to its wider apparent field of view. However two things pushed the Pentax over the top. The first was the ease of focusing. It just seemed to take less time to properly focus the Pentax. The second was the crazy eyecup design on the Pentax. Although it can be a pain to get the eyecup in the right position for you, once it's there you can simply rest your brow against it and observe for long periods of time with little fatigue. You can't do that with the Nagler or the Meade. Rank: 1. Pentax, 2. Nagler, 3. Meade

Conclusions:

So which eyepiece won this shootout? As soon as the test was over, we asked each other and couldn't decide if the Nagler or the Pentax was better. If you look at the number of category wins, the 7mm Pentax XL seems to be the easy choice. But, it's not that easy. Many of these tests were like splitting hairs, with the differences between the two eyepieces marginal at best. If you want the widest field, go with the Tele Vue 7mm Nagler Type 6. If you want a slightly

better value with more eye relief, go with the Pentax. If you want to use a binoviewer, go with the Nagler. If you want to see the absolute last bit of detail that you'd probably have to wait for exquisite seeing to notice, go with the Pentax. They are that close. By the way, the Meade is a good eyepiece, too. Its only problem is that it's just not quite as good as the others.

Note: The opinions expressed in this review are solely those of the author(s) and do not constitute an endorsement by the San Diego Astronomy Association.

Astrophotography Show! by Scott Baker

Come to the March 19th Program meeting and see photographs, of an astronomical nature (pictures of gas pump prices will be not be shown), taken by members! Pictures will be in film, electronic and print formats. The SDAA has many fine photographers, both newcomers and experienced semi-professionals, who will be showing their stuff. If any members sketch or paint astronomical subjects, by all means, bring them to the meeting! Members who wish to contribute to the show should contact me as soon as possible, by email or phone (see the Contacts list in this newsletter). There will be an impromptu judging, by the attendees, and prizes will be awarded for the best photos. The members will also explain how the shots were taken and will pass on their experiences, so it's a show and a learning experience too. And don't forget about our monthly raffle! At the February meeting, we gave away a grand prize of \$41.50, a 32mm Plossl, a nice book and a Cladwell Finder card. The meeting was FUN, and informative, so come see what's happening in your club. The meetings are held in the Mission Trails Regional Park, Visitor Center Theater. The doors open at 6:30 PM and the meeting starts promptly at 7:00 PM. Directions to the MTRP visitor center are available at <http://www.mtrp.org>.



San Diego Astronomy Association

Presidential Notes by Brian V. Staples

Back in the saddle again! After a hiatus of a few years, it feels good to be working for and with the SDAA again. Or maybe it's just the masochist in me coming out...

I want to take this opportunity to thank the departing board for all the good works they have done over the last several years under the guidance of Jim Traweek. The SDAA is in better shape than it has ever been, and I know the solid group of people that has stepped forward to serve on this year's board will continue to make the SDAA one of the preeminent amateur astronomy organizations in existence.

Building upon the solid foundation laid by past boards, we have set lofty goals for the next few years. First, the optical and mechanical systems in the Lipp 22" telescope will be examined and tuned up, including collimation of the mirror set by Jerry Brunache. Jerry did all the original figuring work on the mirror sets in the early 80s. We have a new VanSlyke focusing system, and when combined with the Naglers acquired over the last few years, it should make viewing a more pleasurable experience. Although the Lipp 22" operates adequately now, it will shine as a performer under the guidance of the new Telescope Advisory Committee, a committee dedicated to making all the club's instruments the best they can be.

Next, the site's fire suppression system will be erected and put into operation. The club acquired two 3,000-gallon tanks and fittings several years back, and we will lay the foundations and connect the plumbing to the site's water grid. Having this system in place will protect our investment, comply with local fire regulations, and make approvals for future site improvements easier to acquire.

Another goal we hope to accomplish this year will be to make our relationships with both Mission Trails Regional Park and the Fleet Science Center deeper and more beneficial to both the club and these organizations. If you have not yet been to MTRP, either for our monthly meetings or just for a day trip, be sure to get out there and see

this wonderful asset to our community. The Fleet Science Center has been going through a restructuring for the last few years, and though the club is not sure where we will fit in, we will make sure we fit in somewhere.

Last, with growth of the club imminent, the SDAA needs to look forward to determine how we will meet our future needs. One key factor will be having the necessary resources and funding. To that end I have created a Grants/Fundraising Committee to look at how we go about securing resources and funding. First, we will look at what we will need (e.g., another dark sky site, more lending telescopes, educational resources to loan to schools) and then we will determine what these will cost and how we want to manage the assets.

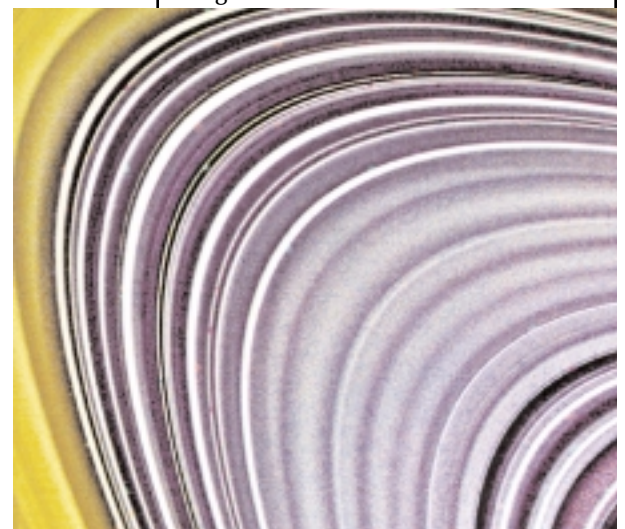
With all these lofty goals, it will take more than the usual volunteers to fulfill our needs. As such, I am in need of a few volunteers to fill committee chairs. Mike Dietz has done a wonderful job over the years as Public Star Party Chair and will continue as Chair to this vital committee. However, he has also been serving as the East County Star Party Coordinator, and we would like to find someone in the East County to take over this spot. If you're interested contact Mike (see the contact information found elsewhere in the newsletter). I also need someone to volunteer for the Education/Library Chair. If you're interested, contact me. Now let's not all call at once!

Viewing Saturn (continued from page 1)

what Galileo had). However, if you want to perform any detailed observations, a telescope with an aperture of 4 to 5 inches should be considered the minimum.

So when you have your telescope pointed at Saturn, here a checklist of features to look for:

1. The shape of the planet's shadow on its rings and the rings' shadow on the planet
2. Changes in the typical shape and/or position of the belts and/or zones on the planet
3. The relative intensities of the 3 main rings
4. Any star that looks like it may be occulted by the planet or the rings
5. Changes in the appearance of the C-Ring (a.k.a. Crepe Ring)
6. Minor divisions in the rings such as Encke's
7. Any color effects on the planet
8. A glimpse of a faint ring beyond the primary bright rings
9. Any white spots or ovals (uncommon)
10. A glimpse of dark radial spokes in the rings



Saturn's C-ring, photographed by Voyager 2 in 1981. Image courtesy of Nasa Image eXchange (<http://nix.nasa.gov>)



San Diego Astronomy Association

SDAA Board Meeting of February 11th, 2003 by Scott Baker

In attendance were: Brian Staples, Brian McFarland, Shawn Kelly, Diana Kelly, Julie Quinn, Jennifer Pesqueira, Mike Dietz, Jim Traweek, Bret Akers and Scott Baker,

The Meeting was called to order at 7:07 PM

Previous Meeting Minutes were read by Scott Baker, substituting for Melinda Baker. A motion was made to accept the minutes as read, seconded and approved.

The Treasurers Report by Jennifer Pesqueira: A motion was made to accept the report, as read, seconded and approved.

An application for Associate Membership was submitted by Natasha Ferrer-Perez. We will solicit further information from her before considering granting her membership.

The TDS Site Report was made by Shawn Kelly. Plans are underway for installing the water towers for fire suppression. Shawn will contact the local fire station to ask them where the best location is to place them. A new roof is needed for the pump building. Brian McFarland said he may have some spare shingles left over from his house, enough to do the shed.

The Observatory Report by Jim Traweek: The new focuser, a 2" Van Slyke Monster

1, has arrived and Jim passed it around for every ones inspection. Some machining is required to be able to mount it to the scope and Brian McFarland has volunteered to do it.

Private Pad Report by Brian McFarland: Two new members have been added to the waiting list for private pads. Brian reports that he is still waiting for information from the previous chairperson, before an updated list of private pad owners and availability can be generated. A motion was made to standardize, all the private pads that are leased, at the same yearly rate of \$35.00 a year. The motion was debated, seconded and approved by a majority of the board.

Star Party Report by Mike Dietz: There are 15 star parties for the month of February and 51 through April. The number of members attending the "Stars in the Park" is dwindling, mostly due to parking constraints. Astronomy Day will be held at the MTRP Visitor Center Amphitheater.

Membership Report by Scott Baker: The plans for the new format of the Program Meetings was given. \$200.00 was transferred into the budget for "Guest Speaker" to help defray the costs of the new program plans. More Program Meeting attendees was hoped to be achieved by listing our meetings in the Reader and at the MTRP site.

Newsletter Report by Julie Quinn: There was a discussion of the quantity of newslet-

ters printed and it was decided to continue with the current quantity and to possibly increase it in the future so that extra copies could be placed in OPT and Scope City.

Banquet Report by Jennifer and Diana Kelly: A financial report was not available, due to Jennifer's vacation, but will be forthcoming. It was discussed moving the date of the Banquet to another month and a different location next year. It was also discussed going back to printed invitations and envelopes, since we had a lot of comments about not having them this year.

New Business:

Due to the report of the security issue by a member last month, the Board discussed putting barbed wire on the South section of fence. The original plan for the fence was to have barbed wire around the entire perimeter, but it just never got accomplished. Shawn Kelly said he'd find out the cost of putting three strands of barbed wire on the Southern run of fence.

Scott Baker asked the Board for permission to put an additional pedestrian gate into the fence that separates the private pads from the observatory buildings, somewhere near the top of the hill. The board agreed that that would be a good idea, and approved the plan. Scott will look into the cost of materials and report back to the board.

The meeting was adjourned at 9:15.

Show Your SDAA Pride...

with high-quality SDAA merchandise! Display your membership in style with SDAA t-shirts, polo shirts, and hats. What better way to keep warm on those cold nights at TDS than with an SDAA hooded sweatshirt? Be the talk of the road with a 'Look Up!' license plate frame. And be sure your fellow members know who you are by wearing an official SDAA nametag. For more information, visit the merchandise section of the website at <http://www.sdaa.org/SDAAContacts/SDAAContacts.htm> or call Diana Kelly at (858) 603-3323.





San Diego Astronomy Association

Chart Markers and More Desert Sunset Star Party by Pat and Arleen Heimann

Early registration ends March 15. The Desert Sunset Star Party will be held at Kartchner Caverns State Park May 1-4, 2003. In addition to scheduled tours for Friday and Saturday, there are many places to visit in southern Arizona, many within a 1-hour drive. Vendors will be on hand in the afternoons along with several demonstrations. Dinner will be catered in for those who order it, followed by speakers, door prizes, and some great star gazing. Get your registrations in soon to take advantage of the early registration rates. And don't forget to order your T-shirts. Information and registration materials are available on the web at: <http://chartmarker.tripod.com/sunset.html>



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Jim Traweek

SkyWatch for March, 2003

John Mood

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

Sat., 1 March ---- STAR PARTY @ Tierra del Sol.

Sun., 2 March ---- NEW MOON, 6:35 p.m.

Tues., 18 March ---- FULL MOON, 2:35 a.m.

Thurs., 20 March ---- At 5:00 p.m. exactly, SPRING is here, the grass has riz; I wonder where the birdies!

Sat., 22 March ---- STAR PARTY @ Tierra del Sol.

Fri., 28 March ---- Close conjunction of VENUS (mag -4.0) & URANUS (mag +5.9); just before dawn, they will be only 2.6' apart, closest planetary conjunction since 1990; will need a telescope.

Sat., 29 March ---- STAR PARTY @ Tierra del Sol.

Tues., 1 April ---- NEW MOON, 11:19 a.m., & that's no April Fool!

Sun., 6 April ---- Daylight Saving Time begins; move clox forward an hour & ergo lose it!



EVENING PLANETS:

JUPITER [*] is high overhead in Cancer the Crab, moving close to M-44 (Praesepe, the Beehive Cluster) & will thereby provide a nice naked eye & binocular sight; its 4 Galilean moons are now edge-on & offer exciting vistas as they dance beside each other. SATURN [*] is between the horns of Taurus the Bull & its rings have never been better in the lifetime of most of you.

MORNING PLANETS:

MARS [*] is drifting through Sagittarius the Archer, & early this month goes right between M-8 (the Lagoon Nebula) & M-20 (the Trifid Nebula), providing opportunities for spectacular viewing & photographing. VENUS in Capricornus the Goat [*] is getting smaller & dimmer, but is still the brightest object in the morning sky, & see above for its extremely close conjunction with URANUS on the 28th.

BEGINNING OBSERVERS:

Because of our more southerly latitude, we have the opportunity this month of seeing the 2 brightest-appearing stars in the sky simultaneously: SIRIUS (Alpha Canis Majoris), mag. -1.46 [*], & almost directly below it, peeking above the southern horizon, CANOPUS (Alpha Carinae), mag. -0.72 [*].

EXPERIENCED OBSERVERS:

Try to spot the companion to SIRIUS [***], difficult not because it's so dim but because the primary (the "lucida") is so bright; their separation is currently about 6".

TIERRA DEL SOL

LAT = 32° 36' 46" 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 1happyalien@cox.net.

¡HAPPY VIEWING!



San Diego Astronomy Association

Star Party Report by Mike Dietz

March is another very busy month for star parties so we need as much help as possible. This month we currently have 16 star parties scheduled. If you haven't been out to one in awhile we sure would like to see you again. If you haven't been to one before and are unsure of what to expect, talk to some of the members who have or just come out and observe one. They are really a lot of fun.

The Tierra Del Sol star parties this month will be on March 1st, 22nd, and 29th. Stars at the Parks will be on March 5th and April 2nd for Balboa Park and on March 14th for Mission Trails Regional Park. See the Feb. newsletter for directions. We have a 6:30 p.m. star party on Thursday the 6th at Imperial Beach Elementary located at 650 Imperial Beach Blvd. Contact Rich Bentley for directions.

On Monday the 10th we will be in Escondido for a 6:30 p.m. star party at North Broadway School located at 2301 N. Broadway. To reach the school take I-15 north to El Norte Pkw. Go East (right) off the exit about 1 Mile and then left on Broadway. The School is on the left after you cross Country Club Rd/ Rincon.

On the 11th we will be at Rolando Park Elementary for a 6:30 p.m. star party. The school is located at 6620 Marlowe Dr. in San Diego.

We will be in Coronado on Wednesday the 12th for a 6:30 p.m. star party at Silver Strand Elementary. The school is located at 1350 Leyte Road off the Silver Strand HWY.

We have a 6:30 p.m. star party for the families of Santa Fe Christian School on March 13th. To reach the star party from the 5 freeway, take the Poinsettia exit and go East. Turn right on Batiquitos. After 1 mile there will be a gate with a guard on the right; pass it, and go through the 2nd gate (Melodia Terrace) (type in "Kilpatrick" on the key pad and they will let you in!). It is the 3rd house on the left (7409).

On Monday the 17th we will be in San Diego for a 7 p.m. star party at O'Farrell

Community School located at 6130 Skyline Drive. Contact Rich Bentley for details.

We will be in the Normal Heights / Talmadge area on the 18th for a 6:30 p.m. star party at Franklin Elementary. The school is located at 4481 Copeland Ave. To reach the school, take I-15 or I-805 to El Cajon Blvd. And head East on El Cajon Blvd. to Copeland Ave. Turn left at Copeland Ave. and head North to the school.

On Thursday the 20th we will be at LaFayette Elementary for a 6:30 p.m. star party. The school is located at 6125 Printwood Way. The PTA will provide PIZZA for the volunteers. To reach the school take I-805 to Balboa Ave and head West on Balboa to Charger Blvd. Turn right on Charger Blvd. and head North to Cannington Drive. Turn right on Cannington and head to Printwood Way. Turn left on Printwood Way and head West to the school.

We will be in Lemon Grove on Wednesday the 26th for a 6:30 p.m. star party at Mt. Vernon School located at 8350 Mt. Vernon Street.

On the 27th we will be in El Cajon for a 6:30 p.m. star party at Flying Hills Elementary located at 1251 Finch Street.

On Thursday April 3rd we will be in the Clairemont area for a 6:30 p.m. star party at Mt. Everest Academy. The school is located at 4350 Mt. Everest Blvd. and the school will provide pizza for the volunteers. On Monday April 7th we will be at Challenger Middle School for a 7:30 p.m. star party. The school is located at 10810 Parkdale Ave. in San Diego.

Treasurer's Report by Jennifer Pesqueira

With the addition of the following members we now have a total of 525 SDAA members. Please welcome: Lewis Brackett, Ron Brant, Gil Garra, Leonard Charles Hale, Raymond Hatton, Jeff Henry, Glenn Northcutt, Joe Morris, Mark Tafoya, Liliana Tincher, Brian Woolsey. Welcome to SDAA and may you enjoy clear dark skies.

Acknowledgments by Mike Dietz

The club would like to thank Les Anderson, Bill Armstrong, Bob Austin, Scott Baker, Bill Bauer, Rich Bentley, Peter DeBaan, Mike Dietz, Doug Hansen, Jose Magsaysay, Nick Marilao, Garry Mose, Bob Nanz, Duane Naugle, Jennifer Pesqueira, Gregory Santos, George Varga, and Curt Wittenburg for helping with the school star parties, Camp With The Stars, and Stars In The Parks programs. Your efforts are greatly appreciated by the students, parents, and teachers.

Desert Star Ranch by Stuart & Bonnie Resor

An astronomy meeting will be held at Desert Star Ranch, 2299 Borrego Valley Road, Borrego Springs, Ca. on April 25th, 26th, and 27th. The cost is \$5./person per night to help offset the cost of the porta potties. The ranch encompasses 67 acres, so there is considerable opportunity to pick a remote camping spot. Or our phase one 4-acre fenced campground is also available. Showers are available at the state campground a few miles off.

The odds will be in our favor for great weather: Hot days, pleasant evenings and stars and meteors that will jump out of the sky at you.

There should be some desert flowers left, and there are many motels that should have rooms available. We will have picnic tables, fire tubs, and wood.

Please RSVP to 760 753-8022 for directions and further information.

Stuart & Bonnie Resor
760 525-0076 cell
desertstaranch@aol.com





San Diego Astronomy Association

Astronomy Word Search

Hidden below are at least 60 astronomy terms. How many can you find?
Email the words you have found to newsletter@sdaa.org by March 21, 2003. The person finding the most words will see his or her name in print in the next newsletter!

J N U G L O B U L A R C L U S T E R D R
N U A N Y M O N O R T S A P X N E C H E
O T P I I F C O S X D H A A U S F U N I
I I R I N V G O S A J Q T T P N B E B S
T E A O T O E M A Q U N P I U B A S V S
A R S B E E S R M E E E L S L R G E E E
L R L I N T R B S P N C A E O H N E S M
L A U G N N E T O E E F N K B U O I T J
I D P B S R A M S D H L E J S R I N A K
T E D A B R E Z E W T N T G E A T G A O
N L S N K A L E A R T H T A R N A O L R
I S Y G D P N E D Z C E M L V U C R U T
C O T E N M A P C I L U P A A S I I B H
S L X A U I G R Y E O S R X T Z F O E O
M Z E D R V R H S T I R Q Y O T I N N S
I B A C I F E C U E T P E R R I N A E C
R L W X A Q O L S X C V E T Y E G D K O
R E E C I P P O E S I T R Y S L A I C P
O N V D E O S R R T N O V A E A M R N I
R S A T C O M E T T W N O R T S E L E C

old, with a remarkably small one percent margin of error.

The WMAP team found that the Big Bang and Inflation theories continue to ring true. The contents of the Universe include 4% atoms (ordinary matter), 23% of an unknown type of dark matter, and 73% of a mysterious dark energy. The new measurements even shed light on the nature of the dark energy, which acts as a sort of an anti-gravity.

"These numbers represent a milestone in how we view our Universe," said Dr. Anne Kinney, NASA director for astronomy and physics. "This is a true turning point for cosmology."

The light we see today as the cosmic microwave background has traveled over 13 billion years to reach us. Within this light are infinitesimal patterns that mark the seeds of what later grew into clusters of galaxies and the vast structure we see all around us.

Patterns in the Big Bang afterglow were frozen in place only 380,000 years after the Big Bang, a number nailed down by this latest observation. These patterns are tiny temperature differences within this extraordinarily evenly dispersed microwave light bathing the Universe, which now averages a frigid 2.73 degrees above absolute zero temperature. WMAP resolves slight temperature fluctuations, which vary by only millionths of a degree.

Full text and images available from <http://www.gsfc.nasa.gov/topstory/2003/0206mapresults.html>

New Image of Infant Universe Reveals Era of First Stars, Age of Cosmos and More NASA February 11, 2003

NASA today released the best "baby picture" of the Universe ever taken, which contains such stunning detail that it may be one of the most important scientific results of recent years.

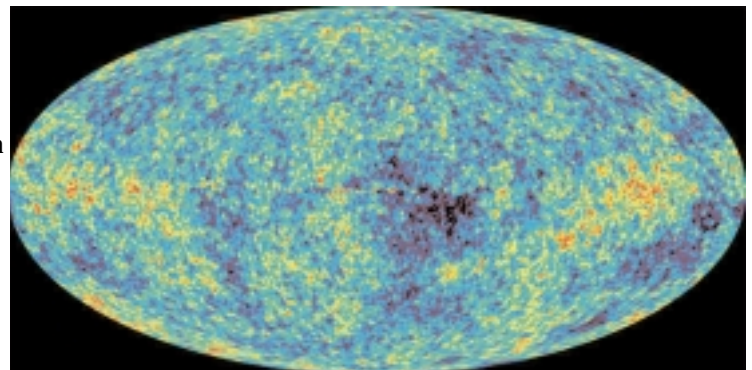
The new cosmic portrait -- capturing the afterglow of the Big Bang, called the cosmic microwave background -- was captured by scientists using NASA's Wilkinson Microwave Anisotropy Probe (WMAP) during a sweeping 12-month observation of the entire sky.

"We've captured the infant Universe in sharp focus, and from this portrait we can now describe the Universe with unpre-

cedented accuracy," said Dr. Charles L. Bennett of the Goddard Space Flight Center, Greenbelt Md., and the WMAP Principal Investigator. "The data are solid, a real gold mine."

One of the biggest surprises revealed in the data is that the first generation of stars to shine in the Universe first ignited only 200 million years after the Big Bang, much earlier than many scientists had expected.

In addition, the new portrait precisely pegs the age of the Universe at 13.7 billion years



Cosmic microwave background captured by scientists using NASA's Wilkinson Microwave Anisotropy Probe (WMAP)



San Diego Astronomy Association

Messier Madness! by Julie Quinn

It's that time again - the annual SDAA Messier Marathon at Tierra Del Sol. This year's friendly competition will be held during the March 29 public star party at TDS. As luck would have it, an all-planet marathon may be possible this night as well, allowing for even more celestial fun. Those new to the TDS dark sky site can find directions and rules on our website at http://www.sdaa.org/SDAAEvents/sdaa_tds.htm

Eighteenth century Frenchman Charles Messier compiled this list of fuzzy celestial objects to make life easier for astronomers. Comet hunting was a popular way to get one's name in the sky, and who wanted to waste valuable time examining these silly blobs that weren't comets at all? Today the Messier Catalog is considered to be the first comprehensive list of deep sky objects and

its creation is recognized as an important milestone in astronomy.

The Messier Marathon is a challenge to find as many of the Messier objects as possible during one night. The number of Messier objects visible at any one time depends on the season and the observer's location, but March in the San Diego area is a prime time for Messier cataloging.

How do I play?

- Hey, turn off that Autostar! A challenge has to be challenging after all, so you are to find these objects without the aid of a computer.
- Setting circles are also discouraged; find the objects by star hopping. What better way to learn to navigate the night sky?
- Find 'em yourself. Sorry, merely looking at an object found by another member doesn't count.

- Bring a buddy. You need a witness to verify your findings.
- Note the time you find each object on the Messier Marathon Sweep Sheet (provided in the center of this newsletter or available online at <http://www.sdaa.org/Docs/marathon.pdf>).
- Return the completed form to an SDAA Board Member.
- Have fun! Star parties at TDS are always a good time, so first and foremost, relax and enjoy the company of your fellow SDAA members.

What do I get?

In addition to the awe and admiration of the other stargazers, participants finding at least 90 Messier objects will receive the SDAA Messier Marathon Certificate.

Clip and Save

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San Diego Astronomy Association

SDAA Calendar of Events

March 2003

S	M	T	W	T	F	S
						1 Star Party at TDS
2 ●	3	4	5 Stars in the Park Balboa Park	6 Star Party at Imperial Beach Elem., 6:30pm	7	8
9	10 ● Star Party at N. Broadway School, 6:30pm	11 ○ SDAA Board Meeting 7 pm Star Party at Rolando Park Elem., 6:30pm	12 Star Party at Silver Strand Elem., 6:30pm	13 Star Party for Santa Fe Christian, 6:30pm	14 Stars in the Park MTRP	15
16	17 Star Party at O'Farrell Comm. School, 7pm	18 ○ Star Party at Franklin Elem. School, 6:30pm	19 Program Meeting	20 Star Party at LaFayette Elem. School, 6:30pm	21	22 Star Party at TDS
23	24 ●	25	26 Star Party at Mt. Vernon Elem. School, 6:30pm	27 Star Party at Flying Hills Elem., 6:30pm	28	29 Star Party at TDS Messier Marathon
30	31					

The Back Page

TDS BBQ Reminder

Barbecuing is not permitted in the pad areas at Tierra Del Sol. Not only is the flame a distraction to those expecting a dark viewing area, it is a fire hazard in this extremely dry desert environment. Barbecues are allowed only in the area at the west end of the patio (restrooms) and must be attended at all times. Open fires are not allowed without prior SDAA Board approval and a State Forestry burning permit.

New Private Pad Pricing

Effective immediately, the annual rate for leasing a private pad is \$35. This applies to all pads. Current pad owners will be charged the new rate when their lease is up for renewal. Those with grandfathered leases (you know who you are) are not affected by this change. If you have questions or concerns, contact Pads Chairperson Brian McFarland at 619-462-4483 or pads@sdaa.org.

Star Parties at TDS by Jim Traweek

I need hosts! I still have a lot of dates to fill. I would particularly like to hear from you long time members that haven't hosted in the last couple of years.

Contact me at observatory@sdaa.org or call 619-477-7279.

For Sale

Celestron C-5 telescope and accessories.
Chuck 619-461-9769.

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 \$29.95, 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.

Subscription \$8.00/Year • Single Issue 75¢
Published Monthly by the San Diego Astronomy Association

VOL. XXXIX • ISSUE 03 • MARCH 2003

(619) 645-8940

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