

The High Desert Observer

The Bulletin of the Astronomical Society of Las Cruces

June, 2006

President's Note

We have invited John Gilkeson of National Public Observatories (NPO) to our June 23 meeting to tell us about his plans for the Star Party that he wants to run at the City of Rocks campground. He has invited ASLC to become a cosponsor of the public star party, and will tell us what that would entail as our part of the duties. As we discussed at the May meeting, the membership wanted more information on what our duties would be, and more details on John's plans on how the star party will be organized. I am looking forward to his presentation, and our decision on whether to participate as individuals or as the whole group in the name of ASLC. You all need to be there to be informed and to decide on our participation. I expect the star party matter will take no more than 15-20 min. of our meeting.

Our speaker will again be Wirt Atmar via a CD presentation. This time he will present a talk by Seth Shostack, of the SETI Institute, Mountain View, CA who will talk about the new gigantic telescope array being built at Hat Creek, CA. This telescope is funded by Paul Allen of Microsoft fame and fortune, and will significantly enhance our search for extra terrestrial intelligence. The talk will cover microwave radio frequencies, and some work to be done at laser wavelengths. The talk is not highly technical, it is geared for general audiences, so should be enjoyable to families and all others. So, bring them and any additional guests you may have. See you all at our meeting, Friday, June 23, DABCC room 77, at 19:00 (for beginners corner), and main meeting starting at 19:30, Wirt's talk will start at about 20:00. Your Prez, VinceD

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Eye Candy

Steve Barkes

Get ready for some bad weather.... I've got a new scope (new to me) on the way. Of course given its size the impact on the weather will be minimal, maybe only my back yard. I just picked up an Edmund Astroscan off of Astromart

For anyone not familiar with the Astroscan, it's a 4 1/8" rich field reflector. At F/4.2 it has a focal length of just 445 mm. A typical 32 mm Plossl will yield better than a three degree field of view. Not your basic planetary scope, but taking in huge gobs of the summer Milky Way should be nice. It looks like either a small bomb, or a soup can, glued to a bowling ball, and sits in a cradle for Alt/Az use. It's red, and cute, and I've been wanting one for better than 20 years.



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It's one of those things that you see in an ad and it just catches you. Every time I see an ad for one, I think about owning it. The scope has been sold by Edmund for over 30 years, and hasn't changed in design during that time. The price was always a bit high at \$399.00, but lately they've dropped in price to \$199.00. And I got mine for much less on Astromart.

This will be my ultimate "grab 'n go campin" scope. And it will be great for public star parties, Moon Gazes, and Project Astro gatherings. I can't imagine a young kid that won't think the little Astroscan is cute, or neat. I'm waiting on the postman to deliver it any day. Once it comes in, I'll be sure to write up my impressions. Can this little scope live up to 20+ years of expectations....? Stay tuned!!

As Far As the Eye Can See

Joseph Mancilla

This month Cygnus graces the night sky. Cygnus, also known as the Northern Cross is host to many wonderful objects. At the very head of Cygnus is the double star Albireo or Beta Cygni. The blue and gold components are mag. 3.1 and 5.1 and are separated by a distance of 34.4 arcseconds. They are easily seen in any size scope, but the color contrast seems more vivid in scopes smaller than 8 inches using low power in the 35x to 75x range. At the other end of the constellation near the swan's tail is NGC 7000 also known as the North American Nebula. This nebula is huge at 120' arcminutes by 100' arcminutes. Even though it is listed at mag. 9 it is still pretty difficult to see. My best view was with my small 4.25" F/6 reflector at 20x with a UHC filter. The field of view was 2.5 degrees. Those of you with small fast refractors with a focal length of 480mm to 650mm should have no trouble in framing the entire nebula. Quite prominent is the region that outlines the "Gulf of Mexico." Large binoculars are also helpful, but you need a good clear night. Finally, there is the unusual nebulosity that surrounds the star Gamma Cygni. This is the star in the center of the cross. A UHC filter is very useful here. An even stranger view can be had with a H-beta filter. Wait till late in the evening when your scope has cooled off and Cygnus rides higher in the sky. Happy Hunting!

Math Oddity

Walter Haas

Perhaps the following mathematics curiosity would be of some interest to our members.

Pick any 4-digit number except for those where the digits are all the same, like 1111, 2222, etc. Now form the largest possible number with those digits, and subtract from it the smallest possible number with those same digits. Thus we might choose 1000 times our geometric friend pi, rounded to 3142. Then:

$$4321 - 1234 = 3087$$

Now take the 4 digits in this difference, and again subtract the smallest possible number they can make from the largest possible number. Thus:

$$8730 - 0378 = 8352$$

The curious thing is that after 7 or fewer subtractions in the fashion described above, and IF you make no arithmetic blunders, you will come to a number which will repeat itself indefinitely. Huh?? Now can you tell me what that number is? This curiosity was brought to my attention several weeks ago. There is a similar oddity with 3-digit numbers.

Learn More About the Astronomical League

Amateur astronomers from across the country benefit from perusing the many pages of the Astronomical League's website, www.astroleague.org. Naturally, this is the place to go if you're looking for information about upcoming events and League news. But there is so much more...

- Want to learn all about one of the great League observing programs? Go to: www.astroleague.org/observing.html.
- Do you know of a worthy candidate for one of the many League awards? Look at: <http://www.astroleague.org/al/awards/awards.html>.
- Are you interested in buying a particular book about our fascinating hobby? Then go to: www.astroleague.org/al/bookserv/bookserv.html.
- There is even something to help your club function better. Try: www.astroleague.org/al/socaid/socaidid.html

Make the most of your Astronomical League membership! To find out more about what the Astronomical League offers you, why not log on to www.astroleague.org today?

May DSO

Steve Barkes

They say when life gives you lemons, you need to make lemonade. And that was pretty good advice for our DSO observing session in May. The night was actually very clear, and we were treated to a beautiful view of the Milky Way. I had every intention of doing some astrophotography, but it was windy early in the evening. And it was windy later in the evening. And finally it was windy late into the night.

Despite our best intentions, and chants, and ancient rituals and dances, the wind never subsided. But we were determined to get in some viewing. Dave stopped by for some visual work with his new Lightbridge, Brent was looking for help collimating his 10" LX200, Joseph was knocking out object after object from another of his obscure observing lists, and Jerry came out to watch the whole show, and hopefully see how I set up for imaging. Unfortunately, I never did manage to get a shutter opened.

On the good side of things, I did finally figure out the issues with my digital settings circles on my Losmandy mount. Apparently my encoders are 4096 tics per revolution instead of 2048 tics as I was led to believe by some documentation I had downloaded off of the Internet. This is one of those issues you run into when you buy used equipment without documentation. Once I programmed the right numbers into the DSC computer, I was able to consistently get objects into the field of view of a 28mm eyepiece.

Jerry and I spent some time finding different object through my 8" dob. After showing him the secret handshake, I was able to tell him where to find several DSOs, including M57, M27, M4, M22, M13, and the Coathanger.

After getting my DSCs working, I helped Brent out with his collimation, with Jerry watching intently ready to suck up any tidbits of knowledge. Brent had never had a good view of Jupiter with his 10", and given his

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description of the problem at our last club meeting, I suspected that collimation was the culprit. The scope was indeed off, and we broke out the Allen wrenches and began making adjustments. With the wind, the de-focused star was dancing around the eyepiece, but we were still able to slowly move the scope closer and closer to collimation. After fiddling around for the better part of 45 minutes, we had done the best we could under the less than ideal conditions.

Jupiter's red spot was near the meridian and the views through the scope were much improved over those earlier in the evening. The moons were nice and tight, more than two bands were visible, and the disc of the planet looked much sharper. Brent will order some Bob's knobs to make future tweaks much easier.

All in all we had a good night despite the wind. There was a lot of observing, sharing of tools, toys, knowledge, and camaraderie. Of course this is the real fun of any DSO night. Hope to see you there this month.

Public Outreach at GymMagic

Steve Barkes

On May 31 I provided a short presentation and solar viewing to 42 kids at GymMagic. Nils Allen was contacted by them early last month about the possibility of doing some type of program. GymMagic holds a summer camp at their facility each year.

As the chance of any sunspots was remote given the current solar minimum, I contacted Vince D. and arranged to borrow his Coronado PST so we could look for some solar prominences. When I arrived there were also 3 graduate astronomy students from NMSU to help with other activities.

I gave a 30-minute presentation on the sun inside the gym. The kids who ranged from 6-12 were told to politely raise their hands if they had any questions. Fifteen of them raised their hands before I was introduced, so it made for an interesting time.

After the presentation, the kids were broken up into 3 groups. One group came with me outside for some solar viewing, while the other 2 groups worked with the NMSU grad students to make their own comets. We then switched out and the next group came to do some viewing.

After about 1½ hours in the sun, everyone had an opportunity to look through the scope, and I felt like I had been beat up by a gang. I don't know how Richard J, Bert V, and others survive this daytime stuff. I think I'll stick with night viewing!!

The GymMagic people were thrilled with the way everything turned out, and will likely look to us for a similar program next year. Another possibility would be some type of nighttime star party.

Not a Moment Wasted

Tony Phillips

The Ring Nebula. Check. M13. Check. Next up: The Whirlpool galaxy.

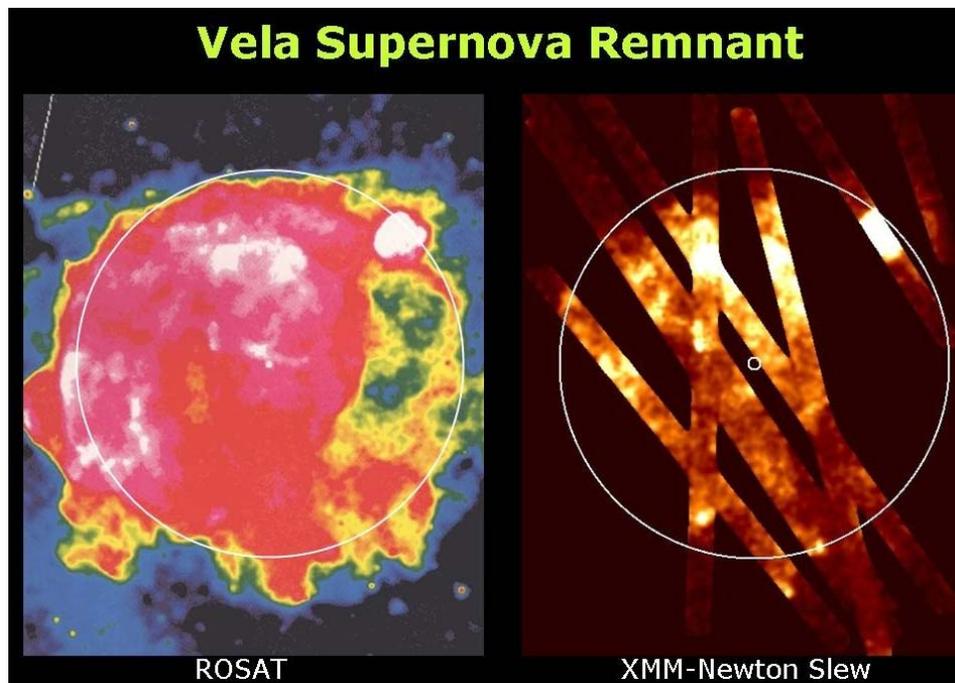
You punch in the coordinates and your telescope takes off, slewing across the sky. You tap your feet and stare at the stars. These Messier marathons would go much faster if the telescope didn't take so long to slew. What a waste of time!

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Don't tell that to the x-ray astronomers. "We're putting our slew time to good use," explains Norbert Schartel, project scientist for the European Space Agency's XMM-Newton x-ray telescope. The telescope, named for Sir Isaac Newton, was launched into Earth orbit in 1999. It's now midway through an 11-year mission to study black holes, neutron stars, active galaxies and other violent denizens of the Universe that show up particularly well at x-ray wavelengths.

For the past four years, whenever XMM-Newton slewed from one object to another, astronomers kept the telescope's cameras running, recording whatever might drift through the field of view. The result is a stunning survey of the heavens covering 15% of the entire sky.

Sifting through the data, ESA astronomers have found entire clusters of galaxies unknown before anyone started paying attention to "slew time." Some already-known galaxies have been caught in the act of flaring—a sign, researchers believe, of a central black hole gobbling matter from nearby stars and interstellar clouds. Here in our own galaxy, the 20,000 year old Vela supernova remnant has been expanding. XMM-Newton has slewed across it many times, tracing its changing contours in exquisite detail.



The image on the left is the Vela Supernova Remnant as imaged in X-rays by ROSAT. On the right are some of the slew images obtained by XMM-Newton in its "spare" time.

The slew technique works because of XMM-Newton's great sensitivity. It has more collecting area than any other x-ray telescope in the history of astronomy. Sources flit through the field of view in only 10 seconds, but that's plenty of time in most cases to gather valuable data.

The work is just beginning. Astronomers plan to continue the slew survey, eventually mapping as much as 80% of the entire sky. No one knows how many new clusters will be found or how many black holes might be caught gobbling their neighbors. One thing's for sure: "There *will* be new discoveries," says Schartel.

Tap, tap, tap. The next time you're in the backyard with your telescope, and it takes off for the Whirlpool galaxy, don't just stand there. Try to keep up with the moving eyepiece. Look, you never know what might

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The Astronomical Society of Las Cruces (ASLC) is

dedicated to expanding members and public awareness and understanding of the wonders of the universe. ASLC holds frequent observing sessions and star parties, and provides opportunities to work on club and public educational projects. Members receive *The High Desert Observer*, our monthly newsletter, membership in the Astronomical League, including AL's quarterly *A.L. Reflector*. Club dues are \$35 per year. Those opting to receive the ASLC newsletter electronically, receive a \$5 membership discount. Send dues, payable to A.S.L.C. with an application form or a note to: Treasurer ASLC, PO Box 921, Las Cruces, NM 88004

ASLC members are entitled to a \$10 discount on subscriptions to *Sky and Telescope* magazine. S&T subscribers MUST subscribe and renew through the Society Treasurer for the special club rate. To avoid a lapse in delivery, this must be done when S&T sends their reminder, 4 months in advance.

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Minutes, May 26, 2006 Meeting

Vince Dovydaitis opened the meeting with a call for comments. Frank Miller passed around a diagram of the position of celestial objects at the time he took a photograph from his hotel room in Turkey of the eastern horizon prior to sunrise. He asked if anyone had ideas about what he may have photographed prior to the solar eclipse on March 29. Most believed it was probably reflections in the hotel window.

Vince congratulated Bob James on receiving a certificate form the American Association of Variable Star Observers (AAVSO) for making over 50,000 observations since 2000. Bob says now he has over 70,000 CCD observations.

Vince requested that the treasurer deliver a Treasurer Report at the next ASLC meeting. Nils Allen reported that the Star Party on May 3 at the White Sands School went well and there were over 100 attendees. Vince asked who from ASLC attended the star party at the "walk around" at the new Dinosaur Track Museum in El Paso on May 6. None at the meeting knew. Steve Barkes announced that he will give a talk on the solar system at the GymMagic event next week. Also, they will make a comet nucleus out of dry ice and other materials. Dave Dockery mentioned that he has a new 12" Meade Light Bridge Dobsonian and he used it at the Texas Star Party (TSP). George Hatfield asked a question about when the Carlsbad Star Party is. Members believed that it would be an overnight event on Friday, July 28.

Joseph Mancilla announced that he received an e-mail from Mr. John Gilkison who heads the National Public Observatory (NPO). John is promoting a star party at the City of Rocks and he is soliciting participation from the El Paso Astronomy Club and the ASLC to promote it and to share in revenues. The proposed dates of the Southwestern New Mexico Star Party (SNMSP) are October 17 – 22. Thus it will not conflict with the White Sands Star Party. There was a lively discussion and the members proposed to defer a decision on participating as a club at the SNMSP. Vince proposed to invite Mr. Gilkison to our next meeting, June 23, where John could give a short presentation and answer questions. If there is enough interest, we would take a vote at the next meeting on ASLC participation. Steve Barkes said he would be interested in a night or two, but not five nights. Subsequently, I have contacted Mr. Gilkison and he has agreed to come to our June meeting.

For the evening program, Nils Allen gave a computer presentation on what happened at the TSP. There were over 490 participants. ASLC members were able to obtain some real bargains at the swap shop. Nils also showed images from the ASLC members who attended. He had help in explaining the images from Steve Barkes, Vince, Dave Dockery and Steve Smith. Bill Stein, ASLC Secretary

My Observatory, Part II

George Hatfield

In the May issue I briefly described the 10' Prodome that I've installed in back of my home on Soledad Canyon Road. Although I have not taken any long (>30 seconds) exposures as yet, the steel pier and its cubic yard

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drift by. See some of the other XMM-Newton images at <http://sci.esa.int>. For more about XMM-Newton's Education and Public Outreach program, including downloadable classroom materials, go to <http://xmm.sonoma.edu>. Kids can learn about black holes and play "Black Hole Rescue" at The Space Place, <http://spaceplace.nasa.gov/> under "Games."

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

My Observatory, Part II, continued from page 6



concrete foundation seem to be working fine. Any vibration that occurs when I adjust the focuser settles down very quickly. The dome rotation motors (2) are operated using a hand controller and generally that works pretty well. One inherent problem with a dome of this design is the gap between the rotating dome and the side walls. This makes it difficult to prevent dust infiltration, but with occasional vacuuming, this is not a significant problem, at least for me. The inside of the dome is surprisingly cool inside, even on very hot days. It is 100 degrees outside as I write this and the pier temperature is 101.5. The off white color of the dome probably helps in this regard. The shutter or opening in the dome is also controlled with a motor and the hand controlled. It is a three-piece affair which slides together as the dome is

opened. It still needs some adjustment to make it operate smoother and the motor used for the shutter is quite loud...not something you would want to operate in the middle of the night if your neighbor's house was close by. I will probably replace that motor sometime in the future with one of the newer and quieter motors available from Technical Innovations. Overall, I like the dome very much. No big surprises or disappointments. One nice thing about a dome like this, I can always take it apart and sell it on Astromart if my hobby takes me in a different direction.



July Issue of the HDO

The HDO is your newsletter and I mean that in more than one way. First, you are entitled to receive the newsletter as part of your membership in ASLC. But, second, our newsletter depends on member support by those who submit articles. Please consider submitting an article on your favorite topic. We all have one (or more) and the membership would like to hear about your astronomical interests. The HDO will be published around the 10th of the month and will no longer be published in the week prior to the monthly meeting. Articles for the July issue should be to me by Friday, July 7. Material should be sent as email (gmlcnm@msn.com) or as an attached Microsoft Word document. If you have any questions about submitting something to the HDO, please don't hesitate to contact me (532-5648 or via email). Thanks in advance! George Hatfield, Editor, ASLC Newsletter