



President's Note

Many thanks to all who came and helped with our early Astronomy Day last Saturday at the Mall. We had a slow beginning starting at about 10:00, but it kept picking up and by 13:00 we were drawing quite a few interested kids and parents. About a dozen signed up for telescope making, and most of those wanted to come to our meetings. Let's see if they really meant it in the next several months. We folded our ASLC banner at about 14:30 when the rest of the science presenters also left. All in all, it was a good public contact and relations event, let's plan to continue our participation in this event next year.

For those with short memories, we moved our April meeting to Friday, April 21, so that many of us could go to the week-long Texas Star Party starting on Sunday, April 23. Looks like we will have quite a good contingent this year at the TSP. Our very own Frank Miller will give a talk at the TSP on their recent solar eclipse expedition. For those not going to the TSP, Frank has agreed to let ASLC hear his talk at our April meeting.

See you all at our meeting, Vince D., (522-5754), Your Prez.

A New Red Spot on Jupiter and Some History

Walter Haas

On February 27, 2006, Christopher Go in the Phillipines obtained an excellent image of Jupiter, which showed in the South Temperate Zone an oval red feature looking much like a smaller version of the famous Great Red Spot in the South Tropical Zone. The STeZ is the bright zone immediately south of the STrZ. The red color in the feature is a surprise, but the feature itself is scarcely new; it is the second longest lasting object observed on Jupiter, behind only the GRS.

In 1940 observers of Jupiter, including myself, found six rather distinct points dividing brighter and dimmer portions of the STeZ. These were unimaginatively named for the first 6 letters of the alphabet. It was guesswork as to whether we were dealing with brighter features on a dull background or dimmer features on a bright background. In the next few years it became clear that we actually had bright and white ovals BC, DE, and FA, initially extending over dozens of degrees of Jovian longitude. They became shorter as the years passed and were carefully watched by all active Jupiter observers, including Elmer Reese at the NMSU Observatory. Eventually we had 3 small white ovals in the STeZ. Not having the same

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period of rotation as the GRS, they would often slowly pass it; they would sometimes approach each other and then sometimes appear to be repelled.

In 1998 BC and DE merged to become Oval BE. Then in 2000 or so, FA and BE merged to make Oval BA the lone survivor. It was still white in 2005, and the recent change to a red hue is very unusual in the extensive literature on Jupiter.

Our talented ASLC imagers should enjoy watching the changing - and often surprising - surface of Jupiter (see Joseph's Challenge on page 4). The newly red BA crosses the central meridian of the planet about 2 hours after the Great Red Spot. The Association of Lunar and Planetary Observers (ALPO) has a website with considerable information about worthwhile Solar System studies for amateur astronomers at www.lpl.arizona.edu/alpo. New members are most welcome.

P. S. Jupiter is beginning to keep more convenient hours!



Here is a recent CCD image of Jupiter taken by Don Parker with a 16-inch Newtonian. The elliptical Great Red Spot is obvious left of the central meridian, and the new red oval is in the upper right part of the image.

As Far as the Eye Can See - Messier Marathon

Joseph Mancilla

Last month's Messier Marathon was eventually clouded out starting at around midnight, but we did get a good start on the first half of the evening. Early in the evening M74 proved to be a very difficult target. We had scopes of all sizes trained on the field with varying frustrating results. I was using a small 80mm F 11.4 refractor at 90x. I saw M74 with averted vision 3 times so I considered it observed. As we settled into a rhythm, and as the night wore on, we could see that the transparency was not that good. This year Steve Barkes gets the award for going through the Virgo cluster the fastest. I think it only took him

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As Far as the Eye Can See - Messier Marathon, continued from page 2

about 15 minutes. I took a leisurely 29 minutes. Dave Dockery also made it through the cluster with a little help from Steve. I think Nils was about to go in when the clouds became serious. I had already observed 70 objects when I took a nap for about an hour. When I woke up a few people were packing up and the sky was looking pretty socked in. Steve and I waited till about 2:45 am and decided that it would take a miracle to clear the sky in order for us to continue. So this year the weather Gods frowned upon our efforts, but we will be there next year. Those who were there included: Chuck, Jerry, Nils, Steve B., the other Steve, Dave, Rich, and myself. What's next after the Messier Marathon? Try the 110 finest NGC objects compiled by Alan Dyer in the RCAS Observers Handbook. Happy Hunting!

ASTRO-TIDBITS (formerly Beginner's Corner)

Nils Allen

March meeting: What are the odds?! We enjoyed discussing some well-known (and lesser known) celestial "coincidences" which lead to some of the neat things we see in our sky. It was apparent that we do live in a unique time, celestially speaking.

April meeting: Do you have realistic expectations concerning this hobby? Many folks interested in astronomy actually don't, and it can lead to disappointment and the loss of new faces at our activities. Let's talk about the results to realistically expect when you undertake observing and/or imaging with various instruments, as well as the time and \$\$ it typically takes to achieve those results (not an oft-discussed topic!).

Call for fresh ideas: Please let me know if you would like to present a 10-15 minute short topic of general interest – it's a lot of fun, especially if you don't have to do it every single month! We meet each month at about 7:10 pm on the meeting night.

Educationally Speaking

Nils Allen, ASLC Education Chairman

Hangin' in there... Our follow-up Spring beginner's course, "Intro to Amateur Astronomy," is going well. Our small group of 6 students has been faithful, despite marginal observing conditions till last week, when we bathed in the light of the full moon as Rich demonstrated astro-imaging techniques. This week we did manage to bathe all of our retinas with deep-sky photons from Nils' 15" Dob. Our final class session will be the week after TSP (since the instructors are all going), and will include an exciting report to give the students a taste of what it's like at a major national star party (believe it or not, they asked for that!). As always, many thanks go to Steve B. and Rich R. for their consistent efforts to "share the wealth" of the hobby we love. Remember, we could always use your help if you enjoy sharing your astro-knowledge... just call me!

The spring Telescope-Making Workshop (#7, I think) concluded on April 15 and seven really nice scopes were built. Everything went very well, 'cept for one major mistake that I made (oops! Oh, well...). A smaller mistake was that I forgot to get a picture of our group and their scopes. Many thanks go to John McCullough and Rich Richins for their very patient assistance with helping our builders! Also to Sam White for cutting up the 2.5 sheets of plywood into over 60 kit parts! I am constantly reminded that all this cannot be done by any one person.

May Sky Map From Rich

Chart shows positions of objects at about 8 pm (MDT) for early May.
Additional maps are available from the club website.



May 4



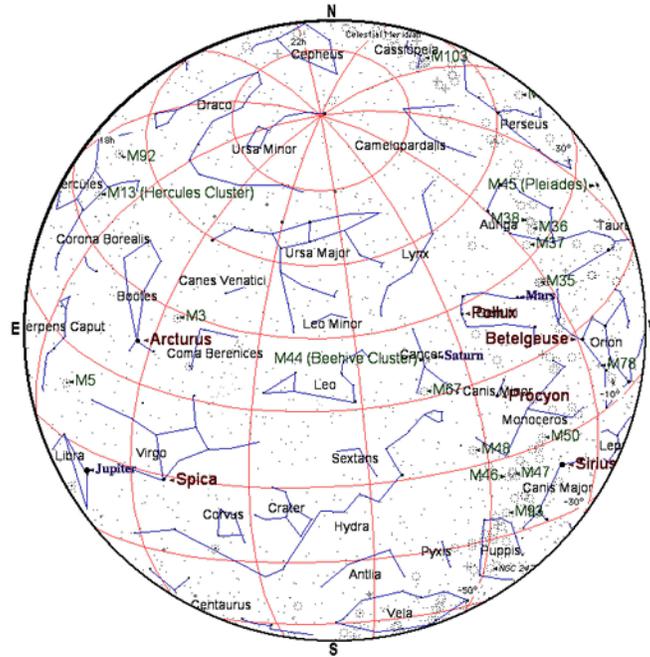
May 12



May 20



May 26



Mars



In Gemini, mag. 1.49, rises about 10 am

Jupiter



In Libra, mag. -2.5, rises 8 pm

Saturn



In Cancer, mag. 0.26, rises about 12 pm

Astronomy Calendar

Please see the ASLC website <aslc-nm.org> for more information

- May 4 - Jupiter at opposition
- May 5 - International Astronomy Day
- May 5 - Eta Aquarid Meteor Shower Peak
- May 12-19 - Comet Schwassmann-Wachmann Near-Earth Flyby (0.053 AU)

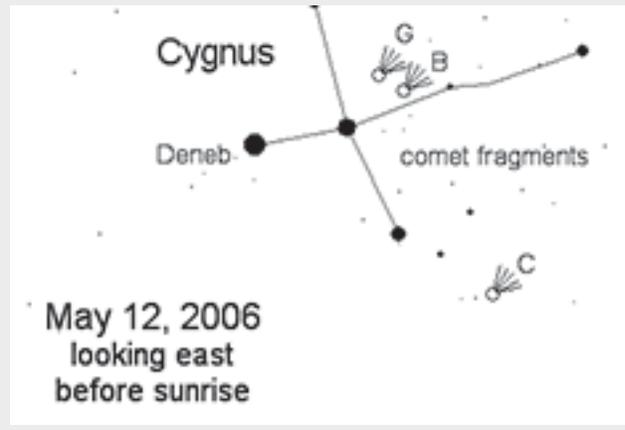
March's Challenge

Leo 1 (UGC 5470) was unknown until 1950 and was only visible through long exposure photographs until it was finally visually observed around 1990. The challenge with seeing or photographing this galaxy has less to do with its brightness than with the fact that it appears extremely close to Regulus, the brightest star in the constellation Leo.

Joseph's Challenge

Joseph's Challenge - May's Challenge is from Walter Haas. Observe and/or image the new red spot on Jupiter. Bring your results to the May ASLC Meeting.

Comet Schwassmann - Wachmann Fragments (NASA)



Who Wants to be a Daredevil?

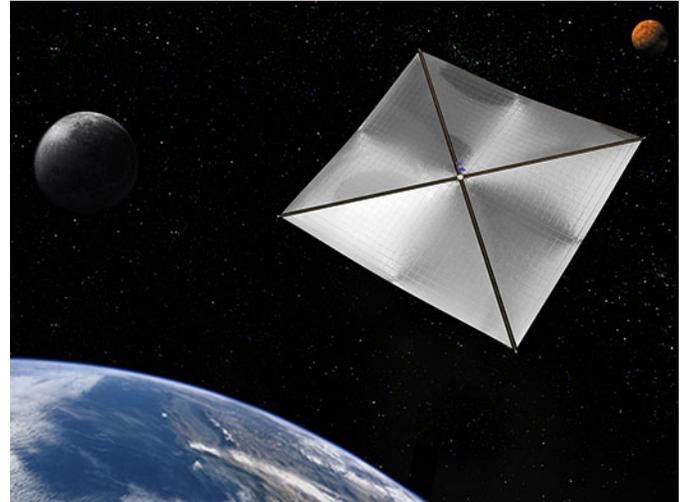
By Patrick L. Barry and Dr. Tony Phillips

When exploring space, NASA naturally wants to use all the newest and coolest technologies—artificial intelligence, solar sails, onboard supercomputers, exotic materials.

But “new” also means unproven and risky, and that could be a problem. Remember HAL in the movie “2001: A Space Odyssey”? The rebellious computer clearly needed some pre-flight testing.

Testing advanced technologies in space is the mission of the New Millennium Program (NMP), created by NASA’s Science Mission Directorate in 1995 and run by JPL. Like the daredevil test pilots of the 1950s who would fly the latest jet technology, NMP flies new technologies in space to see if they’re ready for prime time. That way, future missions can use the technologies with much less risk.

Example: In 1999, the program’s Deep Space 1 probe tested a system called “AutoNav,” short for *Autonomous Navigation*. AutoNav used artificial intelligence to steer the spacecraft without human intervention. It worked so well that elements of AutoNav were installed on a real mission, Deep Impact, which famously blasted a crater in Comet Tempel 1 on July 4, 2005. Without AutoNav, the projectile would have completely missed the comet.



Artist’s rendering of a four-quadrant solar sail propulsion system, with payload. NASA is designing and developing such concepts, a sub-scale model of which may be tested on a future NMP mission.

Some NMP technologies “allow us to do things that we literally could not do before,” says Jack Stocky, Chief Technologist for NMP. Dozens of innovative technologies tested by NMP will lead to satellites and space probes that are smaller, lighter, more capable and even cheaper than those of today.

Another example: An NMP test mission called Space Technology 9, which is still in the planning phase, may test-fly a solar sail. Solar sails use the slight pressure of sunlight itself, instead of heavy fuels, to propel a spacecraft. Two proposed NASA missions would be possible only with dependable solar sails—L1 Diamond and Solar Polar Imager—both of which would use solar sails to fly spacecraft that would study the Sun. “The technologies that we validate have future missions that need them,” Stocky says. “We try to target [missions] that are about 15 to 20 years out.”

A menagerie of other cool NMP technologies include ion thrusters, hyperspectral imagers, and miniaturized electronics for spacecraft navigation and control. NMP focuses on technologies that have been proven in the laboratory but must be tested in the extreme cold, vacuum, and high radiation environment of space, which can’t be fully recreated in the lab.

New NMP missions fly every year and one-half to two years, taking tomorrow’s space technology for a daredevil test drive.

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

AstroVisions - Astrophotography in the Art Museum

Tim Billman

The Art of Space, a multi-faceted astronomically themed group of exhibits, recently concluded at the Las Cruces Museum of Art. The exhibits included the Art of Space, a nationally juried show of abstract astronomical principles created in a variety of media; Rocketland, an overview of rocket development at White Sands Missile Range and the visionary aspects of the nascent Space Port; Rising Skies 4, the continuation of the museum's astronomy and art education component; and AstroVisions, astrophotography from local astrophotographers (as reviewed in HDO Feb 06).

For this article, I will concentrate on the astrophotography works exhibited in the museum. Four local astrophotographers were represented: Dave Dockery, Rich Richins, Steve Smith, and William Stein. I had been attracted to the quality of images posted on the ASLC's group site, and have seen the processing and technical proficiency grow among the local astrophotographers, which is why I had specifically requested image processing info on the gallery wall text labels.

I believe the public shared in my interest of how these wonderful shots were taken. The public's questions regarding the photos focused on the colors of the various nebulae, as well as the location and distance of each object. Educationally, I couldn't have asked for better examples of basic astronomy subjects such as star formation, nebulae composition, stellar time and distance, true and false color imagery, and other astronomical events.

Aesthetically, not only were the photographs on par with other exhibits of traditional and digital photography, but each photographer's choice of image composition and brief narrative demonstrated a true fine art sensibility toward each subject. Frequently, I found myself drawn to the beauty of the image as I would a painting, marveling at the patterns and sense of space. Too often, we become oversaturated with astronomical delights - yet seeing museum visitors become transfixed by subjects that astronomy lovers find almost commonplace, renewed my commitment to expanding the public's view of the heavens.

Astrophotography is an excellent teaching tool, and when the images are as artistically beautiful as they are technically mastered, they can make, as all great art does, the invisible visible.



Art work in the Museum of Art, Art of Space exhibit

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, March 2006 Meeting

Vince Dovydaitis opened the meeting and thanked Nils Allen for conducting the Educational Program prior to the start of the meeting and then asked for announcements. Nils mentioned that he will be starting his next telescope-making class in April. Vince encouraged members to read your Astronomical League's Reflector Magazine. On August 4-6, the 2006 Astronomical League Convention and Exhibits (ALCON EXPO) will be in Arlington, Texas, at the E. H. Hereford University Center on the University of Texas at Arlington campus. Vince thanked the ASLC members who participated in the KRWG-TV fund raiser and Vince added that the Society pledged \$200. Those members present at the meeting contributed more than the needed \$200. The remainder (about \$85) will go to sponsor time on the Clear Sky Clock for Upham. Some of the club members planned to participate on the following Saturday in the Astronomers' March Madness – the Messier Marathon. Vince mentioned that he had been contacted by Pamela Eagan (527-6050) for volunteers as judges for the Science Fair to be held on April 5, 09:00 AM at Zia Middle School.

At Vince's urging, the members agreed to participate with the local chapter of MESA (Mathematics, Engineering, Science Achievement) at the Science Education Day at the Mesilla Valley Mall. The event is scheduled for *Saturday, April 15*. The ASLC will participate in this event in lieu of Astronomy Day (which is May 6). The El Paso Astronomy Group is having an Astronomy Day on May 5. There was some discussion about supporting the "walk around" at the new Dinosaur Track Museum in El Paso on May 6. The JOBE Cement Company donated the land where the dinosaur tracks were found. Vince suggested that we think about having a Star Party at Sunland that evening. Those interested could contact Yolanda Petereit (ypetereit@elp.rr.com). However, an El Paso resident present at the meeting mentioned that it is NOT a good site for a star party. It was uncertain as to whether the ASLC would support this event.

For the evening program, we had an unusual event. Our ASLC member, Wirt Atmar, arranged for a recorded talk synchronized with a computer PowerPoint slide show. The presentation was a recorded talk given by Professor Geoffrey W. Marcy, Astronomy Department, University of California at Berkeley. The title was "You Say You Want a Revolution: Planetary Systems Different from Our Own." The talk was a fascinating discussion about the recent history of the discovery of non-solar system planetary bodies. We learned that it even is possible for amateur astronomers to contribute to this field. Some extra-solar planetary bodies transit across the primary star around which they orbit. These events are detectable in modest telescopes. You may find a description of the first system (HD 209458) discovered and subsequent new transit discoveries

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at <http://www.transitsearch.org/> We ended the meeting by watching and listening to excerpts from another recorded talk and computer PowerPoint presentation by Dr. Greg Laughlin. The talk was entitled "Taking the Galactic Planetary Census."

Bill Stein, ASLC Secretary

Public Outreach and the Solar Viewing for the Science Fair / Astronomy Day Activities

Richard Jones

On Saturday, April 15, we supported a Science Fair at Mesilla Valley Mall. I spent the day in the hot sun with my 120 mm refractor with filter and my Coronado 40 mm Solarscope. It is always interesting to see people's reactions when you ask them if they want to look at the Sun. Some are quite skeptical and want to know if it is safe. No matter what their initial reaction is, they are always quite surprised at what they are seeing. For the morning half of the day, I set up next to the Barnes and Noble entrance to the Mall. There were probably 250 people who looked through the telescopes. At noon, I tore down, ate some lunch and moved to the entrance by the food court. People there all seemed to be in a hurry to get to a movie so the traffic was not so hectic. By 3:00 pm the wind was making things difficult and I felt like I was burning to a crisp. I packed it in.

May Issue of the HDO

In the future the HDO will be published on the 10th of the month and will no longer be published in the week prior to the monthly meeting. This will provide a consistent schedule for both for those who contribute to the newsletter and for the editor. Articles for the May issue should be to me by Friday, May 5. This issue will focus on the Texas Star Party. Material should be sent as email (gmhlcnm@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

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With Our Community
for Over 50 Years