President's Message

The July meeting of the ASLC did not have its scheduled program. We delayed Bill's talk to a future meeting, since the entire meeting was taken up with a discussion by the membership of the proposed observatory. To set the foundation, Vince and Rich each took about 25 minutes to state their position on the observatory. Then, each member at the meeting was allowed to give their opinion on the two proposals. Then the floor was opened completely and anyone who wanted to speak on the issue could extend their remarks.

In summary, Vince wanted to build an observatory at a dark site that would allow for both public and research observing. His possible sites included a Upham, Blue Mesa, Chihuahuan Dessert Museum, and one other site. Vince did quite a bit of research and provided light pollution maps of the Las Cruces area and all the sites he proposed. All of these sites are much darker than the Leasburg Dam State Park site, but they are also much further away.

Rich made the argument that an observatory at Leasburg Dam State Park would provide us with an adequately dark site for most types of observing. More importantly, it would provide the public with easy access to our observatory so they can see the wonders of the sky.

After all was said and done, the membership voted on the Leasburg Dam State Park site. Since Rich was very excited about this site, I asked Vince to step down as Observatory Director and after he agreed, I appointed Rich Richins as the new Observatory Director. I charged him with putting together a complete proposal that the membership could vote on. As you have probably seen on the ASLC e-mail list, he has already started to work in planning for the observatory by forming a design a Subcommittee. He asked for volunteers and about eight of our members have volunteered to help with this phase of the project. Some other members have already volunteered to help with the actual building of the observatory.

While we have a long way to go before the observatory is complete so the citizens of Las Cruces can come out and observe the skies, the excitement among the society members for this project is very gratifying. I hope everyone will keep that excitement through the tough times that will be coming as we work to design and build the observatory. In some ways the initial decision was almost the easiest one. We still have to negotiate with NMSU and the State of New Mexico before we can even begin building the observatory and it will probably take a long time for this to happen. But I think we've made a good start and I look forward one day showing the public the Rings of Saturn at the ASLC Observatory.

Clear Skies, Bert

This Month's Observer

Next Meeting

Our next meeting will be held on Friday, August 24th (fourth Friday of the month) at the usual place and time (DABCC, room 77, 7:30 pm). Presentation: tba.

The “Astro Tidbits” group (Contact: Nils Allen) will meet prior to the monthly meeting at 7 pm and will compare their results of the George Hatfield Digital Processing Challenge. The Imager’s Group will meet again in September prior to the monthly meeting. Anyone is welcome to attend these special interest groups.

Other events planned for August/September include:

Dark Sky Observing at the Upham dark sky site, Saturday, August 11 (dusk)
ASLC MoonGaze at International Delights Café, Saturday, August 18 (dusk)
Dark Sky Observing at the Upham dark sky site, Saturday, September 8 (dusk)
ASLC MoonGaze at International Delights Café, Saturday, September 15 (dusk)

Please see the ASLC website for further information (http://www.aslc-nm.org)

Touring the Peculiar Universe

By Bob Hill - Amarillo Astronomy Club
(contributed by Nils Allen)

I had long been interested, from an aesthetic viewpoint if nothing else, in the various oddball galaxies depicted in those few images from Arp's "Atlas of Peculiar Galaxies" that had widespread distribution. When CalTech made the entire atlas available online, I started thinking of the fascinating observing project it would make. With a little research on my part, I soon realized that I would be able to visually observe at least 120 objects with my then 12.5" Dob, and more with my latest 16 incher. Actually I have observed some of these objects (those with Messier #’s) for decades with apertures up to 25". At this point I think that a little background information would be useful.

A Brief Introduction to Dr. Arp's Universe

In the beginning there was nothing. And then nothing exploded.

This was the base premise of standard "Big Bang" cosmology in the 1960s. It was supported by three pieces of evidence:

1. The relative abundances of light elements.
2. The Cosmic Microwave Background Radiation.
3. The redshifted light from just about every external galaxy that can be observed.

All mainstream cosmology is based on these three facts and one theory - General Relativity.

Unfortunately, not many pieces of observational evidence seem to agree with this simplified view. As a result there have been lots of add-ons tacked onto the basic theory, all trying to make the Big Bang model viable. After a while, it all starts looking suspiciously like the epicycles that were tacked onto earth-centered cosmology in an attempt to explain the motions of planets.

For example, in the last 25 to 30 years we have seen Dark Matter (that still has not been found), Inflation (which doesn't really predict anything testable), Cosmic Strings (for which no evidence has been observed), and most recently a mysterious repulsive force that is being called a Cosmological Constant. This relies for proof on one observation of a type 1a supernova at a Z of around 1.3 that seems to be 20% dimmer than its redshift distance would imply. Could not the observation be as easily explained by using a Hubble constant slightly lower than was used to show this "proof"? It also seems that mainstream astronomers are very busy seeking evidence to support these accepted theories, rather than developing new theories to explain the observations.

Of course, the Hubble Constant is part of the problem. In addition to having no agreed upon value, it seems to give a different result depending on just where you point the spectrometer. Part of this is due to the observations in our own near (300 MLY) neighborhood which showed that besides the portion of redshift that was supposedly due to universal expansion, there was also a large component of redshift that was due to peculiar local velocities involving large scale motion towards very massive objects. Hubble's Law assumes that if we just look far enough back in time, or out in distance, we will be able to neglect these peculiar velocities. Without some independent way to gauge distance, how reliable will distance "guesstimates" be? Comparing the results from the various high-Z supernova searches suggests that there may be a peculiar velocity component at work no matter what reference frame is chosen.

With all the problems involved in using redshift as a velocity and thus a distance indicator, what good is it? Well, maybe redshift is not an indication of universal expansion. Maybe it has very little to do with distance. Edwin Hubble, throughout his illustrious career, always held out the possibility that redshift may have some other mechanism behind it than velocity.

One of the most vocal opponents of using redshift to determine distance is Dr. Halton C. Arp. Throughout his career, Dr. Arp has been one of the few voices opposing this practice, especially when it comes to the curious objects known as quasars. In the conventional view quasars lie at vast cosmological distances, emit copious amounts of energy, and are the brightest objects in the universe. In Dr. Arp's universe a quasar is a very young object ejected by a low redshift parent galaxy. In it's lifetime, the quasar will evolve into a BL Lac object, then into a dwarf high redshift galaxy, and eventually into a normal low redshift (but higher than its parent) galaxy.

The parent or dominant galaxy in a cluster will be an energetic type 1 Seyfert of morphological type Sa, Sb, giant E or cD. All other galaxies in that group will have higher redshifts than the parent they descended from. These energetic parent galaxies are frequently sources of radio emission, often bipolar in form, and often are associated with jets. More often than chance would seem to allow, in Dr. Arp's view, they will also have a pair of high redshift quasars, BL Lacs, or high redshift galaxies aligned with their ejection cones on both sides of the active nucleus. Rather than a black hole dragging surrounding matter into oblivion, Dr. Arp feels that these active nuclei are white holes creating new matter. There needs to be further study to either prove or disprove Dr. Arp's theories, but it remains to be seen if anyone will be granted observing time on any major facility to do research relating to these theories, since they have been branded as crackpot by the people who run the various Time Allocation Committees.

Dr. Arp set up several classes for the oddball galaxies that he had been observing early in his career, from 1962 through 1967. These were set forth in his "Atlas of Peculiar Galaxies" that was released in 1967. Dr. Arp stated at that time, "Because so many of the physical processes pictured are not understood, no rigorous attempt at classification has been made. The galaxies have been grouped empirically, putting together all the objects that look alike." There are five broad classes of objects depicted in the atlas, with anywhere from 4 to 14 sub-classifications in each main class. Included therein are enough interesting

galaxies to keep us, as observers and imagers, busy for many nights under the stars. You can get the complete listing of objects, and all the original images, at the NASA Extragalactic Database website.

[excerpted from http://astronomy-mall.com/Adventures.In.Deep.Space/peculspr.htm]

Clouds from Top to Bottom

By Patrick L. Barry *(NASA Space Place Column)*

During the summer and fall of 2006, U.S. Coast Guard planes flew over the North Pacific in search of illegal, unlicensed, and unregulated fishing boats. It was a tricky operation—in part because low clouds often block the pilots' view of anything floating on the ocean surface below.

To assist in these efforts, they got a little help from the stars.

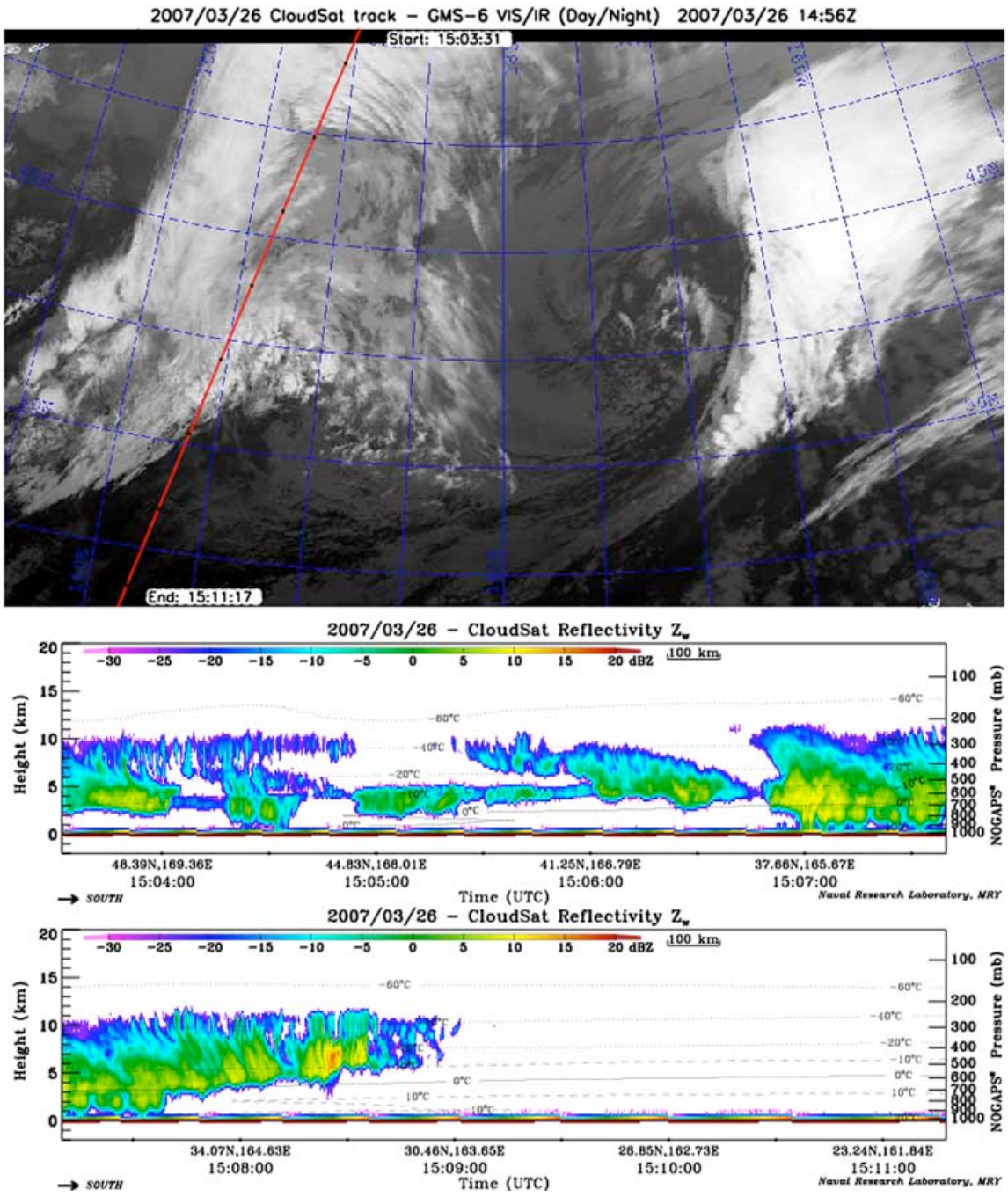
Actually, it was a satellite—CloudSat, an experimental NASA mission to study Earth's clouds in an entirely new way. While ordinary weather satellites see only the tops of clouds, CloudSat's radar penetrates clouds from top to bottom, measuring their vertical structure and extent. By tapping into CloudSat data processed at the Naval Research Laboratory (NRL) in Monterey, CA, Coast Guard pilots were better able to contend with low-lying clouds that might have otherwise hindered their search for illegal fishing activity.

In the past, Coast Guard pilots would fly out over the ocean not knowing what visibility to expect. Now they can find out quickly. Data from research satellites usually takes days to weeks to process into a usable form, but NASA makes CloudSat's data publicly available on its QuickLook website and to users such as NRL in only a matter of hours—making the data useful for practical applications.

"Before CloudSat, there was no way to measure cloud base from space worldwide," says Deborah Vane, project manager for CloudSat at NASA's Jet Propulsion Laboratory.

CloudSat's primary purpose is to better understand the critical role that clouds play in Earth's climate. But knowledge about the structure of clouds is useful not only for scientific research, but also to operational users such as Coast Guard patrol aircraft and Navy and commercial ships at sea.

"Especially when it's dark, there's limited information about storms at sea," says Vane. "With CloudSat, we can sort out towering thunderclouds from blankets of calmer clouds. And we have the ability to distinguish between light rain and rain that is falling from severe storms." CloudSat's radar is much more sensitive to cloud structure than are radar systems operating at airports, and from its vantage point in space, Cloudsat builds up a view of almost the entire planet, not just one local area. "That gives you weather information that you don't have in any other way."



A CloudSat ground track appears as a red line overlaid upon a GMS-6 (a Japanese weather satellite) infrared image. CloudSat is crossing the north-central Pacific Ocean on a descending orbit (from upper-right to lower-left) near a storm front. The radar data corresponding to this ground track (beginning in the center panel and continuing into the lower panel) shows a vertical cloud profile far more complex than the two-dimensional GMS-6 imagery would suggest. Thicker clouds and larger droplets are shown in yellow/red tones, while thinner clouds are shown in blue.

There is an archive of all data collected since the start of the mission in May 2006 on the CloudSat QuickLook website at cloudsat.atmos.colostate.edu. And to introduce kids to the fun of observing the clouds, go to spaceplace.nasa.gov/en/kids/cloudsat_puz.shtml.

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

Nominations for 2008 Officers

As was indicated by our Prez. at our July meeting, I am the stuckee to collect and solicit ASLC officer nominations. Bert and I discussed the nomination process and the nomination cut-of date. We agreed that two months was long enough. So.....

You all good ASLC men and women are hereby invited to line up and volunteer your bodies as candidates for the following offices:

President
Vice-president
Secretary
Treasurer
Board member at large 1
Board member at large 2

Board members at large are spares in case an officer is unable to continue in office, and the President can also asign duties to them that require a responsible individual. Nomination cut-off date is at the end of our regular September meeting. Please remember that you may nominate yourself or any other ASLC member who has given you permission to enter their name. You may make your availability public by volunteering this information via aslcnm e-mail, or send it directly to me at dovydaitisv@prodigy.net or call me at 522-5754.

I am standing by for the avalanche of nominations.....Vince Dovydaitis.....522-5754

Minutes, July 2007 ASLC Meeting

Call to Order:

Bert Stevens, Astronomical Society of Las Cruces (ASLC) President, called the meeting to order at 7:30 pm., 27 July 2007, Rm. 77, Dona Ana Community College.

Secretary's Report:

The President suggested the reading of the minutes of the June general meeting be dispensed with and that they be accepted as published in the *High Desert Observer* (HDO), the ASLC newsletter. Steve Barkes moved that the minutes be accepted as submitted, Janet Stevens seconded. The minutes were accepted by those present by voice vote. There was not an additional Secretary's report.

Treasurer's Report:

The Treasurer reported the financial standing of the Club remains essentially unchanged. There was not an additional Treasurer's report.

Committee Reports:

There were no standing committee reports.

Old Business:

The following old business was discussed:

1.) Coronado (or equivalent) PST: Janet Stevens presented representative prices for a Coronado PST as follows:
40 mm - $339.50
60 mm - $2215.50
70 mm - $1890.00
Additional discounts may be available if the Club becomes a member of the 4M Club doing public outreach and education. It was suggested by the President, and accepted by those present, that the purchase issue continue to be tabled for the time being.

2.) X-Prize Cup Expo: as of this date, an ASLC member has not volunteered to coordinate the Club's participation in this year's event at Holloman Air force Base (HAFB) near Alamogordo. The President will contact the X-Prize Cup organizing committee to inform them that the Club will not participate as an exhibitor for the 2007 event. He will suggest that they contact the Alamogordo Astronomy Club (ACC) as a possible exhibitor and he will also contact the ACC with the information he has at present.

3.) Renaissance Art Faire: a volunteer to coordinate the Club's participation in this year's event is needed.

There was no additional old business discussed.

New Business:

The following new business was discussed:

1.) It was reported that the Tombaugh Observatory structure housing the Club's 12" telescope is in poor shape, primarily from water leakage associated with rain showers and from landscape watering. Several members have been working on scope maintenance and general cleanup of the building's interior. Vince Dovydaitis expressed the opinion that use of the structure is granted to the Club by New Mexico State University (NMSU), but that it still belongs to the University and that the University is responsible for major upkeep of the structure.

2.) Vince Dovydaitis, as Past President, will chair the Nominating Committee to create a slate of candidates for office for the 2008 term. He will contact other members to fill out the committee (three required/desired).

3.) Discussion of the acceptance and use of a 16" Meade LX200 telescope from NMSU's

Astronomy Department on “permanent loan” occupied the majority of the monthly meeting. There are issues with the telescope, i.e., the drive motors are thought to be burned out and will have to be repaired/replaced or a different mounting arrangement pursued. Three options were discussed:

a) Accept the “permanent loan” and place the “renovated” telescope in a Club owned observatory at a site to be determined
b) Accept the “permanent loan” and partner with Leasburg Dam State Park (LDSP) to place the “renovated” telescope in an observatory at the park in an arrangement similar to that of the National Public Observatory (NPO) at City of Rocks State Park
c) Do not accept the “permanent loan” and do nothing; assume the repairs required and placement of the telescope are cost prohibitive

Two (2) narratives discussing options a) and b) were presented by Vince Dovydaitis and Rich Richins, respectively. Synopses follow.

Vince Dovydaitis-
Background:

- He, along with Bill Stein, has been working since March ’07 as the Observatory Committee charged with selecting an off-campus site for a Club observatory and with coordinating receipt of the 16” telescope from NMSU’s Astronomy Department.
- He noted that the Club had also received a “somewhat” damaged 12(?) ft. dome from the Department 5+ years ago that is currently in outdoor storage. He has recommended several times that the Club’s 12” telescope be moved from the Tombaugh Observatory on campus to another location utilizing this dome and adding setting circles to the telescope.
- The Club has liquid assets to support this endeavor.
- The 16” Meade is available on “permanent loan”, and though it needs repair, he is willing to undertake the repairs himself.
- He is in favor of the public outreach and education the Club currently performs and could do at a site similar to LDSP.
- He presented four (4) options as follows:

i. LDSP at Radium Springs – has issues with residential encroachment, light pollution, and, seasonally, mosquitoes (proximity to Rio Grande). He suggests putting a Club-owned 8” Celestron here for public outreach and reserve the 16” Meade at another site for Club member projects.
ii. Correlitos Ranch, NW of Las Cruces – Northwestern University has rights to an observing site in this area; the telescope is being used to support a US Air Force contract. There is a microwave tower with a high intensity flashing light in the immediate vicinity, but another site in the area may be available.
iii. University Ranch, NE of Las Cruces – protected from development by NMSU and various state and federal agencies (BLM, Jornada Experimental Range). He suggests a site that is northwest of the Chihuahuan Desert Nature Park that is still relatively close to Las Cruces but with mountains that block the majority of direct light impingement. He notes that the Radio Controlled Airplane club rents a 100 acre parcel in the general area for $100 a year but in an area subject to potential development.
iv. Upham Dark Sky Observing (DSO) site – this site may be adversely affected by

Spaceport development approximately 17 miles to the north. The majority of the road to the current DSO would be paved for the Spaceport and the Club could pursue buying or renting another parcel in the area for an observatory.

Rich Richins-
Presented a proposal to build an ASLC Observatory at LDSP:

- Convenient public access
- "Relative" dark sky
- 16" telescope will be on "permanent loan"
- The Club has an unused, but damaged, dome available
- ASLC has liquid assets
- A Club observatory has been a long-time "dream"
- Discussions have been initiated with Jim Murphy, Astronomy Dept. head, and Tom Harrison, Astronomy Dept. faculty member, regarding repair/renovation/upgrade of the current mount because of the damaged motors; also, with Stan Ellis, LDSP manager, regarding placement of the telescope at the park
- LDSP is 15 miles from downtown Las cruces via I-25; there are good roads in the park proper, little or no road dust to degrade telescope performance
- Park features:

Swimming	Visitor's Center
Hiking	Playground
Camping	Full facilities
Small boating	
70,000 visitors a year	

- Physical layout of the park was presented noting the locations of proposed Site 1 and Site 2
- A light pollution chart of the Las Cruces area was displayed showing the location of LDSP

Pros of this site:

- No property cost involved
- Current light pollution is minimal; LDSP will work with the Club to minimize the light pollution generated in the park. The light dome from Las Cruces imparts a 6.5 limiting magnitude.
- Physical security is monitored by park staff. ASLC members would have access to gated area where the observatory would be located.
- Cost sharing – park would pay for observatory pad and power. Unknowns are insurance, mount, Internet access.
- NMSU approves of the public outreach aspect which enhances "permanent loan" of the telescope.

Cons of this site:

- Club must commit to hosting a monthly (minimum) star party
- Telescope users must pay some park fees (some exceptions for star party leaders?)
- Light pollution will get worse but hopefully to the east. How quickly?

Unknowns of this site:

- Can the mount be fixed?
- Should the Club upgrade the mount (Paramount lists for $12,000)?

- Other add-ons? Remote control?
- Usage fees guidelines?
- Will this kill a Club PST purchase?

Advantages to this proposal are:

1. A secure and accessible facility to use and share with the community
2. A location near Las Cruces
3. “Good” skies
4. The LDSP manager wants the facility
5. NMSU is attracted by the public outreach aspect

Discussion followed. Comments included concerns about security, utilities and access to a site remote from Las Cruces. How much would it cost to obtain a site and build a permanent structure to house the telescope? Also, what, if any, are the financial aspects of the “permanent loan” of the telescope from NMSU? Will members of the public, i.e., from Las Cruces, travel to LDSP for a star party? It was felt that a project that could be completed in a foreseeable future would get done as opposed to one with a nebulous completion date. Public outreach is a key component of the Club’s mission and could be accomplished at LDSP. Little specialized research is done with Club equipment, so using the 16” strictly for public viewing of comparatively bright objects will not restrict Club members’ observing. Skies at LDSP are currently adequate, but nothing lasts forever.

At the direction of the President, discussion was suspended and six options were weighed by the Club members present. The options were as follows with the noted result:

1) Build an observatory at Leasburg Dam State Park to house the 16” Meade as the primary instrument – primary option favored
2) Obtain a site and build an observatory on Correlitos Ranch – despite good DSO characteristics, this option was eliminated
3) Upham DSO – not currently suitable for building a Club observatory, this option was eliminated
4) Obtain a site and build an observatory on University Ranch/Jornada Experimental Range – limited (one member) support for this option, this option was eliminated
5) Do nothing – this option was eliminated
6) Other – none offered, this option was eliminated

Several motions were offered at this time, but did not receive seconds.

At the direction of the President and with the concurrence of the involved parties, Rich Richins replaces Vince Dovydaitis as Observatory Committee Chairman to develop a proposal to obtain the 16” Meade telescope from NMSU and work with LDSP personnel to build an observatory to house the telescope at the park.

4.) Steve Barkes made a motion that the Club pursue the purchase of a 60 mm, double stack Coronado solar scope and mount, not to exceed $4,000; Steve Smith seconded. Discussion followed. The motion was called and passed by acclamation.

No additional new business was discussed.

Announcements:

There were no announcements made.

Steve Barkes made a motion to adjourn the business portion of the meeting, Kirby Benson seconded. The motion was accepted by a unanimous voice vote.

General Announcements:

There were no general announcements presented.

Observations:

There were no observational reports.

Presentation:

> The program for this month's meeting was to be presented by Bill Stein, Club Vice President. Because of the length of the previous discussion of new business, his presentation was postponed to the August General Meeting. Other meeting presentations can be seen on the web at http://www.aics-research.com/lectures/aslcnm/.

The monthly meeting concluded at 9:45 pm.

Respectfully submitted by John McCullough, Secretary

September Issue HDO

Articles for the August issue should be to George Hatfield <gmhlcnm@msn.com> by September 16. Material should be sent as email (gmhlcnm2@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 George. Thanks in advance! George Hatfield, Editor, ASLC Newsletter.

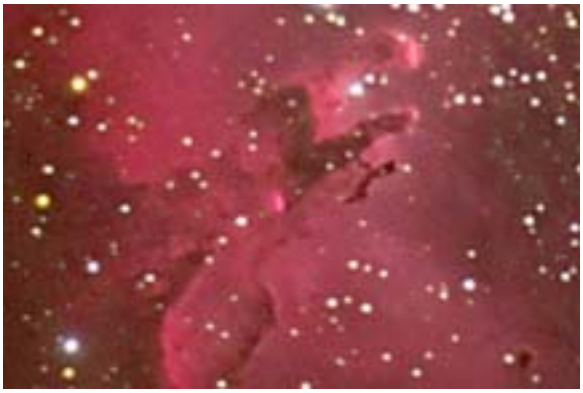
Upcoming Star Parties

Southern New Mexico will play host to two star parties in September/October. The Fall Southern New Mexico Star party will be at City of Rocks State Park on September 7-10, 2007. Information can be found on NPO's web page: http://www.astro-npo.org

The eighth annual White sands star party will be on October 5th and 6th (2007). For additional information, please see: http://www.zianet.com/wssp/.

Recent Images (see more images at the ASLC Gallery - http://aslc-nm/Gallery)

The Double Cluster - by Kirbini-san



The Eagle Nebula - by Rich Richins

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ASLC - Sharing the Universe With Our Community for Over 50 Years