



## Past President's Message - October 2011

Our Fearless Leader is still recovering from his bout with pneumonia, and he has asked me to fill in for him this month. He is on the mend and promises to be at our next meeting on Friday, October 28. I am sure we all hope he recovers quickly.

We have many activities going on in the next three months. As I stated, we have the next meeting coming up on October 28. I would tell you how great the speaker at this meeting will be, but since he is me, my modesty does not allow me to do so. See Page Two for information on the topic. Note that we will be meeting in Room 96 instead of our usual Room 77. To get there, go past our regular room, then go right and down the next hallway.

The ASLC will also participate in the "Music and the Stars" event at Leasburg Dam State Park on Sunday, October 30. Local artist, Daniel Park will provide a free concert of modern and oldies music (from Otis Redding to Lady Gaga, Neil Sedaka to Coldplay and Jimi Hendrix to Justin Bieber). The music will run from around 4:30 p.m. to 6:45 p.m. We will then set up 'scopes for a few hours of public observing. We can use volunteers to attend this event and bring your telescope.

In the beginning of November we have three star parties. This trio starts on Tuesday, November 1, at Sonoma Elementary School. Then on November 3 (Thursday) we will be at Tombaugh Elementary School. Finally, on Friday, November 4, we will be at Mesilla Bosque State Park. All these events can use some more observers. Contact the Outreach Chair, Chuck Sterling if you would like to volunteer.

Then we have the big event, the 2011 Renaissance Arts Faire on Saturday, November 5 and Sunday, November 6. This is our major public observing event and we hit many people who attend the Faire. We will need many volunteers to man the telescopes, answer the questions, and generally hang around the booth. You will need to be in costume (medieval-related), but it is a great deal of fun. Let Ron know if you would like to volunteer.

Elections for officers are coming up at the October Annual Meeting. Officers to be elected are President, Vice-President, Secretary, Treasurer and two Directors-at-Large. Some current officers have agreed to continue for the next year, but there are still several open slots. If you are interested in any of these positions, please contact the any member of Nominating Committee.

Also, please don't forget to pay your dues. We alert you when we e-mail out the HDO. You can pay at the meeting or mail it to the P.O. box. And don't forget we also have a variety of apparel items, including shirts, hoodies, hats, etc. available for sale. Your Society earns \$1.00 per item sold which helps our Treasury. Contact Ann McPhee for details.

Your Past President,  
Bert Stevens



The Astronomical Society of Las Cruces (ASLC) is dedicated to expanding 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 \$30.00 per year, including electronic delivery. Send dues payable to ASLC with an application form or note to: Treasurer ASLC, PO Box 921, Las Cruces, NM 88004

ASLC members are entitled to a \$10.00 discount to Sky and Telescope magazine.

ASLC OFFICERS, 2011

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Next Meeting

Berton Stevens will speak at our next meeting about “Observing Minor Planets”. Celebrating the Tenth Anniversary of Desert Moon Observatory, dedicated to measuring the position of Near Earth Objects (NEOs), Bert will discuss the equipment and techniques he uses in his work. This will include hardware, software, and webware that combine to create the workflow for an observing run.

Note that we will be meeting in Room 96 instead of our usual Room 77. To get there, go past our regular room, then go right and down the next hallway.

Articles Needed

The High Desert Observer is **your** astronomical society newsletter. The quality of the newsletter can only be obtained if we get high quality articles from people like **you**. Please take some time and write an article on what you are doing in astronomy that you would like to share with your fellow amateur astronomers. Thanks in advance for your efforts!

Events

ASLC hosts both a deep sky viewing and imaging at our dark sky location in Upham and a public in-town observing session for the public at the International Delights Cafe. Both sessions begin at dusk. We also frequently provide solar observing at the Farmer’s Market on Saturday mornings. For information on these and other events, please see the ASLC website at <http://www.aslc-nm.org> .



# Remote Focus and Dark Frame Mask Widget

By Chuck Sterling

Maria Elena, my wife, was able to attend the Texas Star Party with me for the first time in 2011 since it was scheduled late enough that the school year was over just in time. In the few years prior I had attended by myself and stayed on the Prude Guest Ranch in a tent, sometimes with very interesting results when the wind picked up as it does occasionally. Keeping those interesting times in mind, we this year decided to stay at Indian Lodge, a motel in the Davis Mountains State Park, about 1.5 miles from Prude Ranch. It did not seem prudent to stay the entire night at the ranch and show up at the hotel in the morning; my educated guess is that Maria Elena would be unenthusiastic, perhaps even miffed, should I do that. This posed another dilemma, though, in that I could not drive into or out of the Ranch after about 9pm, so I had to leave our van outside the ranch and hike in maybe a quarter mile to set up the night's imaging and then hike back out to return to the motel.

I decided that one hike per night would be about all I could put up with, and that meant I needed to have remote control of my imaging setup from the motel, unless I just wanted to set it up, pull the trigger, and walk away to take my chances with what this would produce. One area that needs touching up during the night is focus, and I have recently started using a Bahtinov Mask because it is simple to use, and it Just Works. I decided to make a motorized focus mask that I could apply or remove remotely; saving me a 2:00 a.m. hike in and hike out, and incidentally, my marriage. That worked out so well that I expanded the mechanism to operate both a focus mask and a dark frame mask. That updated widget is presented in this article.



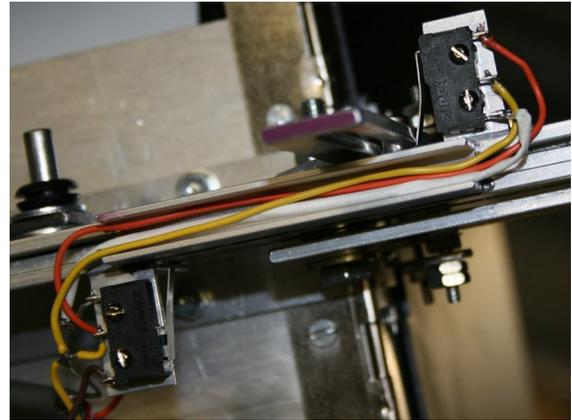
There are probably more ways that one to skin this particular cat and probably simpler ones as well. But I used a stepper motor on the first widget and decided to continue with the update. The idea was to use a linear motion to first move the focus mask over the OTA, and if dark frames were needed, the same linear motion would be extended to place the dark mask over the focus mask. The masks could be returned to their initial position by reversing the motor. This permitted both masks to be operated by only one motor.

The stepping motor I used steps in 1.8-degree increments, yielding one full revolution per 200 steps. The lead screw is a standard 1/4"-20 threads/inch, so one revolution moves the mechanism .050". 7,200 steps are needed for either mask, and steps are at least 2ms apart to allow the motor to keep up with the electronics, so it takes about 20 to 30 seconds to move a mask in or out. The motor operates on 6v at 800ma, supplied from a 12v battery through a Radio Shack voltage converter, and is controlled by a USB card purchased from a company in Great Britain for about \$60US. The card comes with software to run it, so this was almost a plug-and-play setup (Read: I did not have to write my own program). I installed the card in a project box from Radio Shack, and

used Velcro to attach it to the mount.



The widget (could use a real name, but I wore out my creativity building it so the name will have to wait) is attached to the OTA with an old mounting ring left over from a Really Windy Day at TSP. The mechanism is designed around two 90-degree rotating actuator arms in which a slot is cut, one end at a 45-degree angle from the rest. The end with the angled slot is the drive end; the rest of the slot is the idle end. When moving the masks over the OTA the arm for the focus mask is set to drive during the first half of the linear movement and idle during the second half. The arm for the dark mask is the reverse, idling during the first half and driving during the second half. The movements of the arms are reversed when retrieving the masks. The arms are each linked to half of a short piano hinge on which the two masks are mounted, with the hinge cut in the middle to permit independent movement. The card supports limit switches, and since there is a real possibility of trying to drive the mechanism too far in either direction, which could damage the motor, I used two switches to limit movement



A picture is worth a lot of words, so there are a few more views of the mechanism located here:  
[http://www.zianet.com/csterlin/2011\\_09\\_17\\_RemoteFocusAndDarkMask/](http://www.zianet.com/csterlin/2011_09_17_RemoteFocusAndDarkMask/)

Some low-resolution videos are at:

<http://tinyurl.com/3nsf9rz> , which takes you to this ungainly link:

[https://picasaweb.google.com/csterlin88001/20110918\\_RemoteControlFocusAndDarkMaskUsedForAmateurAstronomy?authkey=Gv1sRgCOrP88-ow9TbCQ](https://picasaweb.google.com/csterlin88001/20110918_RemoteControlFocusAndDarkMaskUsedForAmateurAstronomy?authkey=Gv1sRgCOrP88-ow9TbCQ) the relative motion was very apparent after only twenty or thirty minutes.

## Okie-Tex Star Party 2011

By Chuck Sterling

Since I joined ASLC, I have been to, I think, five star parties, all of them the Texas Star Party. I mostly enjoyed them, except the one where my tent got flattened out and my mount and scope blew over in the fifty-plus miles per hour wind (I left early that time).

Okie-Tex was a real treat. Yes, there was some wind during the day, but having learned my lessons at TSP, the scope was inside the tent and not on the mount. Also the tent had five additional guy ropes to keep it intact. I did have to go hunt down my wayfaring mouse pad, but that was about it. The first night, Saturday, was clouded out; I took a set of dark frames for the exposure time and ISO setting I expected to use the rest of the week. The timing was good; I drove out from Las Cruces on Saturday morning, stopping in Albuquerque to visit friends for an hour or so, and then drove on to Kenton, Oklahoma and Camp Billy Joe. I was tired, and the clouds let me go to bed early, thank you.

Dave Dockery, Steve Barkes, and Rich Richins also attended from ASLC, as did Robert Williams, but he hung out with his old buds from TAAS in Albuquerque. Everyone was set up both for imaging and visual work except me, my having left the Meade LX200 home. The van was completely full; even if I had wanted to bring my LX200, it would have had to ride on the roof. We sure missed the rest of you guys!



Sunday night was also cloudy but there were numerous sucker holes roaming around. I tried to image, but it was futile. I wound up with only one good subframe of M31 and none, count 'em, none of the Helix Nebula. About midnight I called the game and went to bed.



But the rest of the week was fabulous, extraordinary, and perfect. We had five excellent nights in a row. The skies at Camp Billy Joe are dark. Dark in the sense that there is no light pollution; clouds are black, not light as we see them from town or even the suburbs. But light enough that you can walk around the field illuminated only by starlight, and you can see where you are going, recognize people without their being lit up by computer screens or headlamps. This has to be experienced to be believed and appreciated. Who would have thought the light from the Milky Way could interfere with your night vision?

The nearest town with a gas station is Boise City (pronounced Boyz), 35 miles away. It has typical small town businesses including a Love's Truck Stop and Subway, a Pizza Hut, a Dairy Queen, and my favorite, the Rockin' A Cafe, where you can get a Really Good Chicken Fried Steak and trimmings and some down-home hospitality. Several men from TAAS rode their bicycles the 70 mile round trip to Boise City and back; I ran into them while having a dessert at the Dairy Queen. I could see from their t-shirts that they were probably from Okie-Tex, but did not at the time know they were from Albuquerque or I would have butted into their conversation. I did not find out who they were until one of them posted a note about the ride on the TAAS message server.

The ASLC did okay at the door-prize drawings. I won a nice sweatshirt from the Astronomical League on the Thursday drawing, and Dave won a copy of Starry Night software. On the Saturday drawing, with my ticket back in, I won a 2-inch 2x Antares Barlow from Astronomics and the Oklahoma City Astronomy Club. I never win anything, anywhere, so what's up with that? For what it is worth, one of the grand prizes was an Astro Tech 8" f/4 Imaging Newtonian, the same that I use (I forget the other).



There are quite a few deer in that part of the country, by the way. On the way to Kenton, I passed one pasture that must have had 30, maybe 50 deer out there grazing, and on the way to Boise City I saw another with a dozen or so, and one two-pointer that bounded across the road a quarter-mile ahead of me and was still running when I lost sight of him.

I came back on Sunday with ten good images captured and one of M31 that sucked. One is a retry of the Helix Nebula, an object I never imaged before (thanks, Dave, for the tip).

The trip back was uneventful, the best kind, and I got in just about in time for supper.

I will be going again next year; count on it...



# Minutes, September 2011 ASLC General Meeting

By John McCullough, Secretary, ASLC

## Show and Tell:

David Anderson began the session showing his homemade small PVC telescope. He was followed by Charles Sterling showing his homemade remote controlled imaging telescope focusing and dark mask.

## Call to Order:

Ron Kramer, President, Astronomical Society of Las Cruces (ASLC), called the business meeting to order at 7:33 p.m., 23 August 2011, at Dona Ana Branch Community Collage, New Mexico State University, Las Cruces, New Mexico.

## President's Comments:

Ron Kramer welcomed the group, noting that tonight's meeting was again preceded by a "Show and Tell" session organized by David Anderson; thanks to Dave. There was one guest, Oscar Philhoefer of the Sun City Astronomers, El Paso Texas.

## Secretary's Report:

The Minutes of the August 2011 meeting were accepted as published in the September edition of the Society newsletter, the High Desert Observer (HDO).

## Vice-President's Report:

There was no Vice-President's Report.

## Treasurer's Report:

There was no Treasurer's report.

## Committee Reports:

### Astronomy Day 2011:

Astronomy Day will be held October 1 at the Farmer's Market, Las Cruces Downtown Mall. It will start about 8:00 a.m. and then run until Noon. It will then move to the regular Moon Gaze at the International Delights in the evening.

### Leasburg Observatory Committee:

Ron Kramer, Committee Chairman, reported that the State now plans to pay for and build, the Observatory. A call for members to assist with ideas was answered by Charles Sterling, Fred Pilcher and Jerry Gaber. Construction may start as soon as November 2011.

### Nominating Committee:

Robert Williams, Ann McPhee, and Fred Pilcher compose the committee for 2012. It was reported that a full slate of nominees was found. Elections will be held in November.

### Outreach Committee:

Chuck Sterling, Outreach Coordinator, reported on upcoming activities. Star parties will be held on 01 November at Sonoma Elementary, on 03 November at Tombaugh Elementary, and 04 November at Mesilla Bosque State Park.

We will be participating in the "Music and the Stars" event at Leasburg Dam State Park on Sunday, October 30. Local artist, Daniel Park will provide a free concert of modern and oldies music (from Otis Redding to Lady Gaga, Neil Sedaka to Coldplay and Jimi Hendrix to Justin Bieber). The music will run from around 4:30 pm to



6:45, after which we will set up scopes to a public audience for a few hours of observing. Not really certain how many people to expect there, but we could use at least 4-5 scopes.

Chris Jones, Alamogordo Astronomy Club (AAC), reports there will be no White Sands Star Party (WSSP) this year. The following information was received:

“A private campout star party for astronomers and immediate families will be held for one night only on October 22. It will take place at the group area next to picnic area number one. There is no fee for this event other than the fees charged by White Sands National Monument. Donations to help cover the \$50 registration fee will be accepted. Park fees include the usual entrance fee of \$3.00 per person 18 years and older and camping fees of \$3.00 per adult, \$1.50 for anyone 17 years old and younger.

“IMPORTANT: In order to avoid resource overuse only about 20 vehicles will be permitted for this event. Please register only one vehicle per family and car-pool where practical. Registrations will be accepted on a first-come, first-serve basis. If you plan to attend, please reserve your place as early as possible by email to wssp11@gmail.com. Please provide a name, address, phone number, and how many individuals and vehicles you wish to register.

“Questions may be addressed to the same email or to the voice mail at 575-585-2224.

“Chris Jones. Alamogordo Astronomy Club”

2011 Renaissance Arts Faire:

Tracy Stuart, Committee Chairman, reported the Faire will be November 5 and 6. Many volunteers will be needed for this event.

There were no additional committee or officer reports.

**Old Business:**

Society Bylaws:

Two-thirds (2/3) of the current membership (40 of 59) must vote to accept the proposed alterations to the Society By-Laws or 20 votes to defeat acceptance. Insufficient ballots were received from members regarding the by-laws changes, for or against. The issue will be re-addressed at the December meeting.

There was no additional old business discussed.

**New Business:**

Holiday Party:

The Holiday Party was discussed. Pictures and material for the annual "Year in Review" will be needed.

There was no additional new business for discussion.

**Announcements:**

Items for Sale:

No items were announced for sale.

Announcements:

Mike Sherrick donated a 3" Meade refractor telescope to the Society. Jerry McMahan donated a boxed set of Orion eyepieces to the Society for the Loaner Telescope program. Harold Weisbrod donated an 8" Celestron telescope to the Society.



There were no additional announcements made.

Recognitions/Achievements:

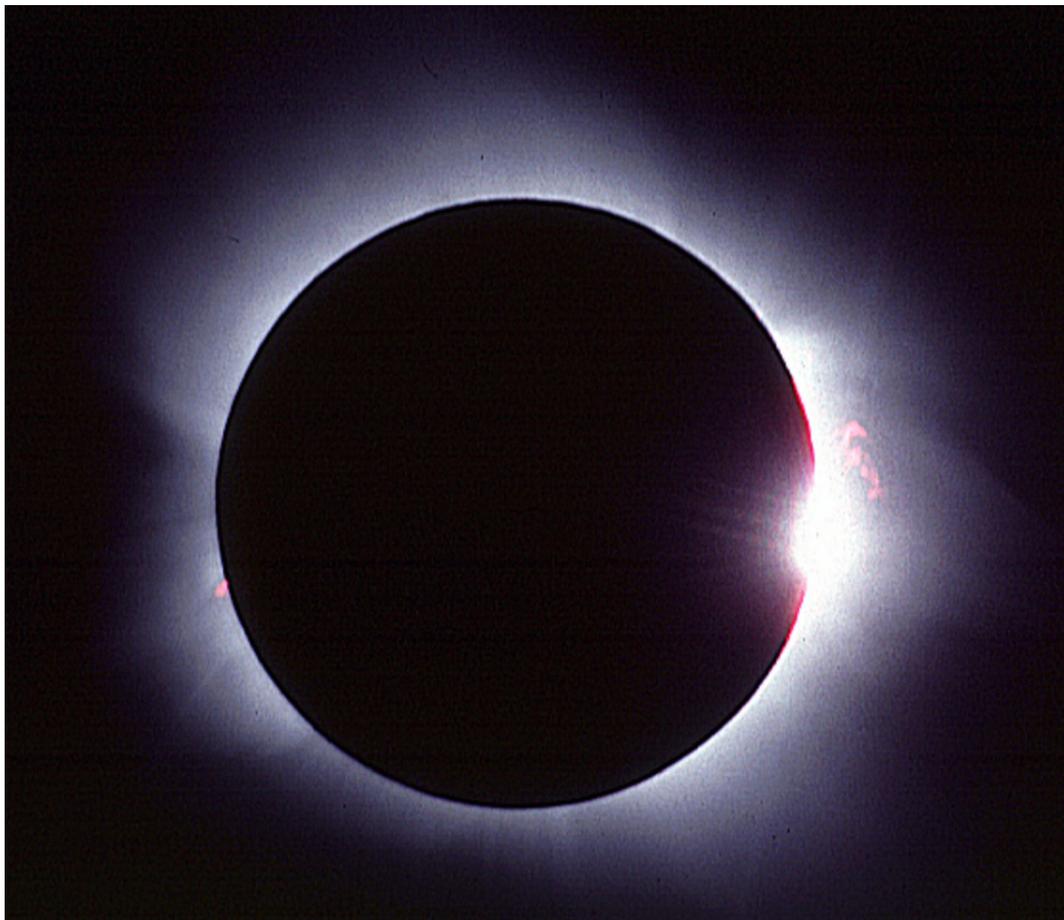
There were no recognitions or achievements announced at tonight's meeting.

The business portion of the meeting was adjourned at 8:09 p.m..

**Presentation:**

Phil Simpson gave an interesting talk about the Constellations Corvus, Crater and Hydra, part of his soon to be released book "Guidebook to the Constellations: Telescopic Sights, Tales, and Myths".

-Respectfully submitted by Steve Shaffer , acting Secretary.



Total Solar Eclipse, July 11, 1991, taken at La Paz, Baja California Sur by Bert Stevens.



**Calendar of Events October/October 2011 (MDT)**

Oct. 28	7:30 p.m.	October ASLC Meeting
28	8 p.m.	Jupiter at opposition
Nov. 01	Evening	Mercury and Venus just two degrees apart
02	10:38 a.m.	First Quarter Moon
06	2 a.m.	Daylight Savings Time ends
09	9 p.m.	Mars 1.4 degrees north of Regulus
09	Evening	Mercury, Venus, and Antares line up.
10	1:16 p.m.	Full Moon
14	2 a.m.	Mercury greatest distance east of the Sun (23 degrees)
18	After midnight	Leonid Meteor Shower
18	8:09 a.m.	Last Quarter Moon
24	11:10 p.m.	New Moon (partial solar eclipse over Antarctica)
25	7:30 p.m.	October ASLC Meeting

Be sure to visit our web site for the latest updates: <http://www.aslc-nm.org>

**ASTRONOMICAL SOCIETY of Las Cruces**  
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ASLC - Sharing the Universe  
With Our Community  
for Over 50 Years

