

# The High Desert Observer

## September 2015



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### September Meeting --

Our next meeting will be on **Friday, September 25**, at the DACC Main Campus, Room 102, Technical Studies Building, starting at 7:00 p.m. NOTE -This room is a NEW location.

The speaker will be Dr. Michelle Creech-Eakman.  
Topic: NESSI - An Instrument for Exploring Exoplanet Atmospheres

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 Society and public educational projects. Members receive the *High Desert Observer*, our monthly newsletter, plus membership to the Astronomical League, including their quarterly publication, *Reflector*, in digital or paper format.

Individual Dues are \$30.00 per year

Family Dues are \$36.00 per year

Student (full-time) Dues are \$24.00

Annual dues are payable in January. Prorated dues are available for new members. Dues are payable to ASLC with an application form or note to: Treasurer ASLC, PO Box 921, Las Cruces, NM 88004. Contact our Treasurer, Patricia Conley (treasurer@aslc-nm.org) for further information.

*ASLC members receive electronic delivery of the HDO and are entitled to a \$5.00 (per year) Sky and Telescope magazine discount.*

### ASLC Board of Directors, 2015

[Board@aslc-nm.org](mailto:Board@aslc-nm.org)

President: Daniel Giron; [President@aslc-nm.org](mailto:President@aslc-nm.org)

Vice President: Steve Barkes; [VP@aslc-nm.org](mailto:VP@aslc-nm.org)

Treasurer: Patricia Conley; [Treasurer@aslc-nm.org](mailto:Treasurer@aslc-nm.org)

Secretary: John McCullough; [Secretary@aslc-nm.org](mailto:Secretary@aslc-nm.org)

Director-at-Large: Tracy Stuart; [Director1@aslc-nm.org](mailto:Director1@aslc-nm.org)

Director-at-Large: Ron J. Kramer; [Director2@aslc-nm.org](mailto:Director2@aslc-nm.org)

Immediate Past President: [rrichins73@comcast.net](mailto:rrichins73@comcast.net)

### Committee Chairs

ALCor: Patricia Conley; [tconley00@hotmail.com](mailto:tconley00@hotmail.com)

Apparel: Ron Kramer; [ronjkramer@aol.com](mailto:ronjkramer@aol.com)

Calendar: Chuck Sterling; [csterlin@zianet.com](mailto:csterlin@zianet.com)

Education: Rich Richins; [Education@aslc-nm.org](mailto:Education@aslc-nm.org)

Grants: Sidney Webb; [sidwebb@gmail.com](mailto:sidwebb@gmail.com)

Librarian: **\*\*\*OPEN\*\*\***

Loaner Telescope: Frank Fiore; [ffchilehead@gmail.com](mailto:ffchilehead@gmail.com)

Membership: Judy Kile; [judykile3916@gmail.com](mailto:judykile3916@gmail.com)

Night Sky Network: **\*\*\*OPEN\*\*\***

Observatory:

Leasburg Dam: Rich Richins; [rrichins73@comcast.net](mailto:rrichins73@comcast.net)

Tombaugh: Steve Shaffer; [sshaffer@zianet.com](mailto:sshaffer@zianet.com)

Outreach: Chuck Sterling; [csterlin@zianet.com](mailto:csterlin@zianet.com)

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HDO Editor: Charles Turner; [turnerc@stellanova.com](mailto:turnerc@stellanova.com)

### Member Changes

Membership Chair, Judy Kile has asked that any member who has changes to their basic information, such as name, address, phone number, or email address, please contact her with an update to your membership stats. ( [jkile3916@gmail.com](mailto:jkile3916@gmail.com) ) .

### Outreach

Outreach is a very important part of ASLC. We are always looking for more volunteers to help us educate the public. Even if you do not have a portable telescope to bring to the events, please consider attending our public outreach programs to help answer questions, share knowledge and point out constellations in the sky.

### Events

ASLC hosts deep-sky viewing and imaging at our dark sky location in Upham. We also have public in-town observing sessions at both the International Delights Cafe (1245 El Paseo) and at Tombaugh Observatory (on the NMSU Campus). All sessions begin at dusk.

At our Leasburg Dam State Park Observatory, we hold monthly star parties. Located just 20 miles north of Las Cruces, our 16" Meade telescope is used to observe under rather dark skies. Please see *Calendar of Events* for specific dates and times.

## ***From the Prez***

September 2015

### **Next Year's President**

It's that time of the year again when we start to look for candidates to fill club officer positions, including that of President.

Those who served in the past know it's an interesting role with a good deal of responsibility attached to it. All of my predecessors have served admirably and I hope you feel that I have done reasonably well. However, I never did intend to be President of the ASLC. Originally, I just wanted to do more with outreach but, a few members asked me if I would consider running for Vice-President and I thought that to be a good idea. I was not planning on seeking the highest post.



Then, shortly before the names of candidates were to be submitted, I was approached by the Nominating Committee Chair and was asked if I would seriously consider running for President. At that time I didn't want to assume that role but, since no one else wanted to step in as President and I was begged to accept the nomination, I did so very reluctantly.

It has been an interesting time for me and I still have a few months ahead before completing this term. Next year, I would be glad to take on a supporting role but, it is now time for someone else to step up to the plate and take over the reigns. Although those who served as President in the past may want to serve again, I implore those who have not served as President to consider it and place your name for nomination.

The continuation of the ASLC depends on the smooth succession of its leadership. It depends on people willing to step up to the role and put their take on the direction the Society should go. For some who served as President two years was not enough and for others, like myself, one year is enough.

Now the Society must think very seriously about who will be its next President. It is time for someone else to lead the way.

Sincerely,

Daniel Giron

\* \* \*

### ***Outreach Events***

by Jerry McMahan

#### ***Moongaze, Saturday August 22, 2015***

Visually, this was one of the most unsuccessful Moon gazes that we have had for a long time. It started cloudy, but the Moon was visible through clouds. This lasted about 30 minutes, and then we never saw the Moon again. I blame Christina Lugo since she did not come and we did not have access to the Wizard Hat.

On the other hand, it was very successful from a teacher stand point. Chuck Sterling, Ed Montes, Daniel Giron and I, had a long evening of teaching since people saw Chuck's scope and mine pointing at the sky. The scopes continued to track the Moon even though it was hidden from view. Spectators asked what we were looking at,

so we had to explain that clouds were in the way. They usually stayed to ask questions and Daniel gave away more prizes to people who took his quizzes. Two people who expressed interest in joining the club, stayed the entire evening.

Chuck brought my LX 80 mount. He had replaced a broken gear for the second time and stabilized the position of the motor, since that might have been causing the gear to break. I tried it at home the next night, and it worked. Not only that, but the second alignment star was in the eyepiece without having to move to it. I have had it close, but never in the eyepiece. The goto was spot on as well. Chuck also repaired Frank Fiore's LX 80 mount. Meade no longer makes that mount, other wise Chuck might be able to get a job with them as an LX 80 specialist. Chuck said that the gear might break again.

***Leasburg, Saturday, September 5***

It happened again. We had clouds. It was not as bad as last time since there were some holes in the clouds and Saturn was visible. Chuck Sterling operated the 16 inch in the observatory. Andrew Messant and Sid Webb set up for viewing the Sun. Bob Armstrong and Ed Montes also participated. Daniel Giron presented his Astronomy quizzes and gave away more prizes.

I gave the LX 80 mount another try. Chuck was right. The gear broke again. He has installed a stronger gear and thinks that he may have solved the problem of what was causing the gears to break. I have not had a chance to try it again. I was to busy tormenting my self by grading test papers.

\* \* \*

***Calendar of Events (Mountain Time - 24 hr. clock)***

<b>SEP</b>	04	04:00	Moon passes through Hyades
	05	04:00	Last Quarter Moon
	05	19:00	Dark Sky Observing at Leesburg Dam State Park
	12	19:00	Dark Sky Observing
	12	12:00	OKIE-TEX Star Party begins
	13	12:41	New Moon
	13	12:41	Partial Solar Eclipse (NOT visible from Northern Hemisphere)
	19	19:13	OUTREACH; MoonGaze, International Delights Café
	20	12:00	OKIE-TEX Star Party ends
	21	03:00	First Quarter Moon
	25	19:00	ASLC Monthly Meeting; DACC Main Campus, Room 102
			<b>NOTE: Meeting location has been moved to Room 102 main campus. Check the club website for directions/maps.</b>
	27	20:50	Full Moon
	27	19:40	Total Lunar Eclipse. Moon rises in eclipse-Max eclipse at 20:47. Get cameras ready
<b>OCT</b>	03	19:00	Dark Sky Observing at Leesburg Dam State Park
	04	15:06	Last Quarter Moon
	09 thru 10th		Cosmic Campground Star Party: <a href="http://www.cosmiccampground.org">www.cosmiccampground.org</a>
	10	18:00	Dark Sky Observing
	11	22:00	Uranus at Opposition
	12	18:00	New Moon
	14 thru 17th		Enchanted Skies Star Party
	17	18:00	OUTREACH; MoonGaze, International Delights Café
	18	04:45	Jupiter - Double Shadow Transit
	18	05:50	Jupiter - Io and Ganymede Transit

20 14:30 First Quarter Moon  
23 19:00 ASLC Monthly Meeting; DACC Main Campus, Room 102

**NOTE: Meeting location has been moved to Room 102 main campus. Check the club website for directions/maps.**

25 06:40 Jupiter - Double Shadow Transit at dawn  
27 06:00 Full Moon  
31 23:59 Last day of Daylight Saving Time

Be sure to visit our web site for the latest updates: [www.aslc-nm.org](http://www.aslc-nm.org)

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**Meeting Minutes**  
by John McCullough

***Minutes, August 2015 ASLC Meeting***

***Show & Tell:***

This month's Show & Tell started with a report by Fred Pilcher who had just returned from a month-long trip to Hong Kong during which he had visited the Hong Kong Astronomical Society (HKAS). Fred spoke to the HKAS about the Astronomical Society of Las Cruces (ASLC) and his own research activities. He also explored the potential for collaboration between the two societies. Fred met several astronomy "celebrities" during his visit and had very interesting discourses. He was presented several items that he would like to donate to the ASLC. These included a planisphere and guide, both annotated in Chinese. Fred noted that a new observatory is currently under construction in southwest China that incorporates a 50 centimeter telescope. This observatory could be part of the collaboration between the two societies as the HKAS will have access to 50% of the telescope time.

Gary Starkweather reported on a recent "big blast" at the Astronomy Village north of Deming that blew the roof off a roll-off roof observatory. A representative of the National Weather Service (NWS) personally investigated the incident because they didn't believe their radar data. Gary reported a local resident clocked winds in excess of 65 mph.

***Call to Order:***

Daniel Giron, President, Astronomical Society of Las Cruces (ASLC, the Society), called the August business meeting to order at 7:30 pm, 28 August 2015, Room 102, Doña Ana Community College (DACC), Las Cruces, New Mexico.

***President's Comments:***

The President, Daniel Giron, welcomed the group to tonight's meeting and thanked Fred and Gary for their reports for tonight's Show and Tell. Daniel asked that all members register their presence on the sign-in sheets available near the room entrance and enter for the door prizes that will be presented at the end of the meeting. Daniel asked if all members had received the latest edition of the Society newsletter, the High Desert Observer (HDO), had read it and had any comments or corrections to the contents. Ron Kramer announced that he has issues with the proposed budget for 2016 that was published in the HDO. He noted that the entries for the income and expenses associated with the Holiday party/Annual dinner meeting don't match. He was also concerned with the consistency of the overall closing balances. Daniel will refer these concerns to Trish Conley, the Society Treasurer, for clarification. Charles Turner, HDO editor, noted that any and all submissions are welcome. However, he would like to receive them in the original Microsoft Office format, i.e., Word, Excel, etc., if possible. He has received some submissions in formats that were difficult to insert into the HDO layout. The reports in the HDO were approved with the noted comments and amendments.



1. ALCon Outreach – Daniel noted that during ALCon 2015, The Albuquerque Astronomy Society (TAAS) displayed an ADA-compliant viewing arrangement. Daniel thinks such an arrangement would be a valuable asset for outreach and would like to see a similar set-up used at LDSP. Steve Barkes would like to work on the electronics and funding may be available from the park. Members should let Daniel know if they'd like to work on the project. Frank Fiore asked for additional details regarding the proposal, including portability, pad space required at LDSP, etc. Daniel will work on the pad requirements with "Skeeter" Giron at LDSP.

2. Portable Planetarium – Daniel noted TAAS also has a Star Labs portable planetarium that generates a lot of demand from local schools. However, the Star Labs arrangement is very bulky. Daniel would like the Society to consider a lighter, more portable system, i.e., the 5 meter Digitarium w/digital projection. The Digitarium would probably require grants or other funding as it costs approximately \$44,000. Members should contact Daniel or Frank Fiore if they would like to work on this project. Additional discussion followed.

3. LDSP/Monthly Outreach – Daniel reiterated that a "Music and Stars" event will occur on 05 September. He would like to start solar observing at 4:00 pm and the music at 6:00 pm followed by further observing after dark. Volunteers are needed for all viewing and members should contact Daniel. David Doctor devised a video set-up using a 40-inch flat screen to project the view seen in the 16-inch Meade. David spent a total of \$228.16 on components for the set-up, slightly over the \$200 budgeted. Daniel would like to reimburse David for the \$28.16 difference. Reimbursement was approved by acclamation.

***Announcements:***

No announcements were made.

***Items for Sale:***

No items were offered for sale.

***Recognitions/Awards:***

No recognitions were announced.

***The business portion of the meeting concluded at 7:58 pm.***

***Presentation:***

This month's presentation was by Society member Howard Brewington on "The Final Generation of Visual Comet Hunters". He started by relating a brief history of his interest in astronomy. This interest eventually led to having five comets, that he observed visually, being named after him.

At the close of the presentation, Daniel presented a crystal memento to Howard. He then conducted the drawing for door prizes. Bert Stevens received a PanStarrs comet image; Marcia Garfield received a Comet Rosetta documentary DVD.

The next general meeting will be 25 September.

The August 2015 meeting of the Astronomical Society of Las Cruces concluded at 8:57 pm.

-Respectfully submitted by John McCullough, ASLC Secretary

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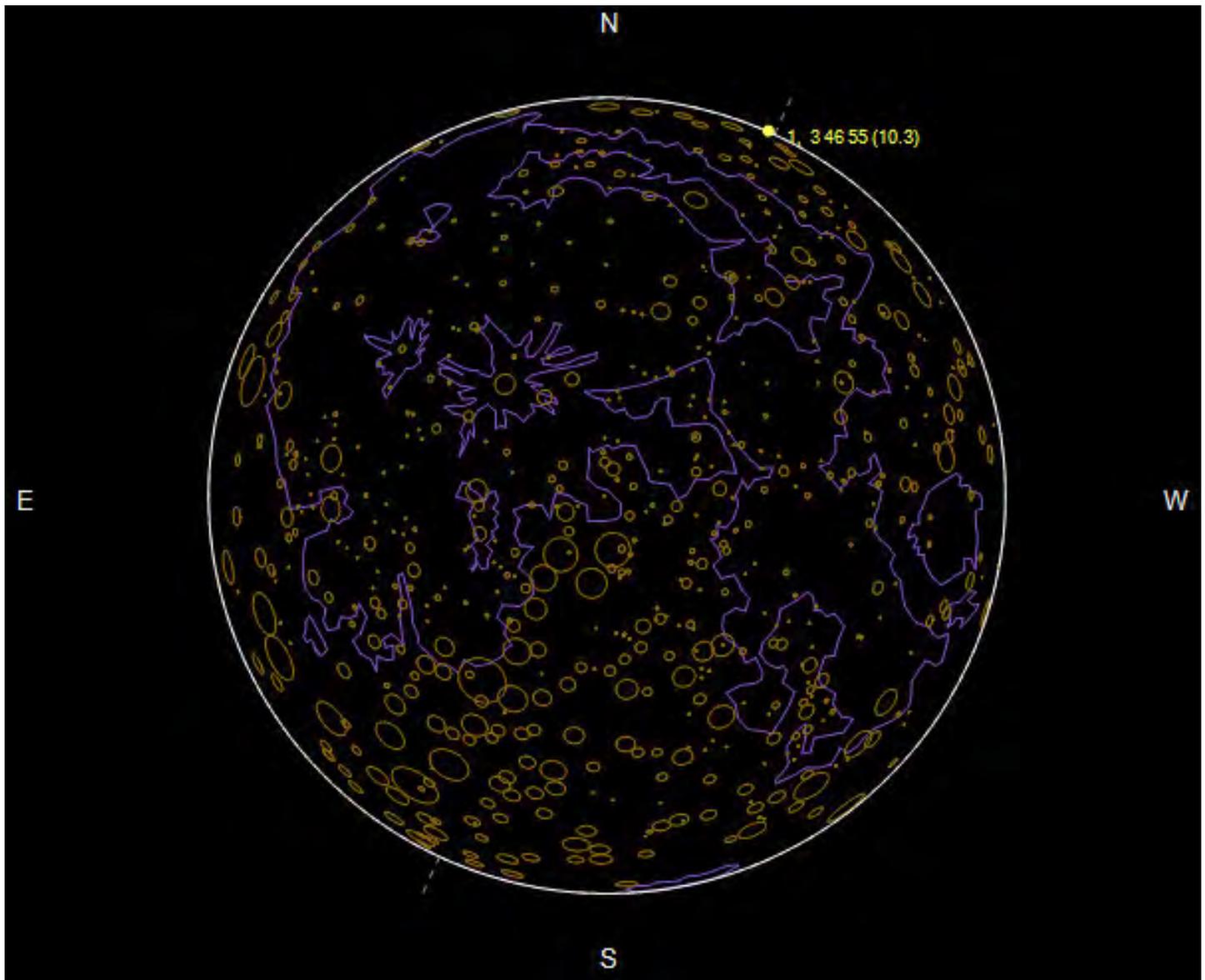
### Graze Map for Star X382

The graze of the star X382 by the northern edge of the Moon is depicted here. The graze path is between Las Cruces and Mesquite. The blue line is the sea level limit line that is defined by the mean (average) limb of the Moon. To bring this prediction to our elevation, we have to shift it southward as indicated by the white line with tick marks. The green line indicates the actual shape of the profile of the lunar limb during the event. The event should occur at 9:46:55 p.m.

about three miles south of the Interstate 10 and Interstate 25 junction. There the star will skim the north edge of the Moon, disappearing behind the mountains and reappearing in the valleys.

The profile of the Moon's edge where the graze occurs shows a small mountain and a flat area the may provide multiple events. If you look at the Google Map of the path, you will notice that the profile zero-line is offset from the graze (blue) line. This is because the graze line is computed for sea level, and we are well above that. The Moon is to the south, causing the Moon's shadow to slant in from the south. The higher above sea level you are, the further south the actual graze line is located. At our altitude, this graze's line is shifted about 1.2 miles perpendicular to the limit line.

Here are the occultation predictions for this eclipse:



### Moon Map of Graze

This lunar map shows where the graze will occur. Notice the star is going to be grazed by the Moon very near the Moon's northern pole (dashed line). Grazing occultations give you the opportunity to see multiple events as the star is hidden and revealed by the Moon.

Time(MDT)	P	Star	Sp	Mag	Mag	% E	l on	Sun	Moon	CA	PA	A	B	
h	m	s	No	D	v	r	ill	Alt	Alt	Az	°	°	m/°	m/°
7 20	23	D X	54977		11.8	11.4	85	179	-6	5	92	90U	23	+0.0+2.6
7 23	2	R X	187402		10.7		81	179	-6	6	93	-53S	208	+0.1+2.4
7 25	26	D X	55018		11.2	11.1	77	179	-7	6	93	78U	57	+0.1+1.6
7 25	27	R X	54935		11.5	11.1	77	179	-7	6	93	52S	313	+0.3-0.7
7 27	21	D	109126	G5	7.2	6.5	73	179	-7	6	93	90U	94	+0.2+0.9
7 29	26	D X	55034d		11.7	11.2	69	179	-8	7	93	79U	76	+0.2+1.3
X 55034 is double: AB 11.5 11.6 1.8" 351.0, dT = +0.28sec														
X 55034 is a close double. Observations are highly desired														
7 30	54	R X	54959		10.5	9.9	66	179	-8	7	94	-55S	203	+0.1+2.6
7 33	45	D X	316ck0		9.4	8.8	61	179	-9	8	94	-54N	130	+0.4-0.5
X 316 is double: AB 10.1 10.2 0.40" 67.0, dT = +0.6sec														
X 316 is a close double. Observations are highly desired														

Time(MDT)	P	Star	Sp	Mag	Mag	%	Elon	Sun	Moon	CA	PA	A	B	
h	m	s	No	D	v	r	ill	Alt	Alt	Az	°	°	m/°	m/°
7 35 45	D	X	314	F5	10.5	10.3	57	179	-9	8	94	66U	42	+0.2+2.0
7 38 44	D	X	187426		11.3		51	179	-10	9	94	63U	41	+0.2+2.0
7 39 44	D	X	55042		10.2	9.2	49	179	-10	9	95	97U	124	+0.4-0.1
7 47 38	D	X	187429		11.7		33	179	-11	10	96	-82N	152	+1.1-6.4
7 49 56	R	X	187413		11.4		29	179	-12	11	96	-25S	224	+0.3+2.0
7 51 4	G	X	187429		11.7		27	179		11				
** GRAZE: CA-87.8S; Dist. 26km in az. 172deg. [Lat = 32.15+0.12														
7 53 28	R	X	54970		9.9	9.7	22	179		12	97	32S	279	+0.4+0.8
7 54 58	D	X	187440		12.1		19	179		12	97	84U	122	+0.5-0.1
7 55 21	D	X	187424		11.4		19	179		12	97	56U	2	+0.0+4.2
7 55 36	R	X	187429		11.7		19	179		12	97	-78S	168	-0.6+9.3
7 57 32	D	X	187443		11.6		15	179		12	97	52U	71	+0.4+1.4
7 58 0	R	X	54977		11.8	11.4	14	179		13	97	91U	298	+0.5+0.2
8 1 49	R		109110	G5	9.0	8.6	9	179		14	98	-9S	234	+0.3+1.7
8 2 26	R	X	316	CK0	9.4	8.8	8	179		14	98	-52S	191	+0.1+3.3
X 316 is double: AB 10.1 10.2 0.40" 67.0, dT = +0.7sec														
X 316 is a close double. Observations are highly desired														
8 2 32	D	X	187442		11.8		8	179		14	97	39U	49	+0.3+1.9
8 3 17	D	X	55078d		10.8	10.1	7	179		14	98	76U	117	+0.6+0.2
X 55078 is double: AB 11.4 11.4 1.1" 77.0, dT = +2.1sec														
X 55078 is a close double. Observations are highly desired														
8 5 56	R	X	187418		11.9		3	179		15	98	93U	272	+0.5+1.0
8 6 32	R	X	54992		11.9	11.5	3	179		15	99	97U	261	+0.5+1.2
8 8 20	D	X	55088		11.0	10.7	1	179		15	98	39U	59	+0.4+1.6
8 12 17	D	X	55059		10.3	9.8	0	179		16	99	30U	12	+0.1+3.2
8 13 39	R	X	55042		10.2	9.2	0	179		16	100	98U	196	+0.2+3.0
8 17 46	R	X	187424		11.4		0	179		17	100	55U	317	+1.0-1.4
8 19 14	R		109126	G5	7.2	6.5	0	179		17	100	92U	226	+0.4+2.0
8 19 23	D	X	55112		9.8	9.6	0	179		17	100	48U	78	+0.5+1.3
8 20 48	R	X	55018		11.2	11.1	0	179		18	100	79U	263	+0.6+1.2
8 25 33	D	X	32518		10.0	9.4	0	179		18	101	35U	56	+0.5+1.7
8 26 24	R	X	55034d		11.7	11.2	0	179		19	101	80U	244	+0.5+1.6
X 55034 is double: AB 11.5 11.6 1.8" 351.0, dT = +0.9sec														
X 55034 is a close double. Observations are highly desired														
8 26 45	R	X	314	F5	10.5	10.3	0	179		19	101	66U	277	+0.7+0.8
8 27 59	D	X	55125		11.1	10.8	0	179		19	101	55U	88	+0.6+1.1
8 29 41	R	X	187426		11.3		0	179		19	102	63U	278	+0.7+0.8
8 30 14	R	X	187440		12.1		0	179		19	102	86U	197	+0.3+3.0
8 37 21	D	X	55141		11.1	10.4	0	179		21	102	44U	62	+0.6+1.6
8 39 12	D	X	55107		11.3	11.1	0	179		21	103	17U	16	+0.3+3.0
8 42 12	D	X	55132		11.3	11.1	0	179		21	103	78U	140	+1.5-2.0
8 43 16	R	X	55078d		10.8	10.1	0	179		22	104	78U	201	+0.4+2.8
X 55078 is double: AB 11.4 11.4 1.1" 77.0, dT = +1.7sec														
X 55078 is a close double. Observations are highly desired														
8 43 54	D		109144	G5	8.6	8.2	0	179		22	103	22U	17	+0.3+3.0
8 45 11	D	X	32525	A5	9.6	9.4	0	179		22	103	62U	86	+0.8+1.1
8 45 23	R	X	55059		10.3	9.8	0	179		23	104	29U	305	+1.1-0.4
8 50 47	D	X	55167		10.6	10.1	0	179		23	104	60U	73	+0.7+1.4
8 54 11	D	X	55129		11.7	11.0	0	179		24	105	32U	15	+0.3+3.1
8 57 16	R	X	187443		11.6		0	179		25	106	53U	247	+0.8+1.5
8 59 0	R	X	187442		11.8		0	179		25	106	39U	269	+0.9+1.0
9 2 0	R	X	55132		11.3	11.1	0	179		25	106	80U	177	-0.2+5.1
9 2 22	D		109156	K2	9.3	8.8	0	179		26	106	53U	34	+0.5+2.3
9 7 10	D	X	55199		11.7	11.4	0	179		27	107	77U	74	+0.8+1.4
9 8 19	R	X	55088		11.0	10.7	0	179		27	107	42U	258	+0.9+1.3
9 14 4	D		109160	A2	9.2	9.0	0	179		28	108	92U	107	+1.2+0.5
9 15 43	D	X	55161		11.9	11.8	0	179		29	108	54U	9	+0.2+3.6
9 18 10	R	X	55107		11.3	11.1	0	179		29	109	23U	299	+1.4-0.1

Time(MDT)	P	Star	Sp	Mag	Mag	%	Elon	Sun	Moon	CA	PA	A	B	
h	m	s	No	D	v	r	ill	Alt	Alt	Az	°	°	m/°	m/°
9 20 14	R X	55112		9.8	9.6	0	179		29	109	54U	238	+0.8+1.7	
9 21 53	D X	55213		11.9	11.6	0	179		30	109	83U	48	+0.8+2.0	
9 22 50	D X	187484		11.7		0	179		30	109	98U	89	+1.1+1.0	
9 24 4	R	109144	G5	8.6	8.2	0	179		30	110	29U	298	+1.5-0.1	
9 26 33	R X	32518		10.0	9.4	2	179		31	110	42U	260	+1.1+1.2	
9 26 48	R X	55125		11.1	10.8	2	179		31	111	62U	228	+0.8+2.0	
9 33 17	R X	55129		11.7	11.0	9	179		32	111	39U	300	+1.6-0.2	
9 36 20	D X	55220		11.7	11.6	14	179		32	111	91U	27	+0.6+2.6	
9 36 56	D X	187480		11.7		15	179		33	112	86U	16	+0.4+3.1	
9 38 52	D X	32544		10.5	10.1	18	179		33	112	-48N	77	+1.1+1.3	
9 40 36	R X	55141		11.1	10.4	21	179		33	113	55U	253	+1.1+1.4	
9 42 32	D X	187469		11.8		25	179		34	113	73U	344	+9.9+9.9	
9 45 50	R X	32525	A5	9.6	9.4	31	179		34	114	73U	228	+0.9+2.0	
9 46 55	G X	382wF8		10.3	10.1	33	179		35					
** GRAZE: CA 73.8U; Dist. 14km in az. 155deg. [Lat = 32.24+0.40]														
9 47 7	M X	382wF8		10.3	10.1	33	179		35	114	74U	336	+9.9+9.9	
X 382 is double: AB 10.3 12.3 16.0" 156.0														
9 47 31	G X	187469		11.8		34	179		35					
** GRAZE: CA 74.6U; Dist. 26km in az. 335deg. [Lat = 32.65+0.40]														
9 50 50	R X	55161		11.9	11.8	41	178		35	114	62U	304	+2.0-0.6	
9 51 50	R X	187469		11.8		43	178		36	115	75U	328	+5.0-8.2	
9 55 17	R X	55167		10.6	10.1	50	178		36	116	73U	242	+1.1+1.6	
9 57 17	R	109156	K2	9.3	8.8	54	178		37	116	65U	280	+1.5+0.6	
10 4 51	R	109160	A2	9.2	9.0	69	178		38	117	103U	207	+0.7+2.6	
10 6 28	D X	55283		11.4	11.3	72	178		38	117	-87S	116	+1.9-0.1	
10 7 53	D X	187501		12.1		74	178		38	117	-13N	36	+0.9+2.3	
10 12 57	R X	55199		11.7	11.4	83	178		39	119	93U	239	+1.2+1.7	
10 13 28	D X	426	G5	10.4	10.2	84	178		39	119	-44N	66	+1.2+1.5	
10 16 17	D X	32554		9.9	9.3	88	178		40	119	-66N	87	+1.5+1.0	

Time(MDT)	P	Star	Sp	Mag	Mag	%	Elon	Sun	Moon	CA	PA	A	B	
h	m	s	No	D	v	r	ill	Alt	Alt	Az	°	°	m/°	m/°

Column Headings:

- Time Time of the Event during the eclipse on the evening of September 27
- P Event: D – disappearance; R – reappearance; G – grazing occultation at site.
- Star Star ID: nnnn (ZC star); nnnnn, or nnnnnn (SAO star); X nnnnnn (XZ)
- D The double star code
- Sp The star’s basic spectral type.
- Mag v The star’s visual magnitude
- Mag r The star’s red magnitude.
- % ill The percent illumination of the Moon during the eclipse.
- Elon The elongation (distance) of the moon from the Sun, in degrees.
- Sun Alt The altitude of the Sun. If the sun is lower than -12 degrees, the field is blank.
- Moon Alt. The altitude of the moon
- Moon Az. The azimuth of the moon
- CA Cusp Angle – the angle of the event around the limb of the moon, measured from the nearest cusp. Negative values indicate a bright limb event. The cusps are N (north) or S (south). If a lunar eclipse is in progress, CA gives is the percent distance from the center of the umbra, and is followed by a ‘U’. Values up to 103% are possible. Where an event occurs more than 103% of the umbral radius, the usual Cusp Angle value is displayed.
- PA Position Angle – the angle of the event around the limb of the moon, measured from true north.

A and B Coefficients for correcting the prediction for changes in site location. The units are minutes of time per degree (or seconds of time per minute of arc). The correction to the prediction for a change in site, in seconds of time, is found by multiplying A by the change in site longitude (positive for changes towards the East) from the prediction site. For changes in latitude, multiply B by the change in site latitude (positive to the north).

If the weather cooperates, we should be able to see the Moon slip through the Earth's shadow. But between the imaging and general viewing, you can watch the Moon cover and uncover numerous stars that would never be visible if the full moon was not eclipsed by the Earth's shadow. Enjoy!

\* \* \*

### ***THE HONG KONG ASTRONOMICAL SOCIETY***

***by Fred Pilcher***

On 2015 August 4 and again on August 12, I was privileged to attend meetings of the Hong Kong Astronomical Society as a guest. Their meeting agenda were all conducted in the Chinese language with the Chinese characters on the screen projections. But I was able have some very interesting talks with individual members in English. The club rents a small room on the sixth floor of a typical Hong Kong skyscraper in which there is an excellent library of mostly English language books on astronomy and related subjects, and seating space around a rectangular table for about 15 people.

The August 4 meeting was attended mostly by college age students from Hong Kong University with a single older member, Suman Fan, who is a club vice president. From the pictures I presume they were talking about outreach programs somewhat like those of the Astronomical Society of Las Cruces. But as I do not speak Chinese I can make only a very crude guess.

At the end of the August 4 meeting I was invited back to another meeting August 12. This was a board meeting, but at its conclusion I was given a half hour to tell the club about the ASLC and my own research, all in English, of course. This meeting was attended by two very distinguished astronomers, both Hong Kong residents but world travelers. Eric Ng is a superb planetary photographer. Bill Yeung, from observations in the 1990's and early 2000's, is the world's eighth most prolific discoverer of asteroids, and second among amateurs. He showed pictures of an observatory in New Mexico with four 18-inch reflectors. Some of these, I understand, are now moved to other places. Both Bill and Eric asked some questions about my own asteroid lightcurve research that showed good understanding of the field. Eric also told me that the Hong Kong Astronomical Society is participating in the construction of an observatory in Yunnan province, deep in the interior of China at a site that routinely has 1.2 arcsecond seeing. The Society will have 50% of the telescope time, and we have the opportunity for some collaboration.

I urge that members of the ASLC communicate with people in the Hong Kong Astronomical Society about any activities, especially public outreach, in which we can share experiences.

Emails may be sent to: [hkas@hkas.org.hk](mailto:hkas@hkas.org.hk) or specifically to Eric Ng at: [ricng5hk@hotmail.com](mailto:ricng5hk@hotmail.com)

I also invite you to visit the Hong Kong Astronomical Society website:

[www.hkas.org.hk](http://www.hkas.org.hk) and use the Google translation service. □

**Photo of the Month**



**The Great Wall** - Part of the N. Am Nebula, this is the result of narrow-band imaging (Hydrogen alpha, Sulfur II, and Oxygen III emissions) combined with a bit of luminance data. The exposure details are below. Remember the Stagger Lee lyrics, "The night was clear, and the moon was yellow, and the leaves came tumbling down"? Well, the sky had constant clouds, fortunately little moon, and it was too early in the year for the leaf thing. I booked over 80 hrs of scope time and got much less than that in usable images (again, see below).

The processing of the attached image pulled significantly from a how-to by the PixInsight folks. It involved making a RGB image from the narrow band stacked data, using PixMath and any old feels-good color balancing. Could have used the Hubble palette, but didn't. After linearly matching the image ranges and values, they were blended and then mixed with the Luminance (L) after compressing the dynamic ranges of the RGB and L.

Hocus-Pocus, (adjust curves, histogram, noise reduction, saturation, lightness, crop, eat breakfast) redo it all, and Voila!

Hope you enjoy...comments always welcomed, Alex



Photo of the Month Image Details:

The Great Wall: July/August 2015. This is for the "best images" only processing  
JNow Center: 20h59m20s 43d38m5s

Mayhill, NM (iTelescopes)

T05: Tak Epsilon 250 (f/3.4)

Paramount PME

ST-10XME

Conditions: poor. Frequent clouds shutting down operations

Clear: 8x120" 1x1

Ha: 22x600" 1x1

OIII: 36x300" 2x2

SII: 15x300" 2x2

Total Integration time: 8h 11m

Processing in PixInsight

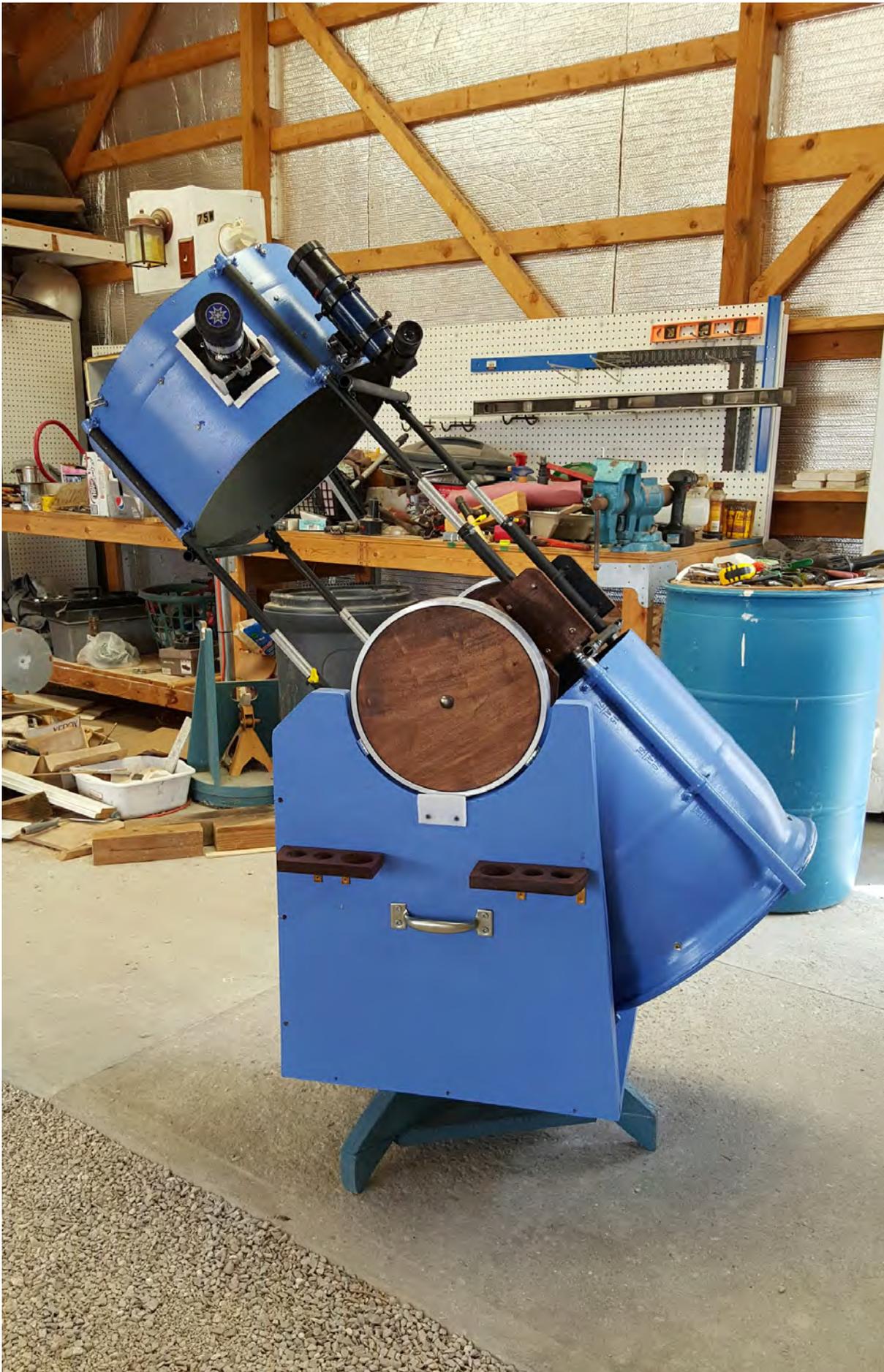
Acquisition and Processing by Alex Woronow, Black Range Obs

\* \* \*

### *Clever Telescope Project*

John Gilkison has spent the month of August and September rebuilding a 13.1 inch Dob using a plastic 30 gallon barrel for the OTA. We have published 4 videos on it's construction on You Tube under the title 30 Gallon Barrel Telescope. I am 98% done with just some minor finishing details left to do but the telescope is fully operational. The OTA is a bit oversized and could actually hold a 15 inch mirror with minor modifications. Those of you interested in this project should check out the videos on You Tube.

John Allen Gilkison



**ASLC - High Desert Observer, September, 2015**

