

NOVA ECLIPSE ISSUE

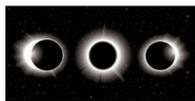


Official Newsletter of the [Salt Lake Astronomical Society](http://www.slas.org)

Volume 47 Number 4 July - August, 2017

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© Carl Stock Photo

Please Welcome The Newest SLAS Members!

Edwin Iversen, Sean Breazeal, Robert & Yvette Steele, Craig Stout, Curtis MacDonald, Adrienne Tonge, John Duncan, Aaron Sellers, Seth Bailey, Brant Thomsen, April Thomsen, Ian Moes, Michelle McInnes, Gary Dodd, Jeffrey Wagner, Frances Solomon, Phil Bullock, Holly Esch, Shahene Pezeshki



© Carl Stock Photo

From the Editor:

All are welcome to submit personal viewing experiences, knowledge topics, reviews of equipment and any viewing aids to the Editor. All submissions welcome.

Thank you for your support of the SLAS Newsletter, NOVA

Warmly, Shoshana Ebertz, Editor



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Total Solar Eclipse 2016

© 2016 Don Sabers, Ron Royer, Miloslav Druckmüller

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These are the most dramatic sharp and amazing views of the corona I have seen. You may view more of this photography here: <http://www.zam.fme.vutbr.cz/~druck/eclipse/Index.htm>

Details of capture, equipment and editing:

Solar corona from Bangka Island

There are two versions of this image. The version with the Sun in the center and the second one showing very prominent [long streamer](#) (seen above on first page of NOVA).

Image	TSE_2016_srd.png
Date	09.03.2016
Time	2nd contact 00:22:11 UT, 3rd contact 00:24:03 UT, duration 112 s
Place	Penyak Beach, Bangka Island, Indonesia
Coordinate	S 2° 26.6983', E 106° 19.663'
Conditions	Clear sky
Optics	Astro-Tech AT111EDT apochromatic triplet refractor and a zero power 2" field flattener F7, 777 mm focal length
Camera	modified Nikon D810
Exposure	1/2000 s - 4 s
Processing	Composition of 32 eclipse images. Eclipse images were calibrated by means of dark frames and flat-fields, aligned by means of phase correlation, composed by means of LDIC 5.0 software, processed using Corona 4.1 in order to visualize coronal structures. Final processing was done using ACC 6.1 software. Image processing by Miloslav Druckmüller
Software	Astro D3F 2.0, PhaseCorr 6.0, LDIC 5.0, Corona 4.1, Sofo ACC 6.1
Copyright	© 2016 Don Sabers, Ron Royer, Miloslav Druckmüller



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Image (c) Bill Kramer, www.eclipse-chasers.com



Caution: Watch Eclipse only on TV!

REMINDER — watch eclipse on TV

PEOPLE are again reminded not to watch the eclipse of the Sun with the naked eye. It is also risky attempting to view the phenomenon with certain viewing devices on sale in some shops.

But it is perfectly safe to view the eclipse on television. All four Melbourne metropolitan channels have re-arranged their afternoon programmes to bring you the picture.

The eclipse will be on Saturday, October 23. In Melbourne it will last from 3.53 p.m. to 5.41 p.m., with an estimated three-minute of total darkness (except for the halo round the moon) from 4.39 p.m. to 4.42 p.m.

The channels' eclipse coverage is from 4.30 p.m.

The ABC will cross over to its field camera after giving highlights of the start of the Perth to Sydney air race (3.30 p.m.).

ATV-9 will lead in from Junior Jury (4 p.m.) while HSV-7's eclipse cover will occur during their regular children's education programme This Week Has Seven Days (7 p.m.).

The Daily Telegraph **Lift-out form**
guide **COX PLATE SPECIAL**

Television is the only safe way to watch today's eclipse of the sun

The only safe way to watch today's eclipse

JANET IS A COOL JUDGE

DON'T
DON'T
DON'T
DON'T
DO
DO
DO
DO

(The above is a joke.....)



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ECLIPSE LINKS AND INFORMATION:

SAFETY FROM BAADER FILMS:

BAADER AstroSolar Filter Material

Please observe the following safety precautions with EVERY solar observation

- * Prior to each and every solar observation session, check the filter's fit and, if necessary, tape it to the telescope to prevent slipping. Cover any pinholes with black felt-tip marker.
- * NEVER use the filter at the eyepiece, it will burn up in less than a second! It will not filter out the concentrated and very dangerous light energy at the eyepiece end. Unfiltered solar light can and will cause blindness. The filter will ONLY work when attached to the FRONT aperture of a refractor objective, in front of the Schmidt plate (Schmidt-Cassegrain telescope) or in front of the tube of a Newtonian telescope.
- * If you use a binocular, protect both objectives with a filter.
- * Be sure that the viewfinder of your telescope is properly covered, either with a solar filter made as described above or with the original dust cover. Unprotected views through your finderscope would have the same catastrophic consequences for your eyes as a look through the main telescope itself!
- * A filter made of AstroSolar filter material is relatively resistant to breakage in comparison to a glass filter. However, care should be taken with sharp pointed objects. A punctured filter should be thrown away and replaced with a new one (same as with a cracked glass filter).
- * Emphasize the importance of safety to those observing with you, especially children. Intentionally removing or damaging the filter can endanger their eyesight. This is no place for jokes. Never leave the telescope outside unattended during the daytime!
- * We recommend that you tape your filter directly onto your telescope to be sure that it does not come off by accident.

Short Eclipse cartoon video for kids:

<https://www.youtube.com/watch?v=rM1heHyxhJ8>

Art Project: Children – Teens, etc. Predict the Corona

<https://eclipse2017.nasa.gov/predict-corona-art-project>

Safety:

<https://eclipse2017.nasa.gov/safety>

Solar Science:

https://sdo.gsfc.nasa.gov/assets/docs/SDO_Guide.pdf

http://www.solarsystemcentral.com/sun_in_depth_page.html

http://www.solarsystemcentral.com/sun_page.html

Alan Dyer's tips: Practicing for the Eclipse:

<http://www.amazingsky.com/10-tips-for-practicing-eclipse.html>

Weather Predictions: Wyoming for Eclipse

<http://eclipsophile.com/wyoming/>

Idaho:

<http://eclipsophile.com/idaho/>

MR. ECLIPSE HIMSELF: FRED ESPENAK (We'll see him in Casper! He promised me an interview!!!)

<http://www.mreclipse.com/>

Coronal Mass Ejections:

<https://www.spaceweatherlive.com/en/help/what-is-a-coronal-mass-ejection-cme>

Wow, Here it Comes, Look at it!!!!

Eclipse Viewing from Passenger Jet:

<https://www.youtube.com/watch?v=YBoa81xEvNA>

From the Solar Center at Stanford: Colors of the Sun: Excellent Movie!!

<http://solar-center.stanford.edu/colors/qt.html>

Solar Flare from Big Bear Solar Observatory: http://www.bbso.njit.edu/scinews/har100_jj_2.gif

Tour Big Bear Solar Observatory: <https://www.youtube.com/watch?v=sMjaDT-Yqnk>

More Tour of Big Bear and Explanation of how the Solar Scope works: <https://vimeo.com/96358533>

Amazing Solar Flare Eruptions: <https://www.youtube.com/watch?v=GrnGi-q6iWc&feature=youtu.be>

Research paper on Sunspots: <http://iopscience.iop.org/article/10.1088/0004-637X/787/1/58/pdf>

Magnetograms:

<http://solar-center.stanford.edu/solar-images/magnetograms.html>

<https://www.nasa.gov/content/goddard/sdo-hmi-magnetogram/>

<https://blog.sunspotter.org/2014/03/27/the-making-of-a-magnetogram-part-i-lost-in-a-magnetic-field/>

Eclipse Links:

<https://www.exploratorium.edu/eclipse-archive/links.html>

<https://eclipse2017.nasa.gov/>

How to Photograph a Solar Eclipse by Fred Espenak (with charts and circles and arrows and EVERYTHING you want to know:

<http://www.mreclipse.com/SEphoto/SEphoto.html>

Eclipse Chasers:

<https://www.eclipse-chasers.com/>

<http://eclipseguy.com/>

<http://www.eclipsechaser.com/>

For those of you who want more reading: over 100 pages:

The Structure and Evolution of Coronal Holes

<http://adsabs.harvard.edu/full/1975SoPh...42..135T>

FREE UNIVERSITY COURSE ON ECLIPSE:

Shoshana's taking it, hope to see you there!

<https://www.coursera.org/learn/eclipse/home/welcome>



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June 14, 2017:

Chuck Hards, Mark and Shoshana Ebertz find a SURPRISE TREAT! By Shoshana Ebertz

I (Shoshana) had only looked through a solar scope at ONE Sun party before I became more Observant. There were many kinds of solar scopes and I have photographs of folks looking up with their glasses on (will post below).

I was amazed and awed while looking through Rodger Fry's H-Alpha solar scope. I couldn't believe all the detail and prominences, and since it was red, it looked so real! Some years later, as an Observant Jewish person, and not able to attend sun parties, Chuck knew this. He offered to bring his solar scope to my husband's office location so he could come out on a break and we could enjoy some solar viewing.

Here was Chuck's forecast early that day: "Not much to see on the sun right now in white light, the lone sunspot group I've been following for a week is about to slip around the edge. But we'll have some good views in hydrogen-alpha light if the white light view is featureless. The weather is supposed to be perfect."

This is Chuck's solar set up:

Photos courtesy Chuck Hards





He writes: “This photo is one I took of the Sun during the partial eclipse of October 2014, from SLC (above scope). The telescope setup is my little grab-and-go solar setup. A 50mm home made refractor with a Baader solar filter, and a PST mounted side-by-side on the same mount. White light and hydrogen-alpha at the same time.

Chuck had everything set up and this is what we saw, AT THAT EXACT TIME, ON THAT DAY. This was an awesome miracle to me, since we are in solar minimum, and things were relatively quiet.

STAR Coronal hole tag	Location	Earth facing position date interval	Geomagnetic disturbance date interval	Kp dominant / Kp max / ap max	Max solar wind speed (km/s)	Comment
CH807	trans equatorial	2017.06.13- 2017.06.14	2017.06.16- 2017.06.17	4/5/48	594	ref. CH804

Solar wind

speed: **514.3** km/sec

density: **4.4** protons/cm³

more data: [ACE](#), [DSCOVR](#)

Updated: Today at 2350 UT

X-ray Solar Flares

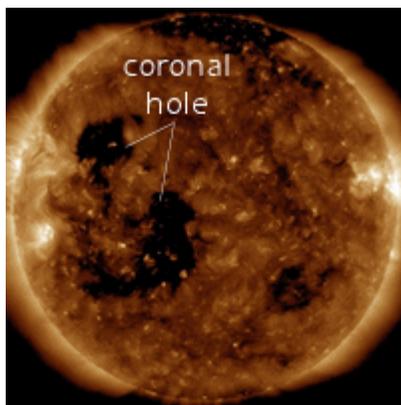
6-hr max: **B3** 1940 UT Jun13

24-hr: **B3** 1940 UT Jun13

[explanation](#) | [more data](#)

Updated: Today at: 2300 UT

Coronal Holes: 13 Jun 17



Solar wind flowing from the indicated coronal hole should reach Earth on June 15-16. Credit: NASA/SDO.

GEOMAGNETIC STORM WATCH: Spewing a stream of solar wind as fast as 700 km/s (1.6 million mph), [a hole in the sun's atmosphere](#) is turning toward Earth. Forecasters expect the stream to reach our planet on June 15th or 16th with a 40% chance of minor [G1-class](#) geomagnetic storms when it arrives. High-latitude sky watchers should be alert for auroras in the nights ahead, especially in the southern hemisphere where deepening autumn darkness favors visibility. **Free:** [Aurora Alerts](#)

Solar wind flowing from the indicated coronal hole should reach Earth on June 16th. Credit: NASA/SDO.

Geomagnetic Storms:

Probabilities for significant disturbances in Earth's magnetic field are given for three activity levels: [active](#), [minor storm](#), [severe storm](#)

Updated at: 2017 Jun 14 2200

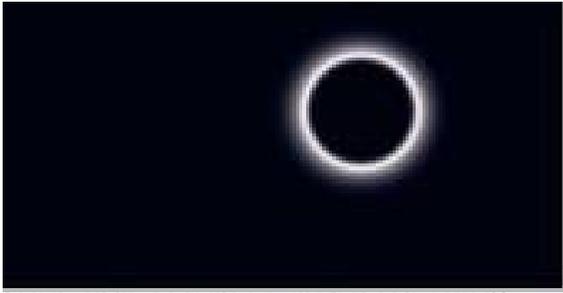
UTC

Mid-latitudes

	0-24 hr	24-48 hr
ACTIVE	30 %	35 %
MINOR	10 %	15 %
SEVERE	01 %	01 %

High latitudes

	0-24 hr	24-48 hr
ACTIVE	15 %	15 %
MINOR	25 %	20 %
SEVERE	40 %	20 %

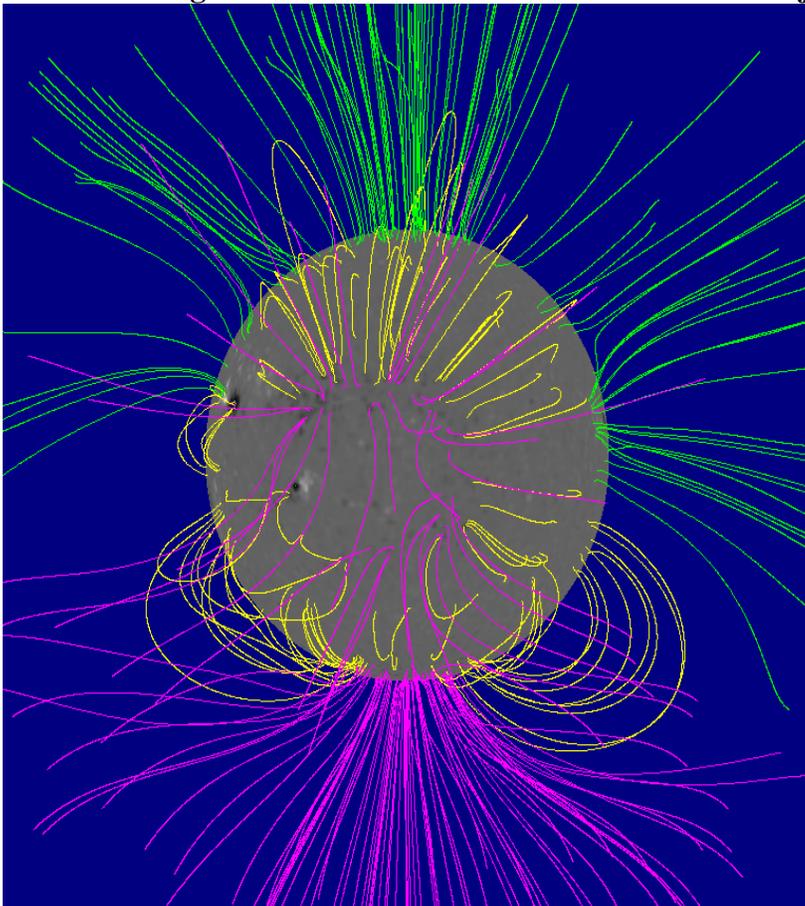


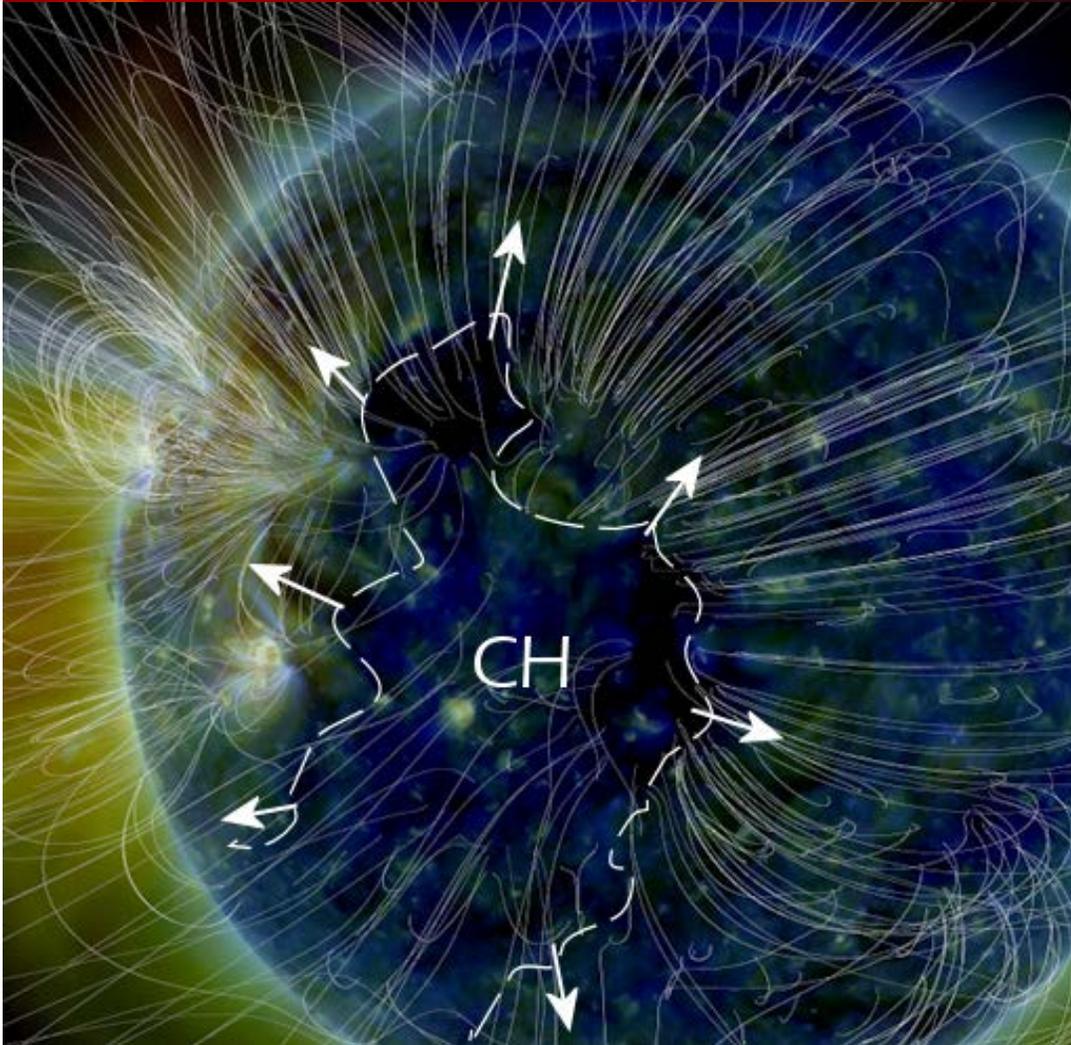
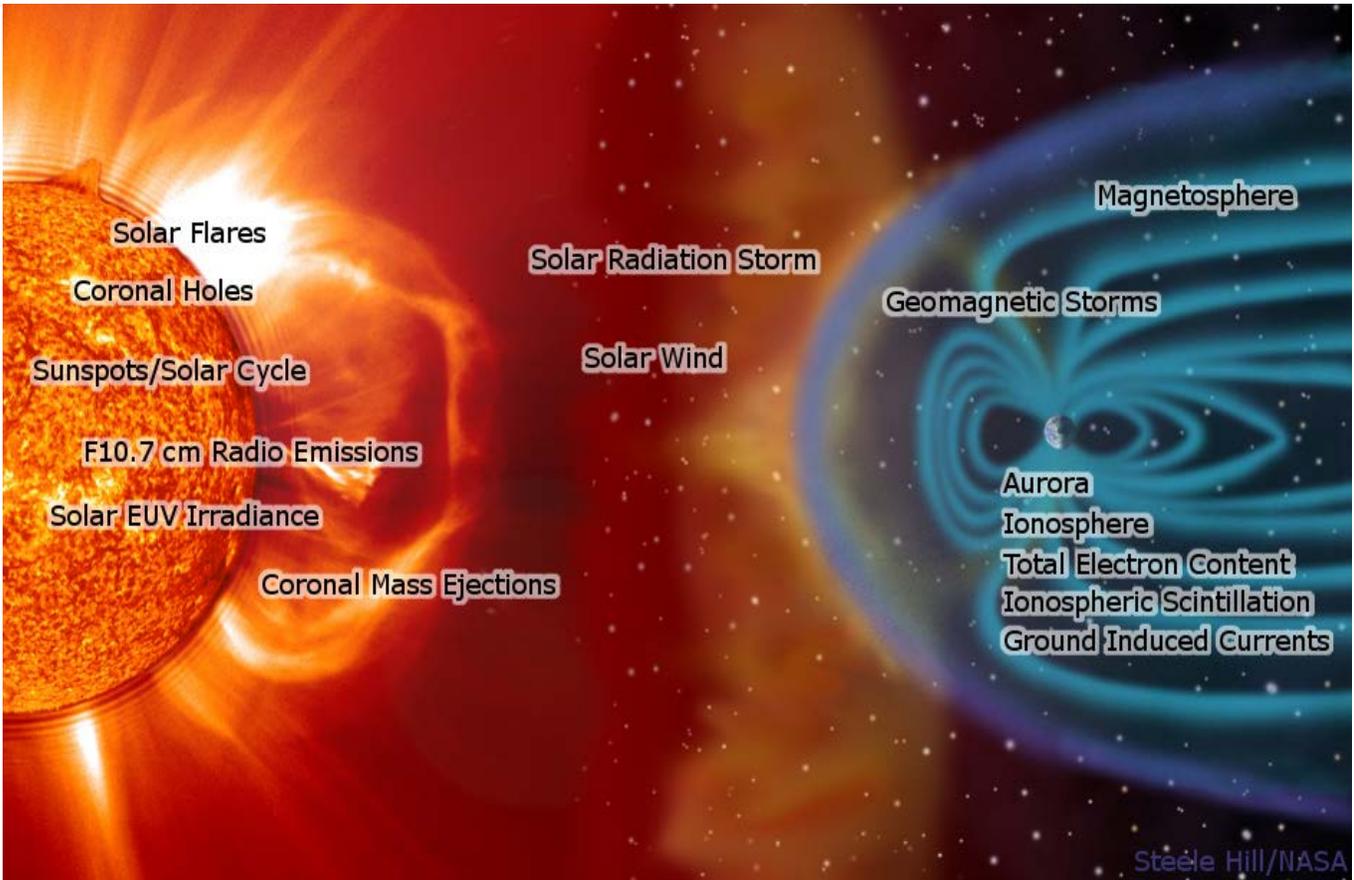
How to view a solar eclipse



Royalty Free Clip Art

BELOW: Diagrams of Coronal Holes and Coronal Mass Ejections courtesy NASA (Permitted to use).







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NEW COLUMN: Members and Their Scopes: This Edition, Jamie Bradley

We looked at Jamie's solar scope first. It is a Lunt 50 mm telescope with an iOptron motor which he thinks is OK. Since it doesn't tighten down effectively, it can loosen and the telescope can drift. Jamie says that another member has a wrench for that purpose. He has had the scope since last November. It is dedicated H-alpha. It has the filter up front (blocking) and pressure tuned filter, and another blocking filter. You can also get another filter to clarify your image. It was purchased through B and H. The unit weighs about 15-20 pounds. It comes with a manual adjusted mount.





The mount was about \$200. Jamie said that he was always told to go to see the eclipse personally and not to miss the eclipse by managing equipment. We looked through the scope this past week and saw some prominences and a few sunspots. Some people put cardboard on the scope to prevent the sun from shining on your eye. Jamie used his hands to align the scope on the sun.

Telescope: Mead LX 200, 10".



When putting the telescope together, the telescope balances on top until the bottom part is centered and tightened to hold the telescope to the tripod. A person can perform this by themselves.



I was able to hold the telescope myself!



(but not for very long). See pic. You can just hear me saying,

“You can take it now, Jaime!!”

Jaime further commented:

Meade didn't seem to have information and support but there is only the documentation that comes with the scope. If anything has to be repaired out of warranty they will fix it but one would have to pay for the shipping.

The handles are very substantial with two on each side incase two people will be lifting the scope. I understood why most people want to set up right next to their car after lifting this scope.

It normally comes with 1 ¼” eyepiece but there is an adaptor for 2”. It seemed that after you get it level it seemed quite simple. The computer, Jaime thinks, is easier to use and with GPS the scope polar aligns on three stars.

Jaime’s scope is newer so the powder coating is textured on the scope, which he likes. Jaime has polarizing filters, rather than taking off the eyepiece to turn it to get the proper polarization, you can put ½ in one place and ½ in another and you just need to turn the eyepiece. It is a telescope he can put a camera on. The camera sees the stars and functions as a guide, autocorrecting the scope more accurately.



He also has a wedge for his camera which provides more stabilization.

The mirror locks in place and then the telescope can be put away. You have to make sure it is unlocked before changing the focus.

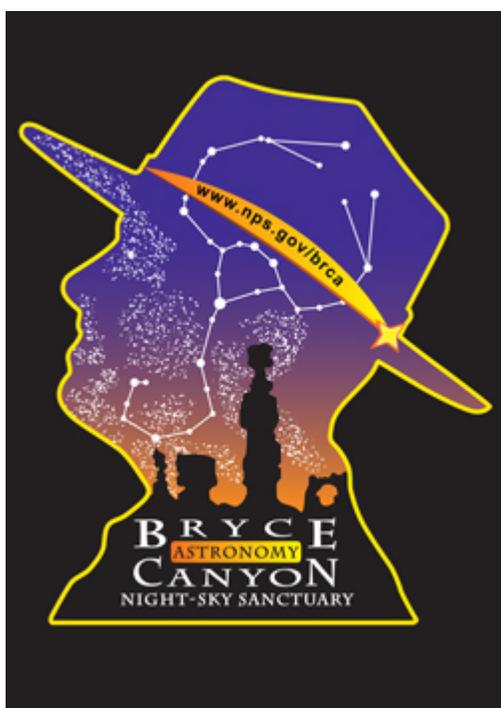
We then took pictures☺.

EXTRA TIDBITS FROM JAMIE:

The other night (?) some members were working on Library Scopes. He invited me to the work party but I could not attend, so I was curious about what was done at the work party. This is not a review of the Library Scope Loaner Program, only some comments from Jaime as a continuation of our visit, as he is proud of his contributions.

Jamie describes the preparation of the Library Scopes at the Work Party (these are Jaime's comments as part of his interview and not an official description of the Library Loaner Program):

The Club buys the Orion Starblast telescopes and they are 4-1/2" f/4 scopes with a tabletop mount. The scopes are prepared so that the person using it doesn't twist any knobs so the collimation stays accurate. Ropes are placed on lens caps so they aren't lost, a pouch on the side for the manual, a little red light, a lens brush, and a small pack is provided to put it in. We glue screws, take off the mirror to change the screws then collimate it in and then glue the zoom eyepiece screws so that they can't be dropped or lost. The club maintains the finder scope which often consists of replacing batteries for scopes that are left on. We solder and change the watch cell and take brass pads and solder so it can run on double As to make it cheaper and easier to change than a watch cell battery. (Such wonderful work from club volunteers to make the Scopes easy to use!, ed.)



Bryce Canyon Astronomy Night-Sky Sanctuary Logo

Illustrated by Kevin Poe and Joel Allen

Jaime's comments on this Year's Bryce Astronomy Festival (All photos copyright



ShoshanaPhotography):

Above: The Brian Head Fire during

sunset at Ruby's Best Western Inn, 2017.



Fifth year at Bryce as a Volunteer by Jamie Bradley

We alternate every other year camping and hotel. The new field is better because there are no trees around it. The previous field was near the road and there was lighter, although it was paved. The new field, being dirt and rocks, is darker and wide open. It was sprayed with a chemical that kept the dust down. It really worked. The management was very accommodating with providing volunteers free access with a T-shirt, sweatshirt and a red flashlight some years.

The first night there was smoke (from the Brian Head fire) to the north, at sunset it drifted through at ground level, but the wind picked up and blew it out. It was dark and pretty the first night and the Ring Nebula (which the speaker talked about on Friday night), which I was focused on most of the night was really bright. When we cleaned up and about at 1:00 am the smoke was moving back in and blocked most of the sky. So even if people wanted to stay, no one did.

The next day the smoke was overhead most of the night which cancelled the viewing. It covered different parts of the sky each night. Friday night the smoke moved to the south. Viewing was excellent. Saturday night we left but heard that later on in the evening it was better seeing.

Various objects seen were the Veil Nebula, the Whirlpool galaxy, the Swan Nebula, Jupiter, Saturn, and the Double-Double through binoculars.

There was also a very large Newtonian from the University of Utah that was 24 inches! The line there was very long 😊.

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MINUTES OF THE SALT LAKE ASTRONOMICAL SOCIETY BOARD MEETING
May 10, 2017

Board members in attendance: Dave Bernson, Joe Bauman, Aleta Cox, Nate Goodman and Rodger Fry

General members in attendance: Luke Moses, Jill Lundquist, Mike Clements, Joan Carman, Larry Holmes, Cory Bauman, Charlie Green and Shoshana Ebertz

Meeting called to order: 7:00 PM

Board Member Reports:

Aleta Cox

How many special star parties should we schedule per month? A discussion was held and we felt that the club could handle two school star parties each month. The next star party is at

Blackridge Elementary School 6th Grade Address:

14131 South Rosecrest Road

Herriman, Utah

A discussion was held to encourage members at next week's general meeting to check the web site and sign up. These special star parties are private and so you must be logged in as a member to see them.

Nate Goodman

A SLAS blast was sent out looking for a couple more operators for the last star party in May. A SLAS blast was also sent out announcing the solar party this coming Saturday at Winchester Park.

Joe Bauman

Because the June general meeting is the same day as the start of the Bryce Canyon Astronomy Festival, Dave Bernson and some of the board members will not be at the general meeting. Joe Bauman will conduct the meeting and we are trying to get the BYU astronomy students who recently discovered an exoplanet that has been confirmed speak about their discovery. Joe asked if we could compensate them for travel expenses. Rodger Fry presented a motion that we approve up to \$199 from the ZAP grant fund to be offered to compensate them for transportation and a meal. Aleta Cox seconded the motion and the vote was unanimous.

Echo Paixio with the Natural History Museum of Utah is trying to get a commitment of some people with solar telescope equipment to set up at the museum on Saturday August 19, 2017 to help explain about the eclipse that will occur two days later. Attendees at the meeting thought it would be good to try and support this.

Joe also said that we are getting good exposure in the news covering our activities and his BLOG has been doing very well.

Rodger Fry-Secretary/Treasurer

The secretary treasures report was as listed on the web site and our finances are healthy. He said that with the increase in insurance costs this year and with the added facilities at SPOC it might be a good idea to raise the dues next year to \$30. A discussion was held about raising the dues prior to the end of 2017 but no action was taken but Dave Bernson said he would bring it up to the attendees at the general meeting.

Rodger Fry-Observatory Director

To start off with, the existing facilities at SPOC are in good condition and ready for the upcoming star parties. The main focus at present is the construction of the new building to house the Clements Telescope. All concrete work is done and the steel portion of the building is being erected. This should be completed in the next three or four days. The insulation for the building won't be delivered until sometime next week. After this is done, we have to install the doors and then the telescope can be moved to the site to be worked on in the new building. It is hoped to move the telescope to SPOC in about two weeks. We anticipate the grand opening to be Saturday July 1, 2017 at 4:00 PM with a barbeque to follow and then the star party. The finances are running close to the amount we have and we should be in reasonable shape to complete the building. The name of the building will be announced at the general meeting next week. Rodger Fry will have a PowerPoint presentation to highlight the construction progress and the name of the building.

Rodger asked Joan Carman to email him the information about the Travelquest group that is having a tour for the eclipse and offer them to bring their group to SPOC on Thursday, August 17, 2017.

Old Business

Joan Carman discussed the library loaner telescope project and said that the Salt Lake City library wants to get nine loaner telescopes but the approval is held up in paperwork. Therefore, she suggests that we move forward now with the four planned (two from Athan Ballamis and two from SLAS). This will proceed. Joan indicated that she would like to see this program expand beyond Salt Lake County into Davis and Utah Counties. Joe Bauman also said that he could write a blog about the library loaner telescope programs.

Shoshana Ebertz

She was contacted by Bryan Crus who is putting together an Eclipse MegaMovie and would like to have people send in images they take of the event. She will add the contact information in the NOVA and send out a SLAS Blast. She will also click on send email to friends of SLAS when sending out the notices of available NOVA's and the email about the Eclipse MegaMovie.

Dave Bernson

He announced that the city of Torrey, UT and Brian Head had received the Dark Sky Gold Star designation.

Joe Bauman and Shoshana Ebertz

They will be working on a poster to be placed at different locations which list our star parties.

Meeting Adjourned: 8:15PM



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General Meeting Minutes

Date: May 17, 2017 7:30 PM

Location: Room 207 Calvin Rampton Technology Building at Salt Lake Community College

Attendance: 44 members and guests

SLAS President, Dave Bernson welcomed all in attendance and introduced our 2017 SLAS board (Dave Bernson, Joe Bauman, Aleta Cox, Nate Goodman and Rodger Fry)

Dave Bernson introduced visitors:

Breanne & her son Ellis

Bob Pifkey

Joan Carman said that there is no update on the Library Telescope Program

Don Colton reminded everyone of the Bryce Canyon Astronomy Festival June 21-24, 2017 and said that if anyone wants lodging at Ruby's Inn with 50% discount contact him for the code.

Shoshana Ebertz said that we have an inquiry of the Eclipse MegaMovie that is being put together so if anyone is interested in having their images included we will provide the contact information

Aleta Cox said that we have a school star party on May 30, 2017 at 8:30PM located at:

Blackridge Elementary School (6th Grade)

14131 South Rosecrest Road

Herriman, Utah

Nate Goodman said that we have been approached by Freemont Indians State Park about putting on a star party on Friday, May 26, 2017 in conjunction with Archeological Day which is on May 27, 2017

Joe Bauman said that Dave Bernson now has a cell phone 801-346-8480. Joe also said that because Dave Bernson will be at Bryce Canyon for the June general meeting, he will conduct that meeting and was hoping to get the BYU students involved with Exoplanet discovery to speak but they have a conflict. As a backup he was considering getting someone to speak on the Cassini Saturn Ring fly through and motions were entertained to pay travel expense out of ZAP grant. A discussion was held and the feeling was this is such an important topic it should be held when more members can be present so the motion was withdrawn. Joe will be working on getting a speaker.

There was a brief discussion about Patrick Wiggins' May 14, 2017 discovery of supernova SN 2017aew. Kudos to Patrick.

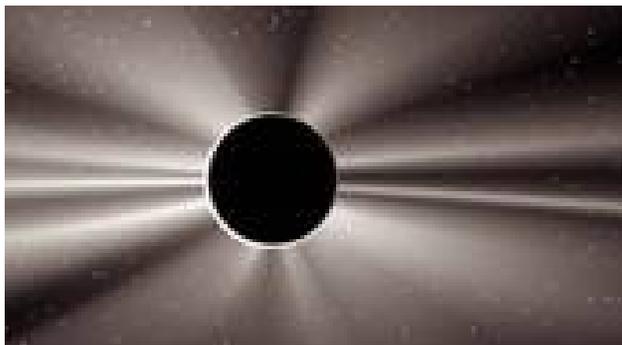
Rodger Fry gave the treasurers report and told members to review the information on the web site.

Rodger Fry then gave a PowerPoint presentation on the Clements Timeline of Progress. This outlined how far we have come since a year ago. At the end of the presentation, the Name of the building was announced (which was chosen by the anonymous donor) as "KOLOB OBSERVATORY".

Dave Bernson then gave a presentation on Spring Constellations.

Dave gave away some copies of "The Stars" and "Night Watch".

The meeting was adjourned at 9:10PM



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**MINUTES OF THE SALT LAKE ASTRONOMICAL SOCIETY BOARD MEETING
June 14, 2017**

Board members in attendance: Dave Bernson, Joe Bauman, Aleta Cox, Nate Goodman and Rodger Fry

General members in attendance: Luke Moses, Mike Clements, Joan Carman, Larry Holmes, Cory Bauman, Charlie Green and Patrick Wiggins

Meeting called to order: 7:00 PM

Board Member Reports:

Aleta Cox

We had an excellent start party at the Blackridge Elementary School 6th Grade class. We had 16 telescopes present and about 200 students and parents. The school donated \$250 to SLAS through PayPal. The police even showed up to see what we were doing with cars on the lawn.

We have a star party scheduled for June 28th at the Tooele City Library from 9:30-11:00 PM. Aleta encouraged our members to sign up and support this star party.

Nate Goodman

We had a successful solar party on Saturday June 10th although there were fewer people walking up to the telescopes as usual. Nate said that he has volunteers for all scopes but the second operator for the Ealing for this coming Saturday's star party.

Joe Bauman

In Dave Bernson's absence, Joe will be conducting the general meeting next week. Starting one-hour before the meeting, John Hollenhorst) from KSL-TV will be there and helping with a discussion on Eclipse Viewing in anticipation of the upcoming total solar eclipse August 21st. Joe is trying to get someone from BYU outreach to speak to the attendees and asked if we could appropriate up to \$200 for travel and lodging expenses. Dave Bernson presented the motion and Rodger Fry seconded the motion with the modification that the funds come from the ZAP grant if Joe can't get BYU outreach to speak, SLAS's Siegfried Jachmann will speak.

Rodger Fry-Secretary/Treasurer

The secretary treasurer's report was as listed on the web site and our finances are healthy.

Joan Carman-Library Loaner Telescope Program

Joan Carman submitted for payment the receipts totaling \$1412.07 for the purchase of four telescopes and equipment to modify them for Library Loaner Telescope use. Two telescopes were paid through moneys earned by Athan Ballamis as part of his Eagle Scout Project. The other two were purchased through Adobe funds that had previously allocated for this purpose. Joan said that modification of the telescopes will be at the Lutheran Church on Wednesday June 28th.

Joe Bauman asked questions about previous expenses for the Library Loaner telescope project and said that \$7,000 had been spent on these and he said he would email the board about documentation regarding this.

Salt Lake County library had committed to purchase some telescopes but no money has been provided yet.

Rodger Fry-Observatory Director

The construction of the Kolob Building is complete except for the electrical work that SLAS members will do. Much work is still required on the telescope. We must paint the main body of the telescope, complete some rehabilitation work on the mirror housing (cosmetic work), collimate the mirrors and then coat the mirrors. In the building, we must complete the signs on the outside of the building, the donor plaque wall, the electrical wiring and the landscaping (the landscaping will be done by Josh Larsen as an Eagle Scout project. This should be completed on June 24th if Stansbury gets the sprinklers repaired as planned. Because of the time needed to complete the work, the dedication ceremony has been changed to July 22, 2017 between 4:00-6:00PM after that we will have a barbeque catered by Dale Wilson followed by a star party in the evening.

Old Business

Checks were written to Rodger Fry (2-checks), Mike Clements, Joan Carman and Benson's Trophies and Plaques for the donor recognition plaques.

New Business

Dave Bernson said that we are running low on books to give away at star parties and we need to be prepared to present a motion to the general meeting in July to purchase more of "The Stars", "Night Watch" and Audubon Societies "Field Guide to the Night Sky". It was brought out that we might be able to get the books cheaper at Amazon.com as compared to Barnes & Noble. An online search by Luke Moses showed this to be true. At the July general meeting a motion will be made to purchase more books.

Joe Bauman mentioned that the U of U telescope is totally remotely accessible and is not being used and indicated that we should look into using this for research. It was brought out that the 28-inch telescope at Great Basin National Park has lost its funding for use and its prime supportive ranger and we might be able to do something with that telescope.

Patrick Wiggins said that NASA has an agreement with the Salt Lake City Library to give them some solar viewing glasses at no charge.

Meeting Adjourned: 8:15PM



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SLAS General Meeting Minutes

taken and compiled by Aleta Cox

Date: June 21, 2017 7:30 p.m. Meeting called to Order
Location: Room 207 Calvin Rampton Technology Building at Salt Lake Community College
Attendance: 66 members and guests

At 6:30 p.m., KSL reporter, John Hollenhorst and a camera man came to talk to members about their solar eclipse experiences prior to the regular general meeting.

SLAS Vice President, Joe Bauman welcomed all in attendance and introduced our 2017 SLAS board members who were present (Joe Bauman, Aleta Cox- all others were at the Bryce Astronomy Festival)

Joe Bauman asked new members and visitors present to introduce themselves. There were many visitors present to hear about the eclipse (Aleta apologizes for not getting all their names) including KSL reporter John Hollenhorst and his camera man who were there covering the story on the eclipse.

Joe Bauman mentioned that our treasurer, Rodger Fry was out of town and could not make a report but the SLAS financial books were in good shape, balanced and everything was accounted for. If members wish, they can log on to the website, and look at the financial records for themselves.

Aleta Cox reminded members that there is a Special Star Party coming up next Monday, January 26, 2017. It will be held at the Tooele Library, 128 W. Vine St., Tooele, from 9:30 to 11:00 p.m. She encouraged all who could to attend, and come early enough to cool their optics.

Joe Bauman conducted a drawing for two copies of the Stars and two copies of Night Watch. Aleta Cox helped with the drawing.

Siegfried Jachmann presented a wonderful lecture on eclipses, including the mechanics of how an eclipse happens. He discussed both lunar and solar eclipses, and how to safely view a solar eclipse. He encouraged everyone to go see the August solar eclipse in totality. He had samples of some solar filters he'd made and showed what an unfiltered telescope would do if pointed at the sun. He made a video of paper igniting from the sunlight passing through the telescope and eyepiece.

Lowell Lyon announced information about the AstroCON that will occur in August in Casper, Wyoming. He said he has 4 rooms that have become available for \$99/night, but to get that rate, you must attend the convention. This convention coincides with the solar eclipse.

Joe Bauman then showed photos of solar eclipses sent in by club members, beginning with **Patrick Wiggins'** photos. Patrick was asked to narrate the photos of eclipses he'd seen in his life. Joe then shared his own photos along with narration, followed by photos taken by **Carlos Cardon, Dave & Mary Applegate, Nikki Mara, and Patrick Fagen**. None of these folks were in attendance so their photos were shown without any additional narrations or details.

There is a website by NASA giving information about the eclipse: <https://eclipse2017.nasa.gov>

The meeting was adjourned at 8:42 p.m. and dismissed to Advanced Training.



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WORK PARTIES

Saturday, May 6, 2017 Work Party

Although our star party at SPOC tonight was pretty much clouded out (we were briefly able to look at the Moon and Jupiter), we had 11 members show up for the work project as follows:

Craig & Ethan Pater
 Luke Moses
 Jill Lundquist
 Jim Keane
 Enid Norton
 Mike Clements
 Bruce Grim
 Alpine Stringham
 Patrick Wiggins
 Rodger Fry

We had four wheel barrows and moved top soil around the east wall foundation and around the west side of the viewing circle. The final pour of the concrete was completed yesterday. Now the erection of the steel building should follow.

June 3rd Telescope transported to SPOC

The date has finally arrived. On Saturday morning, we will be moving the Clements Telescope to SPOC. We will leave Herriman, UT at 9:00AM and travel with three cars as escorts to protect the telescope and to watch for shifting loads. It is not reasonable to have all that want to be part of this move present but anyone that wants to join the last leg of the journey from the Flying-J Gas Station in Lakepoint (just off I-15 before heading south to Stansbury) should plan to meet us there at 10:00AM. On that last 3-Mile stretch we can have anyone join us for that segment of the move.

June 10th Assemble Telescope

We made great progress on the Clements Telescope today thanks to the dedicated participation of our volunteers as follows: Bob Moore, Denise Larsen, Joan Carman, James Dye, Jacob Dye, Luke Moses, Dale Wilson, Ken Porras, Mike Clements, Marcelo Figuera, Jim Keane, Patrick Wiggins and Rodger Fry

We made a wood cradle under the telescope base using eight 4"X4" pine boards laid on top of two 4"X6" Pine Boards laid in the opposite direction. This provides a stable base for the telescope to rest on and allows the two pallet jacks to be inserted in the cradle to move the telescope.

While this was being done, all the truss tubes were spray painted and made ready for assembly. We took a break for a bite to eat and then seven of those remaining helped assemble the telescope. This process went without a hitch. I am pleased to say that the telescope is easy to move on the pallet jacks and fits into the building very well with plenty of room around the telescope to store supporting equipment.

We still have much to do to make the telescope operational but at this point things are looking very good.

Thanks to all that have made this possible!

We are making great progress on the Clements Telescope and the Kolob Observatory Building where it will be housed. The structure of the building is virtually complete and the telescope is assembled; however, there is still much work left to do and attention to detail will make the difference between a great facility and a fantastic facility.

I have therefore deemed it prudent to postpone the facility's Dedication Ceremony from July 1, 2017 to July 22, 2017 at 4:00-6:00PM. This is a new moon weekend and may conflict with those who attend the Private Star Party at Wolf Creek that evening. Regardless of what day we select we will always have some people who have conflicts.

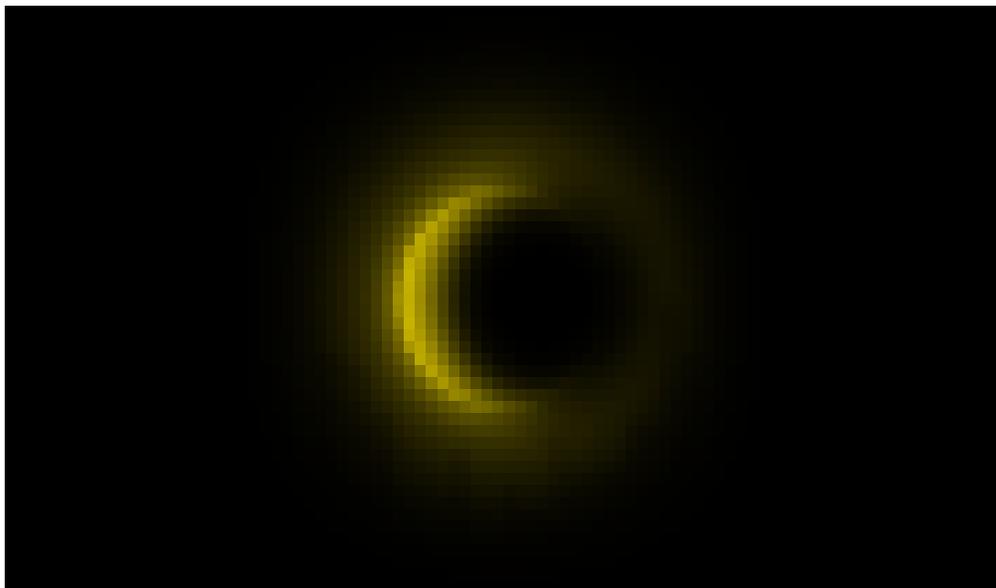
Some of the work left to be completed is:

- Install the motor drives to the telescope
- Finish painting the mirror cell housing of the telescope
- Collimate the mirrors
- Silver coat both the primary and secondary mirrors
- Running electricity to the building
- Adding lighting and security system to the building
- Completion of Donor Recognition Wall Display
- History display of the mirror and building of the telescope
- Landscaping

I thank the support of all who have helped make this dream a reality and anticipate willing volunteers to help complete the work to be done.

June 24th Josh Larsen (Eagle Scout Project to lay sod and plant shrubs around building and cement pad)

July 1st Run electrical wiring to Kolob Building and modify pallet jack so one person can move telescope.



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SLAS Member Information

The SLAS Member Information file is available at <http://slas.us/slasbooks/NEWMEM.PDF>.

Loaner Telescopes For SLAS Members

SLAS has several scopes available for loan to current SLAS members. Check the SLAS website under "Membership Benefits" for details.

2017 SLAS Board of Directors

President	Dave Bernson	801.263.9264 bernsondave@gmail.com
Meetings		
Vice President	Joe Bauman	.801.583.7935.josephmbauman@yahoo.com
Publicity, PR and Web Content		
Secretary-Treasurer	Rodger Fry	801.288.0851 rcfry@comcast.net
Membership Dues & Renewals		
Board Member at Large	Nate Goodman	801.277.0193 ngoodman6053@gmail.com
SPOC Star Party Coordinator:		
Board Member at Large	Aleta Cox	801.966.2636 alc@fredccox.com
School & Special Star Parties		

Appointed Positions

	Aleta Cox	801.966.2636	alc@fredccox.com
Astronomical League Contact			
Equipment Manager	Moses, Luke	970.376.2529	luke.moses1@gmail.com
Historian	Patrick Wiggins	435.882.1209	4099wiggins@gmail.com
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Solar Scope Manager	Ken Porras	801.210.8427	kennethprrrs@gmail.com
Webmaster	Ken Warner		webmaster@slas.us
ZAP Grant Writer	Ann House	801.671.8447	ann@annhouse.org

Current SPOC Advisory Committee

Chair through DEC 2018	Rodger Fry	801.288.0851	rcfry@comcast.net
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Member through JAN 2018	Stan Eriksen	801.446.1479	staneriksen@icloud.com
Member through JAN 2017	Larry Holmes	801.467.7855	larry@kijoda.com
Member through JAN 2018	Bill Kennedy	801.964.6199	truss_tube@hotmail.com
Member through JAN 2018	Nate Goodman	801.277.0193	ngoodman@lgcy.com
Member through JAN 2019	Ken Porras	801.210.8427	kennethprrrs@gmail.com
Member through JAN 2017	Patrick Wiggins	435.882.1209	4099wiggins@gmail.com
Member while SLAS President	Joan Carman	801.943.4192	jcarman6@q.com
Member as Obser. Dir. Emeritus	Bruce Grim	435.882.5237	bmargrim@msn.com
Member while Harmons Rep.	Tara Haynie		

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NOVA is a publication of the [Salt Lake Astronomical Society](#), a non-profit organization. Nova contains minutes of meetings, Board member names & contact info, activities, reports and special club events. The editor of NOVA is appointed by the Board. Members are encouraged to contribute content. Current NOVA editor is Shoshana Ebertz 801.884.7522



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Events Calendar

View a list of all SLAS events online on the [Events Calendar](#)

Next Three Month's Activities:

General Meeting: SLCC Redwood Campus, (App. 4600 s. Redwood Road.) Calvin L Rampton Building, at the north east corner of the campus, room to be announced. Free parking is available east of the building, in the Q lot.

Board Meeting: All members and guests are welcome. From 7:00 – about 8:00 p.m. at Denny's Restaurant, 250 W. 500 S., Salt Lake City.

SPOC Observatory: http://slas.us/images/MAPS/SPOC_Map.gif



NEXT THREE MONTHS CALENDAR

7/1/2017	<u>Public Star Party</u>	Stansbury Park Observatory Complex (SPOC), Tooele County. See map link
7/8/2017	<u>Sun Party</u>	Winchester Park at the Jordan River Parkway, 6400 S. 1100 West
7/12/2017	<u>Board Meeting</u>	Denny's Restaurant, 250 W. 500 South, Salt Lake City
7/14/2017	<u>Public Star Party</u>	Wheeler Farm, 6351 S. 900 East, Salt Lake County
7/15/2017	<u>Public Star Party</u>	Stansbury Park Observatory Complex (SPOC), Tooele County. See map link
7/18/2017	<u>Private Star Party</u>	SPOC observatory, dusk until 11 p.m. See map link
7/19/2017	<u>General Meeting</u>	SLCC Redwood Campus, (App. 4600 s. Redwood Road.) Calvin L Rampton Building, at
7/21/2017	<u>Special Star Party</u>	Camp Wapiti, in Settlement Canyon near Tooele, UT Exit Tooele to the south an
7/21/2017	<u>Private Star Party</u>	Wolf Creek
7/22/2017	<u>Special Event</u>	SPOC
7/22/2017	<u>Private Star Party</u>	Wolf Creek
7/26/2017	<u>Special Star Party</u>	Magna Library 2675 So. 8950 West Magna, UT
7/28/2017	<u>Public Star Party</u>	Cougar Harmons store, 4874 W. 6200 South, Salt Lake City

7/29/2017	<u>Public Star Party</u>	Stansbury Park Observatory Complex (SPOC), Tooele County. See map link at "Click
8/5/2017	<u>Sun Party</u>	Winchester Park at the Jordan River Parkway, 6400 S. 1100 West
8/9/2017	<u>Board Meeting</u>	Denny's Restaurant, 250 W. 500 South, Salt Lake City
8/11/2017	<u>Public Star Party</u>	Wheeler Farm, 6351 S. 900 East, Salt Lake County
8/12/2017	<u>Public Star Party</u>	Stansbury Park Observatory Complex (SPOC), Tooele County. See map link at "Click
8/15/2017	<u>Private Star Party</u>	SPOC observatory, dusk until 11 p.m. See map link at "Click here for more detai
8/16/2017	<u>General Meeting</u>	SLCC Redwood Campus, (App. 4600 s. Redwood Road.) Calvin L Rampton Building
8/16/2017	<u>ALCon</u>	Casper, Wyo.
8/17/2017	<u>ALCon</u>	Casper, Wyo.
8/18/2017	<u>Private Star Party</u>	Wolf Creek
8/18/2017	<u>ALCon</u>	Casper, Wyo.
8/19/2017	<u>Private Star Party</u>	Wolf Creek
8/19/2017	<u>ALCon</u>	Casper, Wyo.
8/19/2017	<u>Private Star Party</u>	Stansbury Park Observatory Complex (SPOC). See map link
8/21/2017	<u>Solar Eclipse</u>	Across the United States. Totality will stretch from Oregon to South Carolina.
8/24/2017	<u>Special Star Party</u>	Jordanelle State Park Hailstone Event Center
8/25/2017	<u>Private Star Party</u>	TBA
8/26/2017	<u>Private Star Party</u>	TBA
9/1/2017	<u>Public Star Party</u>	Bangerter Crossing Harmons store, 125 E. 13800 South
9/2/2017	<u>Public Star Party</u>	Stansbury Park Observatory Complex (SPOC), Tooele County. See map link
9/9/2017	<u>Sun Party</u>	Winchester Park at the Jordan River Parkway, 6400 S. 1100 West
9/13/2017	<u>Board Meeting</u>	Denny's Restaurant, 250 W. 500 South, Salt Lake City
9/15/2017	<u>Public Star Party</u>	Wheeler Farm, 6351 S. 900 East, Salt Lake County
9/16/2017	<u>Public Star Party</u>	Stansbury Park Observatory Complex (SPOC), Tooele County. See map link
9/20/2017	<u>General Meeting</u>	SLCC Redwood Campus, (App. 4600 s. Redwood Road.) Calvin L Rampton Building, at
9/21/2017	<u>Private Star Party</u>	SPOC observatory, dusk until 11 p.m. See map link
9/22/2017	<u>Private Star Party</u>	Capital Reef - Panorama Point
9/23/2017	<u>Private Star Party</u>	Capital Reef- Panorama Point
9/29/2017	<u>Public Star Party</u>	Seventh Street Harmons (755 S. 700 E.)
9/30/2017	<u>Public Star Party</u>	Stansbury Park Observatory Complex (SPOC), Tooele County. See map link





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Have a very safe and happy Eclipse Day!

Clear Skies!