

NOVA



Official Newsletter of the [Salt Lake Astronomical Society](#)

Volume 47 Number 6 November - December, 2017

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Please Welcome The Newest SLAS Members!

Toni Lau Karthik Shanmugam George Frioux David Errick John Fojtek Jacob Richardson

Jane Burningham Matt Flamm Craig Smith Benjamin Diller Michael Diller Larry Gardner

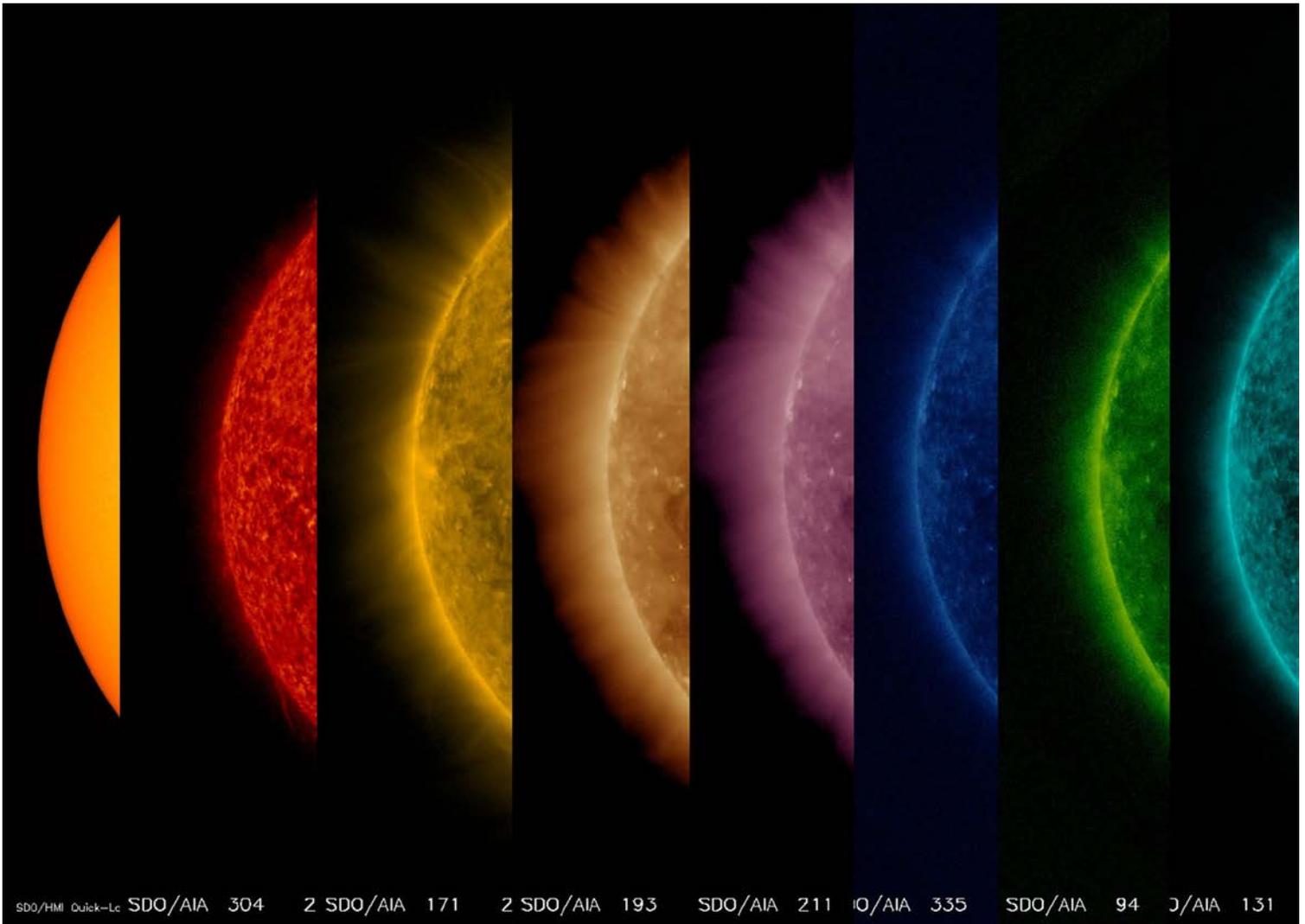
Katie Langi Nicholas Norton Kimberly Oliver Ginger Hauschild Sujatha Sampath

Bruce Horrocks Jim Fenton Jonathan Alva

Telia Dajes Tracy Foster



NASA Image: This Hubble image shows what happens when two galaxies become one. The twisted cosmic knot seen here is NGC 2623 — or Arp 243 — and is located about 250 million light-years away in the constellation of Cancer (The Crab).



NASA Image: **From Hot to Hottest** This sequence of images shows the Sun from its surface to its upper atmosphere all taken at about the same time on Oct. 27, 2017.

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CONGRATULATIONS TO THE NEW BOARD MEMBERS!

President: Dave Bernson

Vice President: Joe Bauman

Secretary/Treasurer: Denise Larsen

Board Members at Large: Nate Goodman, Jim Keane

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INTERNATIONAL OBSERVE THE MOON NIGHT

NASA public domain

Time Saturday, October 28, 2017, 09:00 UT

Phase 54.4% (8d 13h 48m)

Diameter 1797.9 arcseconds

Distance 398653 km (31.29 Earth diameters)

J2000 Right Ascension, Declination 20h 47m 52s, -16° 51' 22"

Subsolar Longitude, Latitude 79.973°, 1.491°

Sub-Earth Longitude, Latitude -4.931° , -1.275°

Position Angle 343.047°



NASA public domain

What a fantastic time and phase to observe! We used our large binoculars on a parallelogram and the image size was perfect! The limb was amazingly three dimensional with side lighting. For me it was a very meaningful experience.

This video talks about the moon map and a program named **Moon Trek** that can be used for further investigation and presentations. The discussion of the International Observe the Moon night starts at about the 19:22 mark.

<https://www.youtube.com/watch?v=2oWY7d7gkE8>

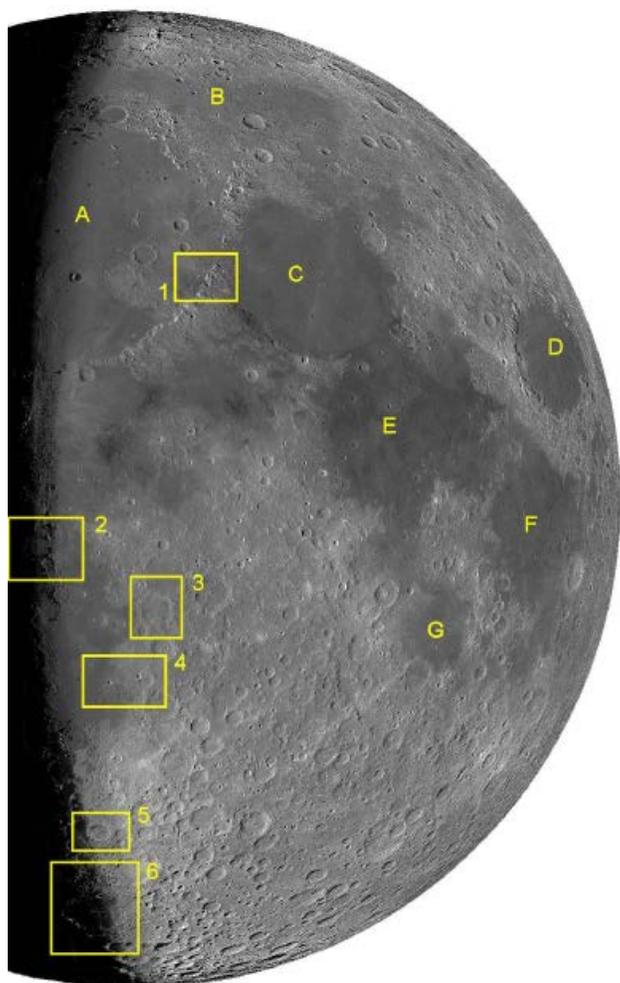
Moon Maps:

https://www.lpi.usra.edu/observe_the_moon_night/wp-content/uploads/2015/05/InOMN-217-Moon-Map-North.pdf

Here is the AWESOME 3D Interactive Moon Trek:

<https://moontrek.jpl.nasa.gov/>

<https://moontrek.jpl.nasa.gov/#v=0.1&x=0&y=0&z=1&p=urn%3Aogc%3Adef%3Acrs%3AEPGS%3A%3A104903&d=>



observethemoonnight.org

Moon Map: This map depicts the Moon as it will appear from the northern hemisphere at approximately 8:30 PM EDT and 5:30 PM PDT on International Observe the Moon Night, October 28, 2017. Many of the best views will occur along the terminator

(the line between the day and night side of the Moon).

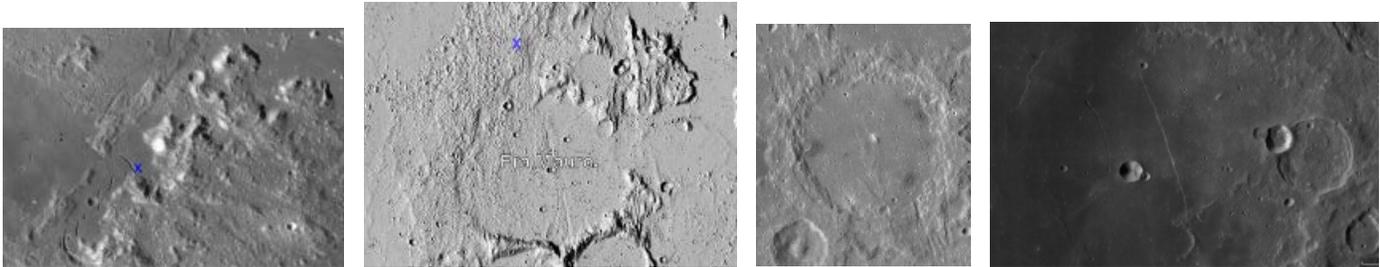
Lunar Maria (Seas)

You can see a number of maria tonight. Once thought to be seas of water, these are actually large, flat plains of solidified basaltic lava. They can be viewed in binoculars or even with the unaided eye.

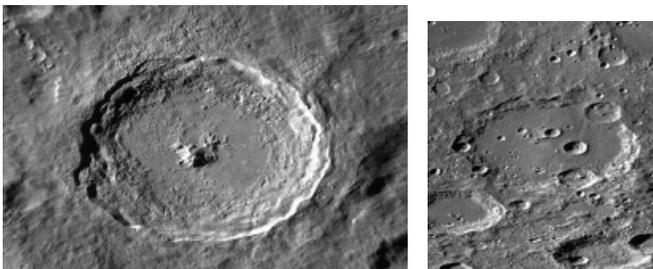
1. Apennine Mtns (Apollo 15)

2. Fra Mauro (Apollo 14)
3. Alphonsus Crater
4. Straight Wall
5. Tycho Crater
6. Clavius Crater

From left to right:



1. Apennine Mountains: Mountain range on the northeast rim of Mare Imbrium, 250 km long and reaching up to 2400m high. Hadley Rille, an 80 km lava channel is near the Apollo 15 landing site (X).
2. Enjoy sunrise at the Apollo 14 landing site (blue X) north of the 95 km diameter crater Fra Mauro. (LOLA/Kaguya)
3. Alphonsus: 110 km diameter crater. Rilles (fractures) with dark-haloed craters on its floor mark sites of volcanic eruptions.
4. Straight Wall: The best example of a lunar fault, this linear feature, some 110 km long, marks where the lunar crust steps up by about 300 meters going west to east.



5. Tycho Crater: Spectacular crater 85 km wide, 4.8 km deep, and with a 2.25 km-high central peak. Bright rays of ejected, pulverized rock radiate across much of the Moon's near side.
6. Clavius: Watch sunrise advance across this 225 km diameter crater. The peaks of the western rim will catch the sunlight earlier than much of the floor.

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***SAVE THE DATE: International Dark Sky Association AND
5th International conference on artificial light at night: November 12 – 14,
2018 at Snowbird***

Topics:

***** Technology and Design

Architectural lighting
Energy efficiency
Outdoor planning and concepts
Outdoor advertising
Street lighting
Trends in indoor and outdoor
lighting

***** Measurement and
Modeling *****

Citizen Science
Human exposure
Modeling
Remote sensing
Street lighting
Urban and pristine areas

***** Biology and Ecology *****

Behavior
Biodiversity
Chronobiology
Evolutionary adaptation
Food webs
Orientation

***** Health *****

Chronobiology
Circadian rhythm disruption
Exposure to outdoor and indoor
light
Illness related to artificial light
at night
Melatonin

*****Society*****

Economics
Legislation and outdoor
Lighting governance
Lighting conflicts
Outdoor lighting practices
Perceptions of night
Preservation of natural areas
Security
History

CONFERENCE CONTACT

Janet Muir

The Committee for Dark Sky Studies

The University of Utah

Salt Lake City, Utah

E-mail: janet.e.muir@gmail.com

Mobile: 1.917.385.6555

Venue location:

Snowbird Ski and Summer Resort (Little Cottonwood Canyon)

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NIGHT SKY:

This photo shows the divide between East and West Berlin that is still visible at night from space. On the left are the gas lamps of the West and on the right, the orange high-pressure sodium lamps of the East, with a stark contrast between them. The image is a powerful reminder that lighting choices made by city planners are long lasting.



Read the 8 page report from the American Medical Association on health impacts of artificial lighting:

[..\November December 2017 NOVA\AMA Report 2016_60.pdf](#)

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World's First Academic Center Dedicated to Dark Sky Studies

Where else but our own _____?

<http://www.darksky.org/worlds-first-academic-center-dedicated-to-dark-sky-studies/>

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Outdoor Lighting basics:

<http://www.darksky.org/lighting/lighting-basics/>

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Losing the Dark Film:

<https://www.youtube.com/watch?v=dd82jztFIo>

Creative Video sponsored by International Dark Sky Association

https://www.youtube.com/watch?v=cp20_JJiAms

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HIGHLIGHTS OF THE NOVEMBER SKY (HUBBLESITE)

Tonight's Sky 2017

November

Your guide to constellations, deep-sky objects, planets, and events. Tonight's Sky, highlights of the November Sky.

Evening Planets

After sunset, look for Saturn low in the southwestern sky.

Use a telescope to view the ringed planet before it slips below the horizon.

Constellations and Deep-Sky Objects

Some fish, a ram, and a triangle can all be found in the November night sky.

Pisces, in ancient mythology, are twin fish tied together.

They represent two Greek gods fleeing fire.

Look for the circlets of stars high in the southern sky.

Just to the east of Pisces lies Aries, the golden ram of the Greek gods. It is a dim constellation.

Pisces and Aries are in the zodiac, the band of sky through which the Sun appears to travel. Triangulum, a simple geometric constellation, has been identified since ancient times. Look for it next to the Ram and the Fish.

Tonight's Sky: November-2-2017

The lovely Triangulum Galaxy resides here. It belongs to the same cluster of galaxies that includes our own Milky Way.

Also known as M33, the galaxy is about 3 million light-years distant. It can be seen in a dark sky with binoculars.

Morning Planets

Reddish Mars appears in the eastern sky before dawn. A telescope might reveal some bright and dark features on the planet.

If you have a clear view of the eastern horizon just before sunrise, you might be able to spot Venus or Jupiter — perhaps both during mid-month.

Jupiter becomes easier to find as it rises higher in the sky in late November.

Events

November boasts the Leonid meteor shower.

This shower is the result of Earth's annual passage through the dust trails left by Comet Tempel-Tuttle, which returns to the inner solar system every 33 years.

Look for meteors in the evening of November 17th and early morning of November 18th.

The night sky is always a celestial showcase. Explore its wonders from your own backyard.

Credits

[NASA](#) and the Office of Public Outreach ([STScI](#))

Publication: October 26, 2017

Link to video:

http://hubblesite.org/video/968/tonights_sky

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Orion Nebula

STScI by Hubble for NASA, in public domain

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Finally! Miloslav Druckmuller's long awaited 2017 photos are up!!!

Total Solar Eclipse 2017, USA

Miloslav Druckmuller

The first results of the Shadow-tracking expedition of Solar Wind Sherpas which was led by Shadia Habbal (Institute for Astronomy, University of Hawaii at Manoa), are presented on this page. Observations were made from five sites in the western part of the shadow band across the US: Mitchell, Oregon; Mackay, Idaho; Whiskey Mountain, Wyoming; Guernsey State Park; Wyoming and Alliance, Nebraska. The distance between the first and last was approximately 1200 miles, corresponding to an eclipse observing time difference of 30 minutes. Almost identical instrumentation was used at all observing sites consisting of sub arc second imaging in white light, imaging in coronal emission lines of different ionization states of Fe, in addition to imaging in Ni XV and Ar X. Imaging spectroscopy was undertaken with a novel triple-channel design at four of the observing sites.



Corona from Oregon

 This image is a composition of 161 eclipse images acquired by means of two identical 800 mm lenses and two Nikon D810 cameras. The observing conditions were rather unique because of an absolutely perfect seeing. This enabled to create an image of extraordinary sharpness which is limited only by movement of coronal features during the total solar eclipse. Another result of perfect seeing and precise sub-pixel image alignment is visibility of faint stars below the 13th magnitude, some of them very near to the Sun. It was possible to visualize not only the solar corona but even the lunar surface surprisingly well. The position of the Moon is like that of 61 seconds after the second contact.

Image must be rotated 18.02° anti-clockwise to achieve standard orientation i.e. solar North up.

Image	Tse_2017_mi800.png
Date	21. 08. 2017
Time	2nd contact 17:21:11 UT, 3rd contact 17:23:14 UT

Place	Oregon near Mitchell, USA
Coordinate	N 44° 31.539', W 119° 54.459', Alt. 1100 m
Conditions	Clear sky but some smoke from forest fires, solar altitude 43° above horizon
Optics	2× TS Photo Line Apochromatic Triplet D=115 mm, f = 800 mm with 2.5 inch flattener
Camera	2×Nikon D810
Exposure	1/1000 s - 1/4 s (camera 1), 1/4 s - 4 s (camera 2)
Processing	Composition of 161 eclipse images taken with two cameras. Eclipse images were calibrated by means of dark frames and flat-fields, aligned by means of phase correlation, composed by means of LDIC 6.0 software, processed using Corona 5.0 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 7.0, LDIC 6.0, Corona 5.0, Sofo ACC 6.1
Orientation	Image must be rotated 18.02° anti-clockwise to achieve standard orientation i.e. solar North up.
Copyright	© 2017 Miloslav Druckmüller, Peter Aniol, Shadia Habbal



Whiskey mountain, Wyoming, USA

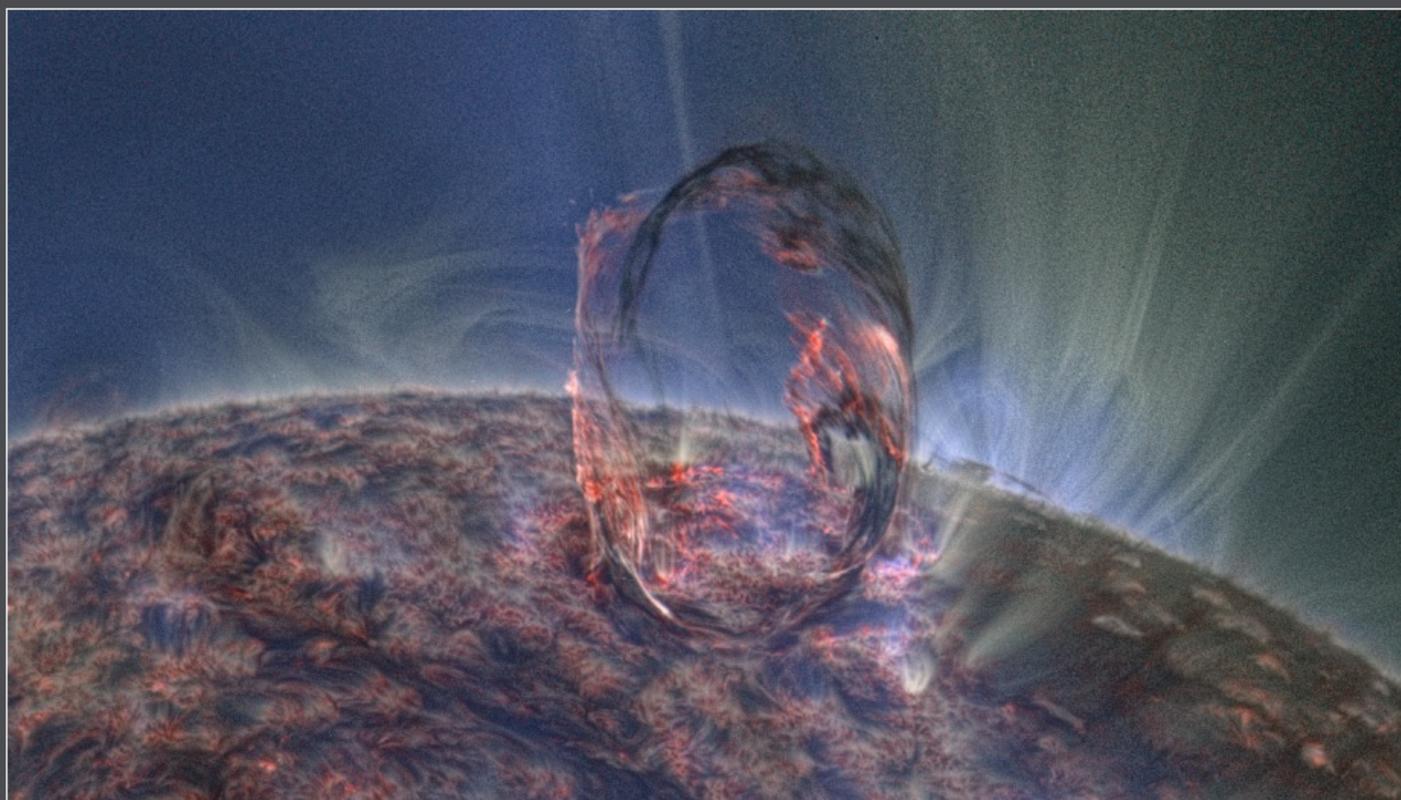
Composition of 42 eclipse images. Eclipse images were calibrated by means of dark frames and flat-fields, aligned by means of phase correlation, composed by means of LDIC 6.0 software, processed using Corona 5.0 in order to visualize coronal structures. Final processing was done using ACC 6.1 software.

Image processing by Miloslav Druckmüller

Image	TSE_2017_500mm_Whiskey_m.png
Date	21. 08. 2017
Time	2nd contact 17:36:46 UT, 3rd contact 17:39:08 UT
Place	Whiskey mountain, Wyoming, USA
Coordinate	N 43° 25.234', W 109° 37.883', Alt. 3165 m
Conditions	Clear sky, solar altitude 51° above horizon
Optics	Maksutov-Cassegrain, 3M-6A 6.3/500 mm
Camera	Canon EOS 5D Mark II
Exposure	1/250 s - 4 s

Processing	Composition of 42 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 6.0 software, processed using Corona 5.0 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 7.0, LDIC 6.0, Corona 5.0, Sofo ACC 6.1
Copyright	© 2017 Miloslav Druckmüller, Jana Hoderová, Peter Štarha, Shadia Habbal

Filament Eruptions and Flares:

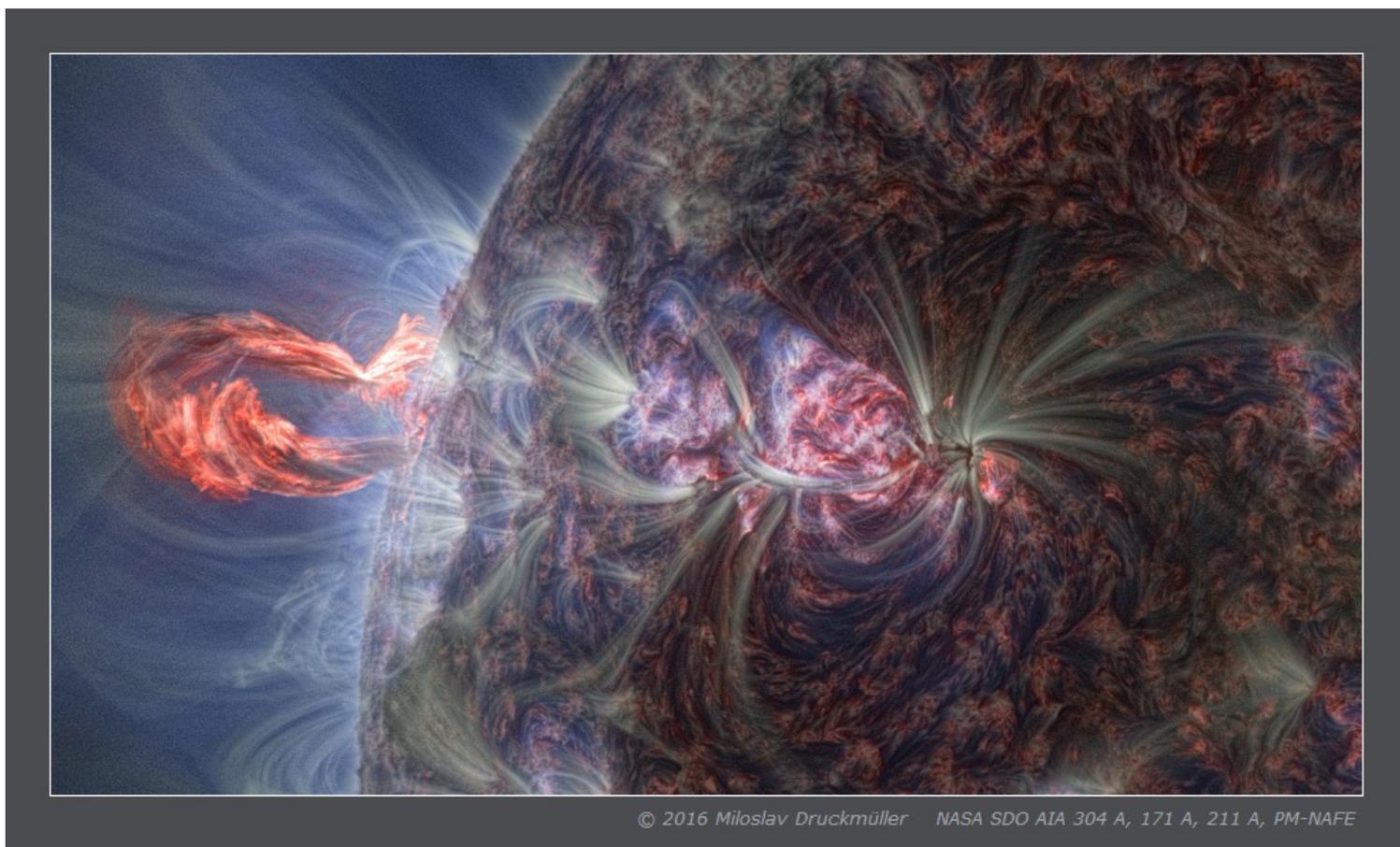


© 2016 Miloslav Druckmüller NASA SDO AIA 304 A, 171 A, 211 A, PM-NAFE

Filament eruption, March 13, 2016

Video start	March 13, 2016, 19:00:11 UT
Video end	March 13, 2016, 21:59:47 UT
Frame rate	25 fps, 1 s of video corresponds to 5 min in reality
Data	SDO AIA 304 A, 171 A, 211 A

Processing	PM-NAFE algorithm by Miloslav Druckmüller
Orientation	Solar North is on the right



Filament eruption, May 9, 2015

Video start	May 9, 2015, 00:40:11 UT
Video end	May 9, 2015, 02:19:47 UT
Frame rate	25 fps, 1 s of video corresponds to 5 min in reality
Data	SDO AIA 304 A, 171 A, 211 A
Processing	PM-NAFE algorithm by Miloslav Druckmüller
Orientation	Solar North is on top



© 2015 Miloslav Druckmüller NASA SDO AIA 304 A, 171 A, 211 A, PM-NAFE

X3.1 flare, October 24, 2014

Video start	October 24, 2014, 21:00:55 UT
Video end	October 25, 2014, 01:29:43 UT
Frame rate	25 fps, 1 s of video corresponds to 5 min in reality
Data	SDO AIA 304 A, 171 A, 211 A and SDO HMI
Processing	PM-NAFE algorithm (SDO AIA) by Miloslav Druckmüller
Orientation	Solar North is on top

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MINUTES OF THE SALT LAKE ASTRONOMICAL SOCIETY BOARD MEETING

September 13, 2017

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

General members in attendance: Patrick Wiggins, Leslie Fowler, Denise Larsen, Luke Moses, Joan Carman and Lowell Lyon

Meeting called to order: 7:00 PM

Board Member Reports:

Lowell Lyon

Lowell reported on the AstroCon 2017 held in Casper, Wyoming in August. It was a great success with 965 registered attendees with those coming from points world-wide. They had very good support from vendors and from the community. Several clubs provided help with the event but by far, the majority of the volunteers were SLAS members. As a result, SLAS will be getting somewhere between \$4,000 to \$5,000 as our share of the profits. Lowell suggested that SLAS use this as a fund to help members who may not have the financial resources to attend future AICon events. A discussion was held and both Joe Bauman and Rodger Fry offered concerns about providing a free trip to members to attend future events and it was suggested to pay the registration fee. It was felt that a decision regarding this could be made at a later date when we receive the funds.

Aleta Cox

Aleta said that we had a very successful star party last night at Monte Vista school with eight telescopes provided and about 150 students and parents. Some clouds were present but mostly clear with good seeing. Aleta said that we have three more school star parties scheduled this year. The next is on Thursday, September 21, 2017 at Foothills Elementary. One on September 26, 2017 at Blackridge Elementary. The last school star party for the year will be on October 9, 2017 at Channing Hall School (a charter school)

Nate Goodman

Nate Goodman said they had a successful solar party last Saturday with eight solar telescopes present. SLAS is planning on hosting winter solar star parties on clear Saturday afternoons at the Utah Natural History Museum. Nate said that he has found good support in getting volunteers to man the telescopes at SPOC this season and with all the special events we have had has kept volunteers busy. He was concerned that this coming weekend for the SPOC star party on September 16th that we would have trouble getting volunteers because of the Great Basin and Capitol Reef star parties but positions are being filled.

Joe Bauman

Joe Bauman reported on his trip to Frisco Peak with Paul Ricketts to observe them getting the U of U telescope back up and running. He said the road to the site is very difficult to travel and that it is good that the telescope can now be operated remotely. He said that they took several images of the night sky and in some of the later ones a dark blob was present on the recorded images. It turned out to be a dead spider that had slipped in front of the CCD imager. It was fortunate that they detected and corrected this while they were on the mountain. Dave Bernson and Joe Bauman encouraged us to take advantage of using this telescope remotely from the U of U campus and Paul Ricketts will help us get SLAS members trained. It will be presented to the members at the September General Meeting.

Rodger Fry-Secretary/Treasurer

The secretary treasurer's report was given as follows:

General Fund	\$6,413
Entertainment	\$ 919
Astronomy League	\$1,835
Insurance	\$ 498
SPOC	\$3,759
ZAP	\$ 305
Library Loaner Telescope	\$4,126

Rodger Fry-Observatory Director

Rodger Fry said that we have a special star party for the major donors to the Kolob Observatory building scheduled for Friday September 22, 2017. We will man as many of the telescopes as possible but would like to have at least the Clements and Grim telescopes in operation. We will be scheduling a work party to put Thompson's Water Seal on the flat exterior concrete work later in September. We will also be adding a white board (to be used as a "Kill Board" to list the celestial objects that have been viewed through the Clements telescope. We will be holding a SPOC advisory committee meeting in November after the October 31, 2017 season closing.

Old Business

Joan Carman explained about the automatic renewal fee in the amount of \$99.99 for the virus protection software on the SLAS laptop. Rodger Fry presented a motion that we pay that amount for the next two-year subscription and that the automatic renewal be terminated for future years. Joe Bauman seconded the motion and the vote was unanimous. Joan also talked about the Salt Lake Library system loaner telescope purchase and said that she was ready to go ahead with the purchase. Rodger Fry verified that we have received via PayPal payment in the amount of \$2,600 for eight telescopes. Rodger Fry added that with this fund and what we already have in the account, we have \$4,162 which is enough for 12 telescopes. Joan said she would get these ordered and that they will be assembled at the Lutheran church when the material arrives. Joe Bauman said that we should try and get Athan Balamis to attend a general meeting and give him recognition for the Eagle Scout project he did in placing telescopes in the Library system. He will be contacted to have him attend our general meeting for this purpose.

Rodger Fry asked if we had the Golden Corral lined up for the Solstice party the first Saturday in December and Dave Bernson said we do.

A discussion was held about the upcoming election and Dave Bernson said he would inform Shoshana Ebertz that candidates could place their bios in the NOVA. He was also going to contact her about getting the minutes from the August general meeting posted on the web site.

New Business

Rodger Fry offered a toast to the Cassini probe destined to die this Friday, September 15, 2017. We also held 10-seconds of silence for "Cassini".

Checks were written to Rodger Fry (2 checks), Luke Moses and Joan Carman

Meeting Adjourned: 8:22PM

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SLAS General Meeting Minutes

Date: September 20, 2017 7:30 p.m. Meeting called to Order
Location: Room 207 Calvin Rampton Technology Building at Salt Lake Community College
Attendance: 49 members and guests

Board Members present were: Dave Bernson, Joe Bauman, Nate Goodman, Aleta Cox and Rodger Fry

Joan Carman read a letter from the Salt Lake County Library system which expressed the overwhelming success of the loaner telescope program. She also explained the purchase and build of up to 12 more telescopes for the library system which includes eight that were paid for by the Salt Lake County Library

Nate Goodman thanked all involved with the solar party two weeks ago and also thanked all those who have offered support in staffing the telescopes at SPOC for the public star parties. He indicated that in October we will have no star parties at Harmons or Wheeler Farm and so we will have star parties at SPOC on both Friday and Saturday nights on both the first and third quarter moons.

Joe Bauman

Joe Bauman reported on the 2018 Board member candidates which include:

President	Dave Bernson
Vice President	Joe Bauman, Leslie Fowler
Board Members at Large	Nate Goodman, Jim Keane, Steve Foster, Luke Moses
Secretary Treasurer	Denise Larsen

Joe also indicated to members that they would be able to vote on line as in years past.

Joe discussed the opportunity that SLAS members have to use the U of U telescope for imaging via remote access at the U of U campus. He indicated that he would like five or six volunteers to be on a committee to select imaging targets and dates to have the imaging done.

Aleta Cox announced that the star party scheduled for tomorrow night has been cancelled because of the predicted weather. She said the next star party is next Tuesday, September 26th, at the Blackridge Elementary School in Herriman. Following that, the last school party for the season will be on Monday, October 9th at the Channing Hall Elementary School in Draper.

Rodger Fry said that we have a special star party for the major donors to the Kolob Building project. The weather forecast doesn't look promising but we will hold this star party if possible. Rodger also announced that we will have a work project scheduled if we have a couple of warmer days that will allow us to put Thompson's Water Seal on the exterior flat concrete that was poured this spring.

Dave Bernson then turned the meeting over to those who wished to share with the attendees their experience at observing the total eclipse on August 21st. Nineteen members stood before the meeting and shared their eclipse experience and where they observed the eclipse from.

Dave Bernson asked for three volunteers to form the 2018 board member election committee and three volunteered as follows:

Joan Carman- Chairperson
Eric Sorensen
Ann Sorensen

The meeting was adjourned at 9:00 p.m. and dismissed to Advanced Training.

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MINUTES OF THE SALT LAKE ASTRONOMICAL SOCIETY BOARD MEETING

October 11, 2017

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

General members in attendance: Patrick Wiggins and Joan Carman

Meeting called to order: 7:00 PM

Board Member Reports:

Aleta Cox

Aleta said that we had our last two school star parties for the season. The first of which was at Blackridge Elementary School on September 26, 2017 where we had 20 telescopes present and good participation from the students and their families. They made a \$200 donation to our club for our efforts. The last school star party was at Channing Hall charter school in Draper. We had 8 telescopes present and very good attendance from the students and their families.

Nate Goodman

Nate Goodman said they had a successful solar party last Saturday with eight solar telescopes present. The sky was clear but there was a brisk wind that hampered viewing somewhat. Good attendance from the public was noted. SLAS is planning on hosting winter solar star parties on clear Saturday afternoons at the Utah Natural History Museum and Dave Bernson will ask the members next week as to when we should start. They will probably start in December. Nate said that he has found good support in getting volunteers to man the telescopes at SPOC and the next two weeks we have back to back star parties both on Friday and Saturday nights. He is still working on getting support on October 18th and 19th.

Joe Bauman

Joe Bauman reported that next week BYU is hosting an event with the American Astronomical Society and we are invited to participate. The event registration is \$500 but if our members bring a telescope to the star party they will reduce this to \$50 and if they volunteer 10 hours it will be a free event. The activities continue all week. The star party is Wednesday night which conflicts with our general meeting.

Rodger Fry-Secretary/Treasurer

The secretary treasurer's report was given and can be found on the web site.

Rodger Fry-Observatory Director

Rodger Fry said he hosted an observatory tour for a deaf school on Wednesday October 4th and had 28 students and 4 faculty at the event. He showed them the telescopes on site and explained the difference between a refractor and a reflector telescope. He opened the Bogden Refractor and installed the rejection filter and DayStar and allowed the students to look at the Sun through the telescope. He then gave a PowerPoint presentation on "The Size of the Universe" in the Kolob Observatory Building. This was a big hit.

Dave Bernson

Dave said that on October 18th and 19th there is the Heritage Festival Star Party at Capitol Reef near Torrey, Utah. He explained about events that have transpired in past years with our involvement. He asked the board for approval to give away 4 copies each of "The Stars" and "Night Watch" and this was unanimously approved. He noted that Torrey has been given a Gold Star Rating from the Dark Sky Association for efforts they have done to limit light pollution in their community.

New Business

Patrick Wiggins noted that we haven't renewed our sponsorship to the Clear Sky Clock. A motion was presented by Rodger Fry to do this and Aleta Cox seconded the motion. The vote was unanimous. Patrick said that he would take care of renewing our sponsorship in that Rodger Fry was going to be out of town for the next two weeks.

Joe Bauman reported that he is still working with Paul Ricketts with the University of Utah and the Eccles Telescope and they are trying to firm up a date for more imaging probably on a Monday night but possibly on a Friday or Saturday. Paul Ricketts has made one more trip to the site and installed new color filters on the telescope and Paul Ricketts imaged M-57 with impressive results.

Old Business

No old business just old people

A check was written to Joan Carman in the amount of \$3,979.68 for expenses incurred in purchasing the Library Loaner Telescopes

Meeting Adjourned: 7:44PM

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Minutes of the Salt Lake Astronomical Society
General Meeting October 18, 2017
 (Minutes taken and submitted by Aleta Cox, substituting for Rodger Fry)

Prior to the beginning of the meeting, ballots were available to those members who had not voted online for club officers. Polling was closed at 7:30 p.m.

Meeting Called to Order at 7:30 p.m. by Joe Bauman, Vice President
 Board Members Present: Joe Bauman, Aleta Cox, Nate Goodman. Dave Bernson was absent due to an illness.
 Rodger Fry was out of town.

Joe asked visitors or anyone attending for the first time to stand and introduce themselves. Jim Fenton stood and introduced himself, saying that he had just joined the club today.

Joe turned a few minutes over to Board Members-at-Large for announcements:

Nate Goodman thanked SPOC star party supporters and all who volunteered to run telescopes. He also announced that we will be having Solar Viewing Parties at the Utah Natural History Museum on the deck, probably beginning in December. Siegfried Jachmann asked about the International Observe the Moon Night and Nate explained that Rodger had put it on the Schedule for the October 28 (weather permitting) and he, Nate, would send out a SLAS Blast about it soon to get telescope operators for SPOC.

Aleta Cox also expressed gratitude and thanks to all who came and helped at the School and Special Star Parties. She appreciates all the support that everyone gave this year.

Aleta Cox then switched hats to the ALCOR position and presented Enid Norton with an Astronomical League Observing Program Certificate. Enid has completed the "Beyond Polaris" program and had received the certificate in the mail. We presented it to her 'officially' at the club meeting. **CONGRATULATIONS ENID!**

Joan Carman introduced Trish Call from the Magna Library who spoke briefly about the success of the Library Loaner Program and how excited people were to check out the telescopes. The program is working very well and scopes are coming back in good shape with nothing missing. In 15 months they have had 272 people check out their telescopes. There is a waiting list of about 70 people at any one time. Trish presented a framed certificate to SLAS in appreciation of the program.

Joe turned time over to **Dr. Jonathan Barnes** who presented 'The Colors of the Stars' including explaining how stars get their color, and how the color tells us what is happening in the life of that star. He spoke about spectral light composition of surfaces of the stars based on spectroscopy. He explained about the Hertsprung-Russell Diagram and showed examples of how it functions. It was an excellent presentation.

2018 Club Officer Election Results were announced by Joan Carman, chair of the Election Committee. Congratulations to all our new officers for next year!

President: Dave Bernson (unopposed)

Vice President: Joe Bauman*

*The vote was a tie between the candidates Joe Bauman and Leslie Fowler. The winner was decided by a coin toss. Leslie told Joe to call the toss. Joe called 'Tails' and when the coin landed, it was tails, so Joe is the victor.

Secretary/Treasurer: Denise Larsen (unopposed)

Board Members at Large: Nate Goodman, Jim Keane

Meeting Adjourned to Advanced Training at 9:02 p.m.

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WHAT A GREAT YEAR WE HAD!!!

October 31, 2017

Today marks the end of yet another great stargazing season at SPOC. This was a very good and challenging year with the construction and completion of the Kolob Observatory Building and a busy viewing season. Everyone who helped in making this a great season can be proud of what we have accomplished this year. The members of the Salt Lake Astronomical Society gave generously of their funds and time to make this new facility what it is today.

The word has gotten out in the community about the Clements telescope at SPOC and as a result, we have had a level of visitors never experienced in years past. Because of this we needed more volunteers to help with crowd control and helping direct visitors waiting to look through this big telescope.

Today, Bruce Grim, Patrick Wiggins and I winterized the SPOC facility and removed any equipment that would be adversely affected by the cold temperatures to an off-site location. The combinations on the locks to the buildings have been changed preventing access during the winter months. Mike Clements has indicated that he would like to view through the Clements Telescope during the winter and I am certain that he would welcome company when he is there.

Again, thanks for helping make the 2017 viewing season a great success.

Rodger C. Fry Observatory Director

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From the Editor:

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

Thank you for your support of the SLAS Newsletter, NOVA

Warmly, Shoshana Ebertz, Editor
ebertz@comcast.net

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
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Astronomical League Contact

Equipment Manager	Moses, Luke	970.376.2529	luke.moses1@gmail.com
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Newsletter Editor	Shoshana Ebertz	801.884.7522	ebertz@comcast.net

Observatory Director

Observatory Director	Rodger Fry	801.288.0851	rcfry@comcast.net
Private Star Party Coordinator	Don Colton	801.571.9757	dcoltonsprint@earthlink.net
Solar Scope Manager	Ken Porras	801.210.8427	kennethprrs@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
Member through JAN 2018	Rodger Fry	801.288.0851	rcfry@comcast.net
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	kennethprrs@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		

Current SPOC Telescope Instructors

Mike Andersen	Ealing	801.910.0997	fisherman285mike@gmail.com
Dave Bernson	Refractor, Ealing, Grim	801.263.9264	dustynebula@gmail.com
Rodger Fry	Refractor, Ealing, Grim	801.288.0851	rcfry@comcast.net
Bill Kennedy	Refractor, Ealing	801.964.6199	truss_tube@hotmail.com
Patrick Wiggins	Refractor	435.882.1209	4099wiggins@gmail.com
Dale Wilson	Grim	801.518.7859	dalel2112@yahoo.com
Mike Wilson	Ealing	801.508.1050	astro_outwest@yahoo.com

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

Events Calendar

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

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

CALENDAR

11/8/2017	<u>Board Meeting</u>	Denny's Restaurant, 250 W. 500 South SLCC Redwood Campus, (App. 4600 s. Redwood Road.) Calvin L Rampton Building
11/15/2017	<u>General Meeting</u>	Members will need to log into SLAS website And view the events calendar.
12/2/17	<u>Solstice Party</u>	
12/13/2017	<u>Board Meeting</u>	Denny's Restaurant, 250 W. 500 South

Clear Skies!

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