



The President's Corner

mail to: president@saguaroastro.org

I like a challenge. A challenge gets your brain cells stimulated, perhaps it even delays senility. If this is the case, then Rick Rotramel's "Call for **Best of the NGC** images, notes and sketches" in the SAC newsletter is good for your mental health. If it doesn't drive you insane.

Rick asked for images of the planetary nebula, NGC 6210.

I just got the optical set up on my Meade 10-inch SCT to produce reasonable images (thanks Brew). Moreover, I got PHD with my Orion Star Shooter to work with my Celestron CGX mount (mostly, I don't think these gizmos like each other). I got my telescope to take 10 minute exposures without my region of interest walking off into the nether lands. Flushed with excitement I thought I would take a image of NGC6210 (and NGC6960, the image for July). I would use an ISO of less than 12800 (actually I use 1600 or 3200) for more than 30 seconds. I tried ISO's of 800, 400, and 200 for 3 to 10 minutes. ALL I GOT WAS A FUZZY BLUE BALL! It looked more like a slightly out of focus star.

Man, that thing is small! I couldn't resolve any nebulosity. I wasn't sure I was looking at the correct spot. So I checked the alignment of the scope and the celestial coordinates, all was as it should be. I was looking at it! I came to the conclusion that the problem was the skill of the observer.

I turned my attention to the nebula NGC 6960. At first and for several tries all I saw was a bright star. Back to ISO 12800 for 30 seconds and there it was, a very, very, very faint nebula with a big star in the middle of it. What ISO and for how long should I expose it without that star looking like an image of the Sun. I was running out of dark sky so

I'll save this image for another day.

What I like, as frustrating as it sometimes, is that many of the images Rick asks for are a challenge for the astro imager, especially novices such as myself. Rick has to take some thought in producing our newsletter. Thanks Rick.

Clear skies,

David



SAC President, David Dillmore at the Thunderbird Park Spring Public Star Party
Photo: Rick Rotramel

Website: saguaroastro.org Like SAC on Facebook



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©2018, By Former SAC President Fred Tietra

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Header image © 2000-2013 Stellarium Developers
Scorpius setting in the southwest.

Quick Calendar

Friday, June 14: **SAC General Meeting**, 7:30 PM, Speaker: Jennifer Patience, ASU, School of Earth and Space Exploration, Topic: TBA
Saturday, June 22-29: **Grand Canyon Star Party, North Rim**, see page 2
Saturday, June 29: **Star Party**, at the Stoneman Lake Site, weather permitting, see page 2
Friday, July 12: **SAC General Meeting**, 7:30 PM, Speaker: Jim Renn, Vatican Observatory Foundation Ambassador, Topic: "The Vatican Observatory and the Big Bang"
Saturday, July 27: **Star Party**, at the Stoneman Lake Site, weather permitting, see page 2
Friday, August 9: **SAC Board Meeting**, 6:30 PM, in room near SAC general meeting room
Friday, August 9: **SAC General Meeting**, 7:30 PM, Speaker & Topic: TBA
Saturday, August 31 **Star Party**, at the Stoneman Lake Site, weather permitting, see page 2



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Editor Notes



Hi Folks,

Ever wondered how the Saguaro Astronomy Club got it's start? Check out the story written by an early member, Fred Tretta, who became the President of this new club, in the *SAC History* feature in this issue.

The position of SAC Vice President is vacant and needs to be filled, see the duties in *Bits & Pisces*. (President David Dillmore has done a fine job finding speakers for the meetings.)

Best of the NGC features this month, NGC 6210, a planetary nebula in Hercules.

Such-A-Deal has five, long running ads.

Bits & Pisces has the minutes of the May SAC Board and General Meetings and some SAC history.

The *SAC Observing* feature has sky info for June, courtesy of Guy Ottewell.

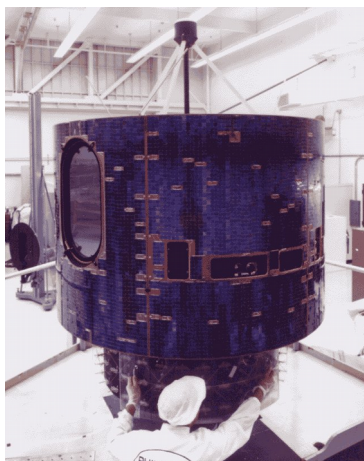
SAC Outreach has a report by Coordinator, Jack Jones, of the Spring Thunderbird Park Public Star Party. Cloudy weather put a damper on the party. But Jack reports that for the ones that showed up, had a good time.

Enjoy,

Rick Rotramel, Editor

Spaceflight Trivia

Can you name the mission involved in this picture below? ([See answer on page 5](#))



NASA

Schedule of Events 2019

SAC General Meetings

Jan 25	Feb 22 plus Board Meeting	Mar 22	Apr 12
May 10 plus Board Meeting	June 14	July 12	Aug 9 plus Board Meeting
Sept 13	Oct 11	Nov 8 plus Board Meeting	Dec ? Holiday Party

Meetings held at Grand Canyon University
3300 W. Camelback Rd. Phoenix, AZ
Engineering Building 1-202, 7:30 to 10:00 PM

ATMAstro Imaging Meetings

No meetings in the summer. Next meeting:
Tuesday, September 10th, 6:30 PM @ Paul Lind's Shop
210 W. Tierra Buena Lane, Phoenix, AZ

Star Party, Stoneman Lake Site

Saturday, June 29th, Sunser * Weather permitting
<http://saguaroastro.org/stoneman-lake-directions/>

Outreach:

Grand Canyon Star Party, North Rim

Saturday to Saturday, June 22 - 29, 2019
Self-Lodger reservations open 8/1/18 - 12/31/18
Camping reservations open 1/1/19 - 3/1/19
More info: <http://saguaroastro.org/grand-canyon-star-party/>

2019 SAC Officers

President: David Dillmore



Vice President: TBD

Treasurer: Paul Dickson



Secretary: Kevin Kozel



Properties Director & Webmaster: Robert Brewington
Photos: Susan Trask (3) and Rick Rotramel (1, of Kevin Kozel)



SAC Announcement

SAC Members:

Have you renewed for 2019?

Use the form on the last page of this issue or on the SAC website.

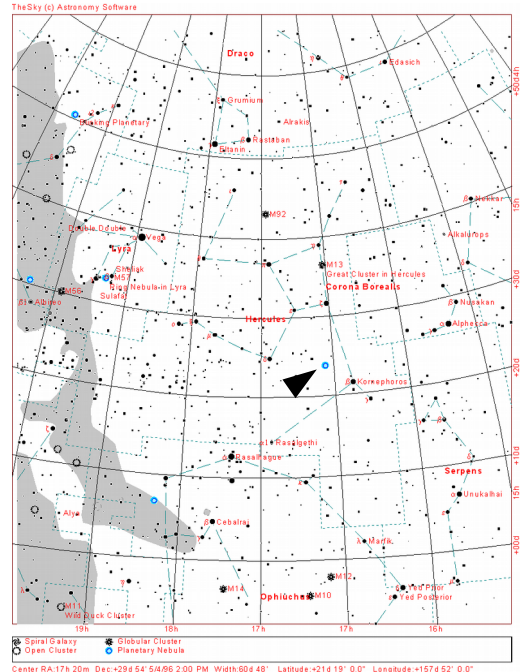
Best of the NGC:

NGC 6210, Planetary Nebula in Hercules

By SAC Imagers, Observers & Sketchers



Image by David Dillmore: Image as taken on 6-3-2019 with a 10-inch Meade LX200 SCT with 6.3 Focal reducer and no filters. Exposure was ISO800 for 30 seconds (single image). Processed with Corel Paint Shop Pro and Microsoft Digital Image Pro. Image is a mosaic, the nebula was processed separately from rest of image. I darkened and sharpened it while stretching the background. I added the zoom-in enlargement to show what details I could capture.

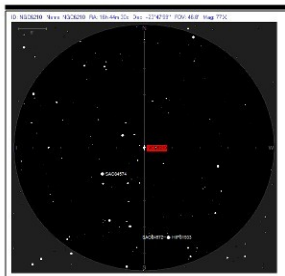


Hercules Star Chart

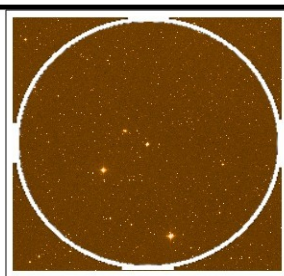
Observing Chart
D. M. Douglass - Tempe, AZ 05/2011

NGC 6210

Observed and Imaged
Date: Oct 23, 2011
Site: Snowflake, AZ



Astro Planner 46 Arc Min
Eyepiece Projection



ESO Palomar Sky Survey
46 Arc Min Projection

Type: Plan Neb
R.A. 16:44:30
Dec 23:49
Magnitude: 9.0
Size: 0.2 Arc Min
Distance: n/a Light Years

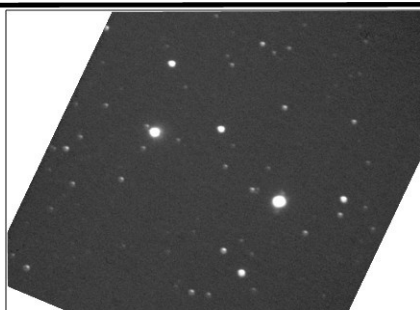
Observing Programs:
EVAC 200

Constellation: Hercules

Telescope:
LX200 rGPS 8" SCT
26 mm - 60 Degree Eye Piece
.78 Deg FOV or 46 Arc Min
Mag (eye piece): (2000/26) 77
Mag (DSI 3): (2000/11) 182



ESO Palomar Sky Survey
20 Arc Min (DSI) Projection



Final DSI-3 Image
Approx 14 x 18 Arc Min

Sky Brightness
Mags / sq ArcSec (v)
21.7 or
Bortle Scale: 3

Estimated Seeing
(Ursa Min) 6.6

Weather:
Temps.. 50
Wind.. Calm
Clouds.. None

David Douglass

Continued on next page...



Best of the NGC:

NGC 6210, Planetary Nebula in Hercules

By SAC Imagers, Observers & Sketchers

SAC Observer Steve Coe, 1949-2018

13" f/5.6, bright, pretty small, elongated, central star easy at 135X. Averted vision makes this planetary grow in apparent size. I have always seen this beautiful planetary as green, blue-green or aqua in whatever scope I was using. This nebula was discovered by F.G.W. Struve during his double star survey.

Dugas Rd: 6/10 seeing, 7/10 trans, good night, starting the "bright objects" project, just me and the 13". 100X - easily seen as non-stellar even at low power, about 3X the seeing disk, lovely blue-green color. 330X pretty bright, pretty small, bright middle, stellar nucleus, little elongated 1.2 X 1 in PA 90, grows with averted vision, color better at 100X, "washed out" grey at high power. 150X - nice blinking effect, averted vision makes it grow about twice its' size with direct vision.

Cherry Rd: S=7, T=8, 13" 150X - easy, bright, pretty large, central star seen 30% of time, lovely aqua color, beautiful. 330X - WOW, bright, large, central star 70% of time, color still blue-green, little elongated 1.5X1 in PA 75, great view at high power.

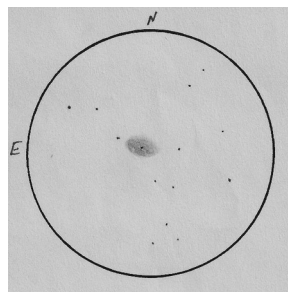
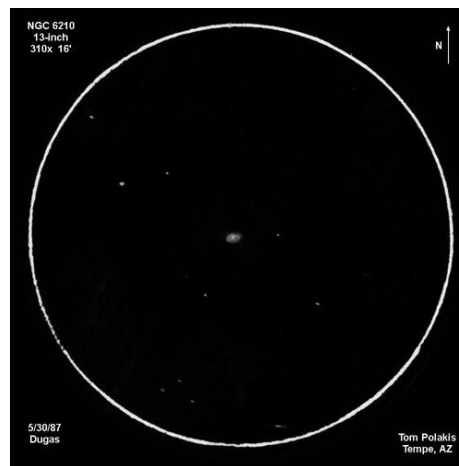
Camp 613: S=8, T=10, 13" 100X - seen as disk approx 5 times seeing disk and GREEN, unmistakably Kelly Green, pretty bright, small, central star seen 20% of time. 220X - little elongated 1.5X1 in PA 135, central star held steady with direct vision. 330X - Averted vision somewhat dilutes the color to grey-green, but it shows a faint outer shell that extends from the PN in all directions. I observed a nearby star of equal magnitude and it did not show this faint shell, so it is a feature of the planetary.

takes magnification well and at 300X, the outer halo is larger, but still no central star seen. Steve Coe sees this as green, he has always seen this PN as green. At 230X, very small, pretty bright and round with a large much brighter middle; with averted vision it is larger and has a large very suddenly much brighter middle.

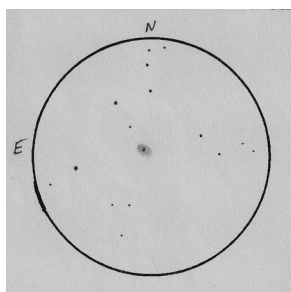
14.5" f5.2 Dobsonian at 90X, it is almost stellar. At 140X, small, round, bright and bluish; the UHC makes it a little brighter but does not decrease visibility of other field stars. At 220X, pretty bright, little elongated in unmeasured position angle. With the UHC filter and averted vision there appears to be a small nice halo.

SAC Observer Tom Polakis

13-inch, 25" x 15" disc with a sharp edge, central star easily seen despite brightness of disc, blue color best seen at low magnification.



13" f/5.6, 330x



17" f/4.5, 130x

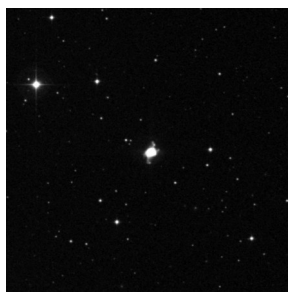
SAC Observer AJ Crayon

8" f/6, Newtonian, at 160X, it is small, round, bright, uniformly illuminated and blue, central star not seen. At 200X, it is 5", 11th mag, with a 4" much brighter middle. It is still very blue.

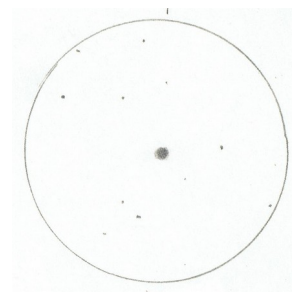
8" f/10 SCT at 145X, small, bright, round and is 15" and 10th mag. It has a distinct blue color. At 220X with UHC, nice contrasty view, small, bright, blue planetary nebula that is round with a small halo on the outside. The central star was not visible. The, very bright, PN

SAC Observer Rick Rotramel

16" f/4.4, Newtonian, 375x, Bright, pretty small, slightly oval, bright throughout, fades at the edge, bluish.



10' x 10'



16" f/4.4, 375x

Call for *Best of the NGC* images, notes and sketches.

Hello SAC imagers, observers & sketchers:

For **June**, NGC 6210 Planetary nebula, 16 44.5 +23 49, 9.7, mag, 20"x13" bluish, in HERCULES.

For submitting images, send your file as an attachment in an email to the editor. Please send caption details of the image: Optics, camera, main software used, exposure, location and date taken.

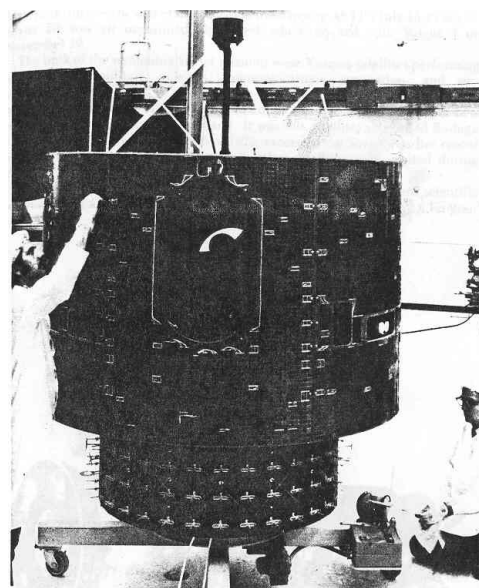
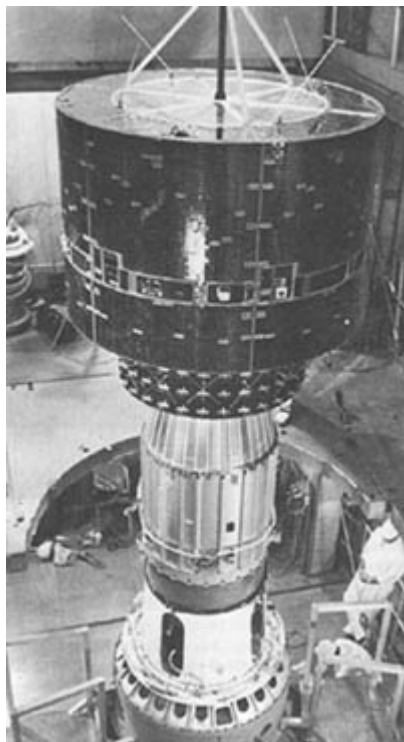
Observation notes are sent in the email text area or as an attached file.

For scanned sketches, send a file with caption details: optics and eyepiece power used.

Email to: r.rotramel@cox.net

For **July**, NGC 6960, Emission Nebula, 20 45.6, +30 43, 70x6, The Veil Nebula, west half, in Cygnus.

For **August**, NGC 7129, Reflection Nebula, 21 41, +66 06, 11.5 mag, 7 x 7, faint reflection nebula in Cepheus,



SMS-2 — The second in a series of weather satellites. (NASA photo)

Spaceflight Trivia Answer

SMS-1 (Synchronous Meteorological Satellite)

Description: 1st flight unit of the SMS program.
Main mission: Operational Meteorology. Substantial contribution to Space weather.
Mass at launch: 627 kg Dry mass: 293 kg
Data access information: Data available in real-time to NOAA and re-distributed in near-real-time.
Orbit: Geostationary orbit
Altitude: 35786 km
Longitude: 75° W
Space agency: NASA, NOAA
Status: Inactive
Details on Status: Initially placed at 45°W, it was moved to 75°W in 1975; to 105°W in 1976-1978; to 91°W in 1978; to 75°W in 1979; to 70°W in 1979; to 132°W in 1980.
Launch: 17 May 1974
End of Life: 21 Jan 1981
Rocket: Delta 2914
Science Instruments:
Acronym Full name
SEM/MAG SEM / Magnetometer
VISSR Visible-Infrared Spin Scan Radiometer
SEM/EPS SEM / Energetic Particles Sensor
SEM/HEPADSEM / High Energy Proton and Alpha Particles Detector
SEM/XRS-EUV SEM / X-Ray Sensor - Extreme Ultra-Violet Sensor
DCIS Data Collection and Interrogation Service

SMS-1 was launched May 17, 1974 and SMS-2 was launched February 6, 1975. Both satellites were carried to orbit by Delta 2914 rockets. The program was initiated after the successes achieved by the Applications Technology Satellite (ATS) research satellites, which demonstrated the feasibility of using satellites in geosynchronous orbit for meteorology. The Geostationary Operational Environmental Satellite (GOES) program, which now supports weather forecasting, severe storm tracking, and meteorology research in the United States, followed immediately after the SMS program; the GOES 1 satellite was initially designated SMS-C. SMS-1 and SMS-2; and GOES-1, GOES-2, and GOES-3; were essentially identical.

Such-A-Deal

ITEMS FOR SALE

MEADE ETX-90EC 90mm Maksutov Telescope

- Includes the following:
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 - #07427/#825 8 x 25mm Right Angle Viewfinder
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 - Eyepieces:
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 - Meade remote controller
 - #880 Table Tripod for Polar Alignment of the ETX-90EC Astro Telescope
 - Manual
 - Compass
 - Carrying Case
 - Allen wrenches



- Selling on behalf of a friend, Asking \$350.00 For all.
- Contact Rick Tejera: 623-203-4121
- Email: Saguaroastro@cox.net

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Telescope: 16-inch f/4.5 Enterprise Optics mirror, excellent figure and performance.

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- Protective box for primary mirror.

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Contact me to schedule a visit in Gold Canyon.

Bob Buchheim

Email: oca_bob@yahoo.com

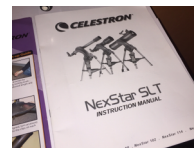
480-646-1324



Ads placed here are free to SAC members and friends. SAC is not responsible for the quality of the advertised items. If you wish to place an ad here to sell your telescope or astronomy related items, contact Rick Rotramel at: r.rotramel@cox.net

Celestron Nexstar 130 SLT

- Celestron Skyportal wifi module
 - Orion Lasermate Collimator
 - Celestron 2" Universal Digital Camera Adapter
 - Meade 2X Barlow Lens
 - 25mm & 9mm Eyepieces
 - Nikon adapter ring
 - Moon filter
 - Original manuals and start up guides
 - Original investment: over \$600
- Asking for all items: \$375.00
- Steve Scott, 602-502-4955
- Mailto:steve@equitysigngroup.com



For Sale

Orion Maksutov-Cassegrain Telescope - 127mm 5in

\$300.00

602-240-5421 or 602-499-9910

Sky-Watcher Star Adventurer Mini (Black)

I have too many toys and am selling my Star Adventurer Mini. It includes all components, manual and box. It's fully functional and in 'Like New' condition. You can control the SAM from an Android or iOS device. Details can be found on the Sky-Watcher website below.

Does not include DEC Bracket or Wedge.

- <https://www.skywatch...adventurer-mini>
- <https://www.youtube....h?v=qVSmHghQxbQ>
- <https://www.youtube....h?v=e4ecJOceRjY>
- <https://www.peterzel...rer-mini-course>



Cost new is \$299. I am asking \$180.

Jim Waters: jimwaters@cox.net



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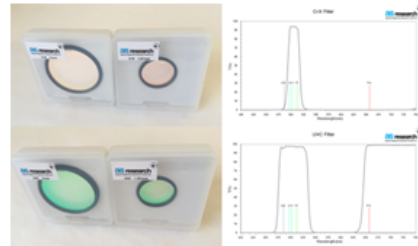
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The HyperStar-equipped ISERV telescope is now installed on the ISS!

The HyperStar-equipped Celestron 9.25" telescope (and its backup) that is now installed on the ISS. The scope also features a Starizona MicroTouch Autofocuser. With the Starizona gang: Steve, Scott, Dean, and Donna. (Steve has since had to move to NY because he was dressing too much like Scott.)

Call Us: (520) 292-5010

<http://starizona.com/acb/index.aspx>
dean@starizona.com

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Bits & Pisces

Minutes of the May 10, 2019 SAC Board Meeting By Kevin Kozel, SAC Secretary

President David Dillmore called the meeting to order at 6:30 pm and announced that the June star party will be at the Stoneman Lake site the weekend of June 2nd. Come any time you like and observe with your fellow astronomers. Please check the online observing list for details.

Jack Jones told the board that he still has ten t-shirts left from the Messier Marathon. He will let the members know

at the General Club meeting later this evening. He has sizes from medium to XXL.

Ted Blank from the Fountain Hills Astronomy Club will be giving a talk tonight at the meeting.

No other business was discussed at the Board meeting and we adjourned at 7:23 pm.

Minutes of the May 10, 2019 SAC General Meeting By Kevin Kozel, SAC Secretary

President David Dillmore called the meeting to order at 7:40 pm and asked for visitors or new members. John Kanar is a returning member from over ten years ago and is returning to the great hobby and passion of astronomy. Welcome back, John!

There are 28 members here tonight. David stated that the members who wish to join each other after the meeting will meet at the Denny's on 35th Avenue and Bethany Home Road.

David also mentioned that the June star party will be at the Stoneman Lake site the first weekend in June. Please check the online web chat lines for details. There will be folks up there observing the night sky. We all hope for clear skies!

Jack Jones told the club SAC will host the Thunderbird Park Public Star Party tomorrow evening May 11, 2019 at the Thunderbird Conservation Park on north 67th Avenue from 6pm to 9pm. Bring your scopes and clean your eyepieces after the public star party to remove any eye makeup or fingerprints.

Jack Jones told the Club that we broke even on Marathon t-shirt sales and he still has ten shirts left. All sizes are available.

Our Treasurer, Paul Dickson, told the Club that there are 46 paid members to date. The Club needs to have 60 or more paid members to keep us financially healthy. Please see Paul and pay your dues as soon as you can. The PayPal link is currently being established for members to pay online at the SAC website. This may help with timely membership payments. Please try it.

Rob Brewington told the Club that he hosted an outreach for some Casa Grande high school seniors at his observatory last month. There were six students attending and our speaker from last month also, Maitrayee Bose, from ASU. Brew also showed us his photos processed with PixInsight. They are great! Brew taught Physics and Chemistry to high school students in the 1990's.

Jack also told the Club that Cory Corvath found a meteorite in his front yard on July 26, 2018. It was about two inches across. Lawrence Garvey from ASU and Ruben Garcia were called to his home and investigated the find. The fall zone is in the northwest valley and there may still be fragments in the area. This find is part of event 2624 in the ASU catalog.

Kevin Kozel brought his tiny telescope to the meeting and showed the members what he build from spare parts and a \$20 investment in 4" ABS plastic pipe and some hardware. The scope has a 3" primary mirror with a 76mm focal length. He mounted the scope on a camera tripod. Please see the photo at right.



Right: Kevin Kozel's "Tiny Telescope"
Photo: Kevin Kozel

Bob Buchheim and Woody Sims told the Club how they observed and analyzed a bright object in M51. There was a supernova like object in M51, and they used various methods to measure the luminosity and magnitude of the object. This took lots of time and effort to get the extensive data they collected. Thanks guys! This is very good science.

Our guest speaker tonight was Ted Blank from the Fountain Hills Astronomy Club. Ted told us of his very own 'Ted's Top Ten' astronomy topics for 2018. Ted's ten items are form ten to one are:

10. The *Mars Rover Opportunity* which lasted much longer than the planned 90 days! 14 years on a 26-mile journey on Mars' surface.
9. *Osiris Rex* to asteroid *Bennu*.
8. *InSight Mars Lander* which recently landed.
7. The testing for the 2020 Mars lander parachute.
6. *TESS* launch for replacing the *Kepler* probe.
5. *Haya Hayabusa* probe touch and go on the asteroid.
4. The Docking of *Space X* to the *ISS*. First time docking for *Space X*.
3. The *LIGO* an *VIRGO* gravity detectors and their discovery of gravity waves.
2. *Voyagers 1 and 2*. They are still making news after leaving the Solar System.
1. *New Horizons* flight past Pluto to *MU 69, Ultima Thulie*. Ted was on the team that went to Argentina to observe the occultation of a background star by *MU69*. They brought back very good data to help lock down the orbit of *MU69*.

Many Thanks to Ted Blank for the very good talk he had for us.

Before the end of the meeting the 50/50 raffle was held and the winner received \$15.00.

The meeting was adjourned at 9:50 pm.

The May SAC Meeting Speakers

Bob Buchheim & Woody Sims, SAC Members

Topic: "A Sudden Bright Object in the M51 Galaxy"

Ted Blank, Astronomy Enthusiast, Fountain Hills Astronomy Club, International Occultation Timing Association, (IOTA) & NASA/JPL Solar System Ambassador

Topic: "Top Ten Astronomy Events of 2018"



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Bits & Pisces

Reminder: Pay Your Dues for 2019!

New SAC Meeting Location:

Engineering Building 1-202
It is just north of the parking garage.

(Old room location, Building 33)

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- Other
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New Meeting Room

Parking Garage



Bits & Pisces

At the November 16, 2018 SAC Meeting:

Election of 2019 SAC Officers, Results

President: David Dillmore
Treasurer: Paul Dickson
Secretary: Kevin Kozel

Position still open: Vice President

Duties Defined, From The SAC Constitution:

Article V: Form of Government, B. Administrative Officers—Tenure of Office and Elections, 7) Duties of the Board of Directors:

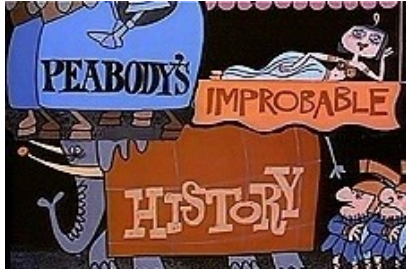
b) Duties of the Vice President shall be: The Vice President shall serve in the President's place in the event the President is absent or unable to serve for any reason. He will be in charge of club programs and both general club publicity and program publicity. He will be the one to whom other board members report the lines of communications between the President and the Board. He shall serve as chairman of the program and activities committee and shall in the execution of this duty, be responsible for coordinating and scheduling the following:

- (1) General business meetings and the program agenda;
- (2) Club activities such as star parties, etc.

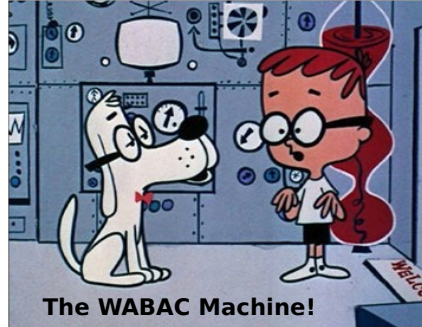




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© Peabody and Sherman, 'Rocky and Bullwinkle' Pictures



Where we going today Mr. Peabody?

25 Years Ago in SAC

Saguaro Astronomy Club

Metro Phoenix, Arizona

SACNEWS



August 1994 — Issue #211

Minutes of the June Meeting

The President gavelled the meeting to order at 7:35pm MST and made two announcements. First was the Show-and-Tell nature of the meeting and second; the Treasurer, Carol Lee, had resigned because her husband was accepting a position in San Jose, CA.

The Treasurer gave her last report, indicating our bank account was getting quite low. It was noted that current attendance was down to 88, as opposed to 110 at this time last year.

AJ Crayon announced the next Deep Sky meeting for July 28th and that the set of objects to discuss were in the newsletter.

Paul Lind made a pitch for a letter writing campaign to our esteemed and respective representatives in the US Congress to support funding of the United States Space Program.

The President opened nominations for replacing the Treasurer. No names were mentioned.

Susan Morse announced the speaker for our next meeting.

Rick Rotramel opened the Show-and-Tell portion of the meeting by showing slides from his visit to the Riverside Telescope Makers Conference. We are still trying to determine the light path through a Schiefspiegler. He also showed an 40" telescope that towered over everything — except mountains in the distance.

Steve Coe gave a plug for a very nice publication named Clear Skies. It comes out of California and is a very good value at \$15.00 per year.

Rick Walker showed slides from his eclipse tours. One Lunar eclipse in November viewed from Buckeye and one Solar in May viewed from somewhere in New Mexico. His girls thoroughly enjoyed the outing.

The final Show-and-Teller, Paul Lind, discussed his completed 12 pound, 14" mirror. It was also on display for all to see. It is scheduled to be Dobsonian mounted.

A Board of Directors meeting was announced that followed the meeting.

—A. J. Crayon, SAC Secretary

10 Years Ago in SAC

Saguaro Astronomy Club



SACnews

Volume 33 Issue 7

August 2009

VOLUME 33 ISSUE 7

SACNEWS

PAGE 9

Bits & Pisces, Minutes of the June 5th, 2009 General Meeting by AJ Crayon, Secretary



Upon opening the meeting, our President Dick Harshaw, asked for first time introductions. Among the 4 that introduced themselves was the EVAC President Dave Douglass. A head count turned up 53 folks.

Gene Lucas showed some slides from his visit to RTMC.

Rick Rotramel gave his excellent annual slide presentation from the 41st RTMC. He also told us that RTMC has announced that future meetings would be held on the new moon weekend in May instead of Memorial Day weekend.

Charlie Whiting gave a treasurer's report. We are financially sound at this point with \$4375 in the bank. He reminded us that there are several member's whose 2009 dues has not yet been renewed and are subject to being dropped from membership.

David Douglass, did I mention he is president of EVAC, invited us to their next meeting on June 19th at the Southeast Regional Library in Gilbert. Check their web site at <http://www.eastvalleyastronomy.org/> for directions. The speaker is Ted Dunham, well known astronomer from Lowell Observatory.

Steve Dodder noted the Novice Meeting at his observatory has been cancelled because of his attendance at the Grand Canyon Star Party – North Rim. He also indicated the 50/50 Raffle was open until after the break.

Steve Coe announced that, with all of his traveling, he will not be able to support the SAC databases and that AJ Crayon has agreed to take over this responsibility.

Rick Tejera announced and handed out the 2009 All Arizona Messier Marathon Awards. Dick Harshaw also thanked EVAC President Dave Douglass on his work to resolve the Arizona City / Farnsworth Ranch site usage situation.

After the break our Vice-President Chris Hanrahan introduced the evening speaker. He is Howard Israel, an EVAC member, and his topic was Mayan Astronomy. He cautions, should we be concerned about the coming of December 21, 2012?



SAC History

The Beginnings of the Saguaro Astronomy Club

© 2019 by former SAC President, Fred Tretta

I won't pretend to recall all the details of the SAC beginnings, but let me share what I DO recall.

Things started to form in 1976.

The dominant astronomy club in the Phoenix area at that time was the Phoenix Astronomical Society and it centered around lectures and meetings. A number of us had a far greater interest in using our telescopes to do some observing and attempted to stir up some PAS effort in that direction, but it didn't seem to get much traction. Interestingly, I can recall discussions amongst those of us that ended up leaving PAS about the different expectations one might have from a group that saw themselves as a society versus one that might consider itself more as a club. And I feel that difference really did have a bearing because I think deep down most people did see the title and functional difference between a society and a club as real, and tended to function accordingly.

In any case, the talk started to turn into action. I think the failed effort to try and create a section within PAS that was more associated with astronomical observing stimulated a rebellious attitude by those who wanted to go play with their scopes, that attitude pointed toward those who preferred to discuss things. The division became increasingly obvious as time went by. And because the observing ideas failed to get traction, we finally began meeting in parallel with PAS meetings, the emphasis being on getting out and using our telescopes. While others joined in shortly after we started to go out on our own, I think the earliest members were Gene Lucas, Pete Yurka, Bob Latterman, Lynn Blackburn, Kent Hepburn, Paul Maxson, Tom Muggleton, George Kohl, John Adair and myself.

Some scattered facts:

- The original membership, before there was even a membership, was seven people.
- We originally met at ASU but never really felt that was the right place for us. For a time, we met at members' homes.
- It was my assignment to find us a new place to meet. Why I talked to Grand Canyon College is no longer clear to me, but thank goodness we did. The Club has been there ever since.
- We were very closely associated with a downtown camera shop called Wilson Camera where much of our equipment and membership came from. At that time they were located around 2nd Ave and maybe Campbell?
- The name, Saguaro Astronomy Club, came out of a group séance and was put together a word at a time, first CLUB, then ASTRONOMY and lastly, SAGUARO.
- The logo was created either by Bob Latterman or Pete Yurka.
- Because I missed some meetings I was punished by being elected the first, second and 4th president. Slim pickings, I guess.

Fessler's Ranch

George Fessler worked for me at Honeywell and had both an interest in astronomy and some acreage slightly south of what is now Anthem. He was delighted to let us "claim" an acre of that land and so we busied ourselves clearing it of brush and leveling it. George let us run some power out there and we kind of set things up into pads. One of the guys knew of an old 14' trailer that we could have and so we moved that out to Fessler's, wired it up, and sunk it into the ground aways. It barely made it out there, but it became the club storage facility and our warming tent. There were times when there would be 15 or more people sitting on the floor in there warming up, drinking hot chocolate and telling stories. Outside, there were discussions about how to avoid getting beamed up.

RTMC

One of the very special attractions each year was RTMC, held at Big Bear Lake, CA. Back then, there were certainly as many built scopes as bought scopes. One year we teamed up with the Tucson club to go together. I called the Riverside Club that puts on RTMC and asked if they would allow us to take over one of the big second story rooms in the building over near that small lake which is now only one story. They agreed and what a ball we had that year! I still try to attend every year.



SAC Observing

Astronomical Calendar for June 2019

© 2018 by Guy Ottewell

The left column gives **Julian Dates** (number of days from 4713 B.C. Jan. 1 noon), useful for finding time spans between events by subtraction. The first 3 digits of the Julian date (245) are omitted.

Hours and minutes, where given, are in Universal Time.

Occasions such as "Moon 1.25° N.N.E. of Venus" are **appulses**: closest apparent approaches. They are slightly different from **conjunctions**, when one passes north of the other as measured in right ascension or in ecliptic longitude. A **quasi-conjunction** is an appulse without a conjunction, and typically happens when a planet is near its stationary moment.

For **meteor showers**: ZHR (zenithal hourly rate) is an estimate of the number to be seen under ideal conditions at the peak time if the radiant were overhead; actual rates may be very different. Peak times (predicted from where the center of the stream seems to cross Earth's orbit) are

uncertain; best to start watching the night before. Meteor are usually most abundant in the morning hours.

Tell me of errors you notice. They're inevitable, but more easily corrected here than in the former printed *Astronomical Calendars!*

universalworkshop.com/contact
This calendar may be subject to improvement. Come back to it!

Explanation of terms can be found in our glossary book *Albedo to Zodiac*. There is more about each topic in *The Astronomical Companion*. And events in this list can be traced in the large *Zodiac Wavy Chart* for the year. For all these, see

universalworkshop.com



8636.375	Jun	1 SAT	21	Moon 3.1° S.S.E. of Venus; 20° from the Sun in the morning sky
8637.042		2 SUN	13	Moon 7.9° S.S.E. of the Pleiades; 12° from the Sun in the morning sky
8637.729		3 Mon	6	Moon 2.27° N. of Aldebaran; 4° and 6° from the Sun in the morning sky
8637.918			10:02	New Moon ; beginning of lunation 1193
8638.015			12	Mercury at northernmost latitude from the ecliptic plane, 7.0°
8639.208		4 Tue	17	Moon 3.7° S. of Mercury; 17° and 16° from the Sun in the evening sky
8640.146		5 wed	16	Moon 1.60° S. of Mars; 29° from the Sun in the evening sky

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8640.372		21	Mercury at northernmost declination, 25.50°
8640.450		23	Moon at ascending node; longitude 107.9°
8640.896	6 Thu	10	Moon 6.2° S. of Pollux; 39° and 38° from the Sun in the evening sky
8641.5	7 Fri		Daytime Arietid meteors; ZHR 30; peak Jun 7 15; 3 days before First Quarter
8642.469		23:16	Moon at perigee; distance 57.78 Earth-radii
8643.396	8 SAT	22	Moon 3.0° N.N.E. of Regulus; 72° from the Sun in the evening sky
8643.5	9 SUN		whit Sunday
8643.688		5	Venus 5.1° S.S.E. of the Pleiades; 18° and 19° from the Sun in the morning sky; magnitudes -3.9 and 2.9
8644.750	10 Mon	5:59	First Quarter Moon
8645.138		15	Jupiter at opposition ; magnitude -2.6
8647.250	12 Wed	18	Moon 7.3° N.N.E. of Spica; 123° and 122° from the Sun in the evening sky
8647.899	13 Thu	10	The equation of time is 0.
8648.688	14 Fri	4:31	Earliest sunrise, at latitude 40° north
8650.688	16 SUN	5	Moon 7.8° N.N.E. of Antares; 166° and 164° from the Sun in the evening sky
8651.333		20	Moon 1.99° N.N.E. of Jupiter; 173° from the Sun in the midnight sky
8651.479		24	Venus 4.7° N. of Aldebaran; 16° and 17° from the Sun in the morning sky; magnitudes -3.9 and 0.9
8651.854	17 Mon	8:30	Full Moon
8653.271	18 Tue	19	Mercury 0.22° N.N.E. of Mars; 24° from the Sun in the evening sky; magnitudes 0.2 and 1.8
8653.577	19 Wed	2	Moon at descending node; longitude 287.6°
8653.688		5	Moon 0.56° S.E. of Saturn; 159° from the Sun in the morning sky
8654.063		14	Mercury 5.4° S.S.W. of Pollux; 25° and 26° from the Sun in the evening sky; magnitudes 0.3 and 1.2
8655.833	21 Fri	8	Mars 5.5° S. of Pollux; 24° from the Sun in the evening sky; magnitudes 1.8 and 1.2
8655.925		10	Neptune stationary in longitude; starts retrograde motion
8656.164		15:56	Sun enters the astrological sign Cancer, i.e. its longitude is 90°
8656.164		15:56	June or summer solstice
8656.492		24	Neptune stationary in right ascension; starts retrograde motion
8656.616	22 SAT	3	Sun enters Gemini, at longitude 90.43° on the ecliptic
8657.5	23 SUN		June Boötid meteors; ZHR 5; peak Jun 23 0; 2 days before Last Quarter
8657.821		8	Moon at apogee; distance 63.43 Earth-radii
8658.463		23	Mercury at easternmost elongation ; 25.2° from Sun in evening sky
8658.667	24 Mon	4	Moon 3.6° S.S.E. of Neptune; 104° from the Sun in the morning sky
8659.908	25 Tue	9:47	Last Quarter Moon
8661.420	26 Wed	22	Mercury at descending node through the ecliptic plane
8662.563	28 Fri	2	Moon 4.5° S.S.E. of Uranus; 60° from the Sun in the morning sky
8663.315		19:33	Latest sunset, at latitude 40° north
8664.438	29 SAT	23	Moon 7.9° S.S.E. of the Pleiades; 37° and 38° from the Sun in the morning sky
8665.125	30 SUN	15	Moon 2.25° N. of Aldebaran; 29° from the Sun in the morning sky

SAC Outreach

Spring Thunderbird Park Public Star Party

Report & Photos by Coordinator, Jack Jones

Thanks to everyone who turned out for the 42nd Thunderbird Conservation Park Public Spring Star Party Saturday, May 11, 2019! We had a great turnout, about 100 participants, even though the sky was almost totally clouded out the whole time. We still got oohs and aaahs, even with only an obscured blurry Moon in the sky.

The park ranger made his usual grand entrance, and let it be known the "in" gate would be locked after sundown. Anyone coming later is welcome to use the "out" gate to get "in," and of course, leave with no problem.

Thanks also to scopers Jennifer Polakis, the two Toms (P. and C.), Glenn Nishimoto, and Troy Gar, who came all the way from Apache Junction. Thanks also to Tom Curry for printing out the Club info sheets. We used them all!

Thanks also to those who supported us but couldn't make it. We will see you next time, Susan, Rheta, the two Ricks, Dave, and so many others who did behind-the-scenes work, we are very grateful. Your positive comments on our TCPP star party Facebook page (yes our public SP has its own Facebook page, check it out some time. It's independent of, but tied to and can be entered from our SAC Facebook page...) are most appreciated and go far in helping promote this event.

Hope to see you all next time!

Jack Jones
Public Events Coordinator
SAC
Phoenix, AZ



Continued next page...

SAC Outreach

Spring Thunderbird Park Public Star Party

Report & Photos by by Coordinator, Jack Jones





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2019 SAC Officers and Contacts

Board Members

President David Dillmore ([mail to:president@saguaroastro.org](mailto:president@saguaroastro.org))
 Vice-President Officer Position Vacant
 Treasurer Paul Dickson ([mail to:treasurer@saguaroastro.org](mailto:treasurer@saguaroastro.org))
 Secretary Kevin Kozel (<mailto:secretary@saguaroastro.org>)
 Properties Robert Brewington([mail to:properties@saguaroastro.org](mailto:properties@saguaroastro.org))

Non-board Positions

Novice Leader Steve Dodder ([mail to:fester00@hotmail.com](mailto:fester00@hotmail.com))
 Newsletter Rick Rotramel ([mail to:r.rotramel@cox.net](mailto:r.rotramel@cox.net))
 Webmaster Robert Brewington ([mail to:webmaster@saguaroastro.org](mailto:webmaster@saguaroastro.org))
 Public Events Jack Jones ([mail to:publicevents@saguaroastro.org](mailto:publicevents@saguaroastro.org))
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 Imaging Al Stiewing ([mail to:amst@cox.net](mailto:amst@cox.net))
 Deep Sky Kevin Kozel ([mail to:kevin.kozel@cox.net](mailto:kevin.kozel@cox.net))
 Public Outreach Tom Curry (canyonhiker2@cox.net)

Mail Address

SAC, 7720 N. 36th Ave, Phoenix, AZ 85051-6401

2019 Board Mtgs:

February 22, 6:30 pm
 May 10, 6:30 pm
 August 9, 6:30 pm
 November 8, 6:30 pm

Occultation Info

Wayne Thomas has asteroid occultation info for the greater Phoenix Area:

[Mail to:tomwaymas@gmail.com](mailto:tomwaymas@gmail.com)

Meeting Location: Grand Canyon University is located at 3300 W. Camelback Rd, Phoenix, AZ. We meet in Engineering Building 1-202, 7:30 to 10:00 PM.



Parking: Turn into the campus from Camelback Road at 33rd Ave. and drive straight and stop at the guard station. Tell the guard you are attending the astronomy club meeting. Then, drive into parking garage and park.

Saguaro Astronomy Club

Saguaro Astronomy Club (SAC), Phoenix, Arizona, was formed in 1977 to promote fellowship and the exchange of scientific information among its members-amateur astronomers. SAC meets monthly for both general meetings and star parties, and regularly conducts and supports public programs on astronomy. Membership is open to anyone with these interests.

Saguaro Skies is posted as a pdf file monthly on the SAC website,

www.saguaroastro.org/content/SACNEWS/newsindex.htm

for browsing or downloading for SAC members and friends of SAC. A email announcement of the monthly newsletter release is included with membership.

Direct all membership inquiries to the SAC Treasurer by using the membership form found in this newsletter. For editorial and SUCH-A-DEAL advertising inquiries, contact the Saguaro Skies Editor.

Contacting This Issue's Authors

If you wish to write to an author in this month's issue, contact them by sending your message to the editor of Saguaro Skies, Rick Rotramel, at: r.rotramel@cox.net

I will then forward your questions or comments to the author.

Saguaro Skies Staff

Editor: Rick Rotramel

Photographers: Tom Polakis, Michael Poppre, Rick Rotramel and Susan Trask

2013-2019 Contributors: Bob Christ, Mike Collins, AJ Crayon, Paul Dickson, David Dillmore, Steve Dodder, Richard Harshaw, Dean Ketelsen, Kevin Kozel, Joan McGue, Andrew Perry, Tom & Jennifer Polakis, Michael Poppre, Jimmy Ray, Rick Rotramel, SAC Imagers & Observers, Darrell Spencer & Rick Tejera.



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Saguaro Astronomy Club Membership Services

Membership -- Memberships are for the calendar year and are pro-rated for new members as follows:
Jan - Mar: 100%; Apr - Jun: 75%; Jul - Sep: 50%; Oct - Dec 25%.

- \$32.00 Individual Membership
- \$36.00 Family Membership



Please print all information legibly

Date: ___/___/___ For the year of: 20__

Name: _____

City: _____

State: _____

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Check here if this is updated information

Make check payable to: SAC

Please bring your completed form to a meeting or mail it with payment to:

SAC Treasurer
Paul Dickson
 7720 N. 36th Ave.
 Phoenix, AZ 85051-6401

Saguaro Astronomy Club

SAC on the Internet

*SAC has several email lists. To subscribe, simply send an email to the list address with **Subscribe** on the subject line.*

SAC-Announce@freelists.org - Sac Announce is a list used for club announcements. Traffic is usually less than six messages per month.

SAC-Forum@freelists.org - SAC Forum is a general discussion list for members to discuss the club or astronomy in general.

SAC-Board@freelists.org - SAC Board is a list for discussions of club business. If you'd like to see how the club is being run, this is the list for you.

AZ-Observing@freelists.org - AZ-Observing is not a SAC list, but many members participate. This is the list for discussions on observing around the state.

Please download the PDF version of the monthly newsletter from our website. When the newsletter is published a message will be sent to the email address provided above containing a URL to the current newsletter.

<http://saguaroastro.org/newsletter/>