

Saguaro Astronomy Club



SACnews

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SAC Officers

President: Steve Dodder

520-424-9731

president@saguaroastro.org

Vice President: Jennifer Polakis

480-967-1658

m24@cox.net

Treasurer: Charlie Whiting

602-206-2248

c2h2a2r2@qwest.net

Secretary: A. J. Crayon

602-938-3277

acrayon@cox.net

Properties: Jack Jones

623-322-1559

Telescoper@cox.net

Public Events:

Jack Jones

623-322-1559

publicevents@saguaroastro.org

Astro-Imaging Sub Group:

Al Stiewing

623-875-3969

amst@cox.net

SACNEWS Editor:

Rick Tejera, 623-572-0713

saguaroastro@cox.net

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The 30,000,000,000 Photon Check (or 1 Year, Whichever Comes First)

By Rick Tejera

The coming of summer brings longer days & monsoon, which translates into fewer good nights for observing. What's an astronomer to do? Well for me it means giving Gert a good checkout and fixing the myriad of minor annoyances that have crept up in the past year before they turn into major annoyances.

Looking at the past few observing sessions, I've gotten a small list of squawks that need attention. No time like the present to get 'em done.

First up is replacing the Teflon bearings on both alt & Az surfaces. Gert's been sticking in a few spots when I try to nudge it to a particular spot. It always seems to stick right where I want to point. Trust me when I tell you this gets old quickly. By my recollection it's been at least 5 years since I replaced the azimuth bearings (when I got the EQ platform) and probably about 2 years before that for the altitude bearings. 7 years of Arizona dust will surely take it's toll.

Next up is the bearing surface on the platform. Same issue, it's been slipping. This has been happening mostly during alignment, which as you can imagine does lend itself to getting Gert's pointing accuracy where it should be. Part of the problem I think, is the platform being pulled by the Scope when the Az bearing stick's, but I know for sure the drive bearing is slipping a bit as well. Gotta figure out the best way to attack this, hopefully without having to take the drive mechanism apart. I may just see how much of an improve-

ment the Alt-Az Bearings make and defer this one till later.

The big one this year is the secondary. It's been a real bear to adjust the collimating screws, in or out, and the whole assembly seems to be rotating in its mount. I can collimate the secondary, run behind the scope and get the primary collimated and when I get back the Secondary is out by quite a bit. The plan is to take the spider out and loosen all the collimating screws until they turn more freely. I had tried this in the field and it seemed that the whole shebang was about to drop on the primary so mission aborted. I figure it's better to do this while the secondary assembly is out of the scope. It'll give me more room to work as well.

As long as Gert's apart, it's probably a good time to wash the primary. Some folks get frightened by the thought of anything moving over their polished glass, but it really isn't that difficult to do. Get a clean sink and distilled water and a bunch of small cotton balls. Holding the mirror at an angle, gently pour the water over the mirror letting the water flow down to the sink and carry the largest bits of gunk with it. Once done, take a cotton ball and SLOWLY AND GENTLY move it along the mirror while rotating it backwards. Make only one revolution and then toss it. Cotton balls are cheap, a polished mirror is not. Use just enough pressure to soak up any residual water on the mirror. Don't squeeze the cotton ball to tight, You want the fibers loose So they pull the gunk into

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NASA Space Place

Space Buoys By Dr. Tony Phillips

Congratulations! You're an oceanographer and you've just received a big grant to investigate the Pacific Ocean. Your task: Map the mighty Pacific's wind and waves, monitor its deep currents, and keep track of continent-sized temperature oscillations that shape weather around the world. Funds are available and you may start immediately.

Oh, there's just one problem: You've got to do this work using no more than *one* ocean buoy.

"That would be impossible," says Dr. Guan Le of the Goddard Space Flight Center. "The Pacific's too big to understand by studying just one location."

Yet, for Le and her space scientist colleagues, this was exactly what they have been expected to accomplish in their own studies of Earth's magnetosphere. The magnetosphere is an "ocean" of magnetism and plasma surrounding our planet. Its shores are defined by the outer bounds of Earth's magnetic field and it contains a bewildering mix of matter-energy waves, electrical currents and plasma oscillations spread across a volume billions of times greater than the Pacific Ocean itself.

"For many years we've struggled to understand the magnetosphere using mostly single spacecraft," says Le. "To really make progress, we need many spacecraft spread through the magnetosphere, working together to understand the whole."

Enter Space Technology 5.

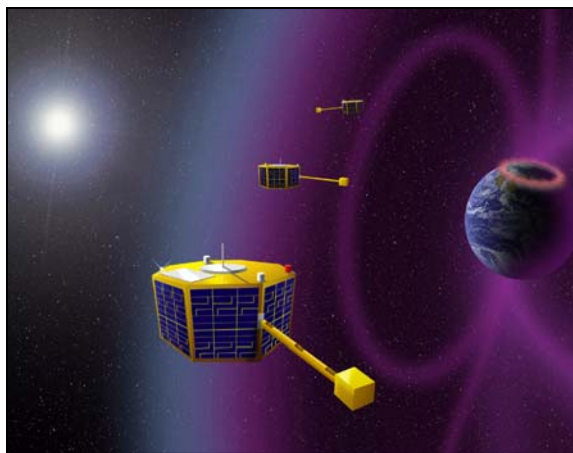
In March 2006 NASA launched a trio of experimental satellites to see what three "buoys" could accomplish. Because they weighed only 55 lbs. apiece and measured not much larger than a birthday cake, the three ST5

"micro-satellites" fit onboard a single Pegasus rocket. Above Earth's atmosphere, the three were flung like Frisbees from the rocket's body into the magnetosphere by a revolutionary micro-satellite launcher.

Space Technology 5 is a mission of NASA's New Millennium Program, which tests innovative technologies for use on future space missions. The 90-day flight of ST5 validated several devices crucial to space buoys:

miniature magnetometers, high-efficiency solar arrays, and some strange-looking but effective micro-antennas designed from principles of Darwinian evolution. Also, ST5 showed that three satellites could maneuver together as a "constellation," spreading out to measure complex fields and currents.

"ST5 was able to measure the motion and thickness of current sheets in the magnetosphere," says Le, the mission's project scientist at Goddard. "This could not have been done with a single spacecraft, no matter how capable."



The Space Technology 5 micro-satellites proved the feasibility of using a constellation of small spacecraft with miniature magnetometers to study Earth's magnetosphere.

The ST5 mission is finished but the technology it tested will key future studies of the magnetosphere. Thanks to ST5, hopes Le, lonely buoys will soon be a thing of the past.

Learn more about ST5's miniaturized technologies at nmp.nasa.gov/st5. Kids (and grownups) can get a better understanding of the artificial evolutionary process used to design ST5's antennas at spaceplace.nasa.gov/en/kids/st5/emoticon.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.

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the Cotton ball as opposed to sticking to the outside of it. Repeat as needed until the mirror is dry. There, that wasn't so bad, was it?

How often should you clean the mirror? Not very. I usually wait until Gert's in for a major overhaul. When I was it this summer, it'll be the second time in the 12 years I've had Gert.

OK, So that's about it for Gert. Polly's (the ETX) is in pretty good shape, so not much to do there. So next up will be a general inspection of the rest of my accessories & equipment. This will include comfort items, One in particular is my big air mattress, which seems to have sprung a leak somewhere. I have a backup, but it's not as comfortable and as we all know, a comfortable astronomer is a happy astronomer.

Summer is also a time to look at some new projects and at least get 'em started. I just bought a 4.25" Schwaar

RFT from Steve Coe and need to figure out how to get it mounted on the EQM-1 mount. Looks to be pretty straight forward, but considering the lack of space in my garage right now, I figure a trip to Paul Lind's place during one of the upcoming ATM meetings will fit the bill to get this done. Hopefully, I'll get it taken care of before monsoon is out so I can enjoy the summer milky way with this new piece of glass.

Speaking of the ATM Meetings, if you've been meaning to take care of some much needed maintenance but are unsure of the best way to go about it, stop by and bring it with you. I'm sure you'll get plenty of advice and offers to help out.

Once you've got your eye on the sky tuned up you'll be surprised at how much more enjoyable your next observing session will be. After all it more fun to look at the stars than trying to fix a telescope in the dark.

Julian Star Party

Fellow Astronomers,

Please join us in the beautiful San Diego County mountains on Friday, Saturday and Sunday, August 1, 2 and 3, 2008.

Please look here -->> <http://www.julianstarfest.com/>

Special discount coupon here:
<http://www.lakehodes.com/JSF-2008-Astroclub-50-EMKB603.pdf>

Located high in the mountains just 35 miles east of the San Diego Wild Animal Park via Hwy 78 east, in the historic Gold Rush Mountain Community of Julian, CA.

Many of the major astronomy vendors will have special sales tents and booths and BARGAINS for everyone!

Also an ASTRONOMY SWAP MEET and presentations from special guest speakers. Special TOUR of Palomar Observatory.

Incredible DARK SKY observing on Friday and Saturday nights. Camp sites now available -->> bring your tent, van or motor home.

Register NOW, campground capacity is limited:
<http://www.julianstarfest.com/starfestregistration.pdf>

Please forward this email message AND the attached coupon to ALL of your astronomer friends.

Read about the historic TOWN of Julian:

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

Luxury lodgings in Julian:

<http://www.julianca.com/lodging/index.htm>

Telescope equipped B&B:

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

Telescope equipped Inn :

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

Julian Starfest Location: Menghini Winery, 1150 Julian Orchards Dr, Julian, CA 92036 -- San Diego County

Google map:

<http://maps.google.com/maps?f=q&hl=en&geocode=&q=menghini+winery,+Julian,+CA+92036&ie=UTF8&ll=33.095568,-116.608028&spn=0.057812,0.096474&z=13&om=1>

PLEASE JOIN US! We appreciate your neighborly support!

Warm thanks,
Kurt Barnhart, Club Coordinator
Julianstars@expresswire.com
Julian, California

Call For Observations—Coma Berenices

By A.J. Crayon

When submitting observations via e-mail and if you would like confirmation of the receipt then select the return receipt option. When I open the observations e-mail will, automatically, be sent back to you indication such and will be the confirmation.

Also note there are some observations marked *suburban location* and is used to indicate just that and, by definition, is from within city limits where light and air pollution influence the observation. If this doesn't appear then the observation was done from a dark site, like Antennas.

NGC4274

8" f6, Newtonian, 60X; Charlie Whiting: the galaxy is the 4th corner of a quadrilateral, along with 3 field stars. The galaxy is very elongated; estimate the ratio as 4:1. The alignment is ESE. The stellar nucleus flashed in and out of view. The nucleus seems to be offset a little to the western half of the halo. At **150X** the galaxy looked only slightly oblong, more like 3' by 2'. The seeing and transparency were only fair this evening. I had to quit early due to heavy winds.

8-inch f/10 SCT at 65x, suburban location; Dick Harshaw: Long (E-W axis) and thin, and featureless. It shares the field with NGC 4283 and 4278. (These two are interacting and may appear as one in your scope.) 4274 has a diffuse nucleus and a hint of a dust lane along the southern edge. Member of the Coma Berenices I Cloud. This galaxy produced supernova 1999ev (type II).

8" f10, SCT at 286X, suburban location; Dan Gruber: This galaxy has a halo elongated 5' X 3' NE – SW, an oval core, and a stellar nucleus. No obvious field stars.

18" f4.5, Dob at 329X; Dan Gruber: Halo elongated 6' X 3' NW – SE with an oval core and a stellar nucleus. There are very faint mag 13+ stars at both the NW and SE ends of the halo.

16" f4.4 Newtonian, 90x; Rick Rotramel: G - fL, B, oval spiral with bright core and fainter arms.

NGC4414

8-inch f/10 SCT at 65x, suburban location; Dick

Harshaw: Bright NW-SE streak with a sharp nucleus. Three nice field stars form a flattened triangle a little to the north. Member of the Coma Berenices I Cloud. This galaxy produced supernova 1974G.

8" f10, SCT at 286X, suburban location; Dan Gruber: Halo elongated 4' X 3', N – S, oval core, stellar nucleus. No obvious field stars.

18" f4.5, Dob at 329X; Dan Gruber: 5' X 3' positioned N – S halo, extended core, nucleus. There is some detail in the nucleus—a bright spot in the north, then a dark band running E – W, then a smaller bright spot to the south. There's a mag 12 – 13 star about 2' NW and several very faint (mag 14) stars around the periphery of the halo.

16" f4.4 Newtonian, 200x; Rick Rotramel: G - fL, pB, oval spiral with bright core and beautiful arms.

NGC4494

8-inch f/10 SCT at 65x, suburban location; Dick Harshaw: It shows a bright nucleus, and is very round. It also has a faint halo. It lies 5 min SW of an 8th mag star.

8" f10, SCT at 286X, suburban location; Dan Gruber: Roughly circular halo 3' – 4' in diameter, large bright core slightly elongated N – S, possible stellar nucleus. No obvious field stars.

18" f4.5, Dob at 460X; Dan Gruber: Roughly circular halo about 3' in diameter, bright circular core, non-stellar nucleus. The core and nucleus appear to be "off center" in the halo, on its NW side.

16" f4.4 Newtonian, 200x; Rick Rotramel: G - pS, B, oval, gradually then much brighter at the core.

NGC4559.

8-inch f/10 SCT at 65x, suburban location; Dick Harshaw: Spindly (NW-SE) and grainy at high power. On the S end are three very faint stars, and on the N end lays a 10th mag star. This galaxy produced supernova SN 1941a (type II).

18" f4.5, Dob at 460X; Dan Gruber: The 7' X 4' positioned N – S halo brightens to an extended core off-center to the S. The core has an E – W dark streak across its south end and is brighter

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north of the streak. There are 3 mag 12 stars around the south end of the halo and another mag 12 star about 4' from the north end.

16" f4.4 Newtonian, 200x; Rick Rotramel: G - L, fB, low surface brightness, and oval spiral with diffuse arms.

NGC4565

8-inch f/10 SCT at 65x, suburban location; Dick Harshaw: A NNW-SSE spindle, with a dust lane and star like nucleus at high power. Steve Coe describes this galaxy as looking like the classical "flying saucer". I think this is a great description! The great Australian amateur E. J. Hartung said he could trace it out to 12 min x 1 min in a 30cm scope. A faint star lies about 1 min NW of the center. It is 125,000 light years in diameter and a radio source as well as a Seyfert galaxy. It is a member of the Coma Berenices I Cloud. William Herschel discovered it in 1785.

18" f4.5, Dob at 209X; Dan Gruber: An elongated galaxy with a 15' X 3' positioned N - S halo and a 3' X 2' bright bulging core. There is an obvious extended dust lane along about 5' - 6' of the edge and a stellar nucleus just west of the dust lane. There's a mag 12 star about 3' east of the core.

16" f4.4 Newtonian, 200x; Rick Rotramel: G - vL, pB, edge-on spiral with nice dust lane, bright core. Magnificent!

NGC4725

8-inch f/10 SCT at 65x, suburban location; Dick Harshaw: Large and bright, with a very prominent nucleus and NE-SW axis. The heart of the Coma Cluster of galaxies lies 3° NE of here. Member of the Coma Berenices I Cloud. This galaxy produced supernova 1940B (type IIp), 1969H (type I), and 1999gs.

18" f4.5, Dob at 209X; Dan Gruber: Halo about 8' X 5' overall E - W, a concentrated core but no nucleus. The halo appears wider at both ends than at the core, perhaps indicating spiral arms although no structure was observed. There are several mag 13 stars across the east end of the halo and a mag 12 star about 4' north of the core.

16" f4.4 Newtonian, 200x; Rick Rotramel: G - L, B, elongated spiral, bright core with faint diffuse arms. Nice.

Call for Observations

The middle section of the Serpent, Hydra mostly made up of galaxies. The first entry is 1.5° to the southeast of 5th magnitude SAO155588 and is the elliptical **NGC3091**. Second is the almost round, barred spiral **NGC3313**, and at magnitude 11.4 is the faintest of the selections. Next is the almost edge-on spiral **NGC3717**, is about 60' north of 5th magnitude SAO202553. Continuing the eastward march is **NGC3904** at magnitude 10.9. Then a scant 35' northeast is **NGC3923**, which is the brightest of the selections at 9.8. Both of these galaxies are elliptical. The final selection is the interacting pair **NGC4105** and **NGC4106**.

The next month's selection will be Draco. There is quite a bit here to choose from, especially since it crosses many lines of Right Ascension. Here we'll keep to the region around the head of the dragon and find them all, save one, galaxies. The magnitude range for the galaxies is 9.9 to 12th. The first selection is **NGC6140** a nice elongated barred spiral. Next jump is to **NGC6340** a nearly face-on early type spiral. There are other galaxies in the field. Can you count and identify them? The **Draco Dwarf**, UGC10822 and a member of the Local Group of Galaxies, is next and its magnitude is listed as 9.9. Beware this can be misleading because its size is 33.5'X18.9' and that gives it a low surface brightness. You might try to ferret out some detail with averted vision while waiting for a moment of good seeing. Continuing on our way finds **NGC6412** a barred spiral with some detail. Again, try to get as much out of this one as you can. Our last galaxy is **NGC6654**, at 12th mag. Not clear, to me, if it has some faint stars involved or bright HII regions. What do you think? Finally comes an asterism named after Fr. Lucian Kemble called **Kemble 2** and located at RA 18h35.0m Dec +72° 23'. It is 7th mag, 30' and forms a "Mini-Cassiopeia" like asterism. Mag

Again, keeping an extra month ahead, puts us in September, because of the monsoon we find Sagittarius up for its third appearance. Most of these will be from the Messier catalog, but not all. We will keep with some of the lesser-viewed globular clusters and save the more popular ones

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President's Corner

By Steve Dodder



With the Grand Canyon Star Party looming, I'd like to emphasize the importance of participation in the club's activities. This is particularly true of promoting the enjoyment of the public in astronomy. The Saguardo Astronomy Club, as well as most things these days, gets a lot of exposure to the public through its presence on the internet, and our web site is our face until someone attends a meeting. With this in mind, our webmaster Peter Argenziano has been very busy overhauling our old site, and bringing it into the 21st Century. Your Board members and a couple others have been watching his progress behind the scenes, and it looks great. The "new" site should go live soon, and when it does, we'd very much appreciate any suggestions you may have to improve or expand it, with an eye toward the future.

It is with this look to the future in mind that I called a Board meeting before the June meeting, in order to discuss the overall upgrade and explore some other items on the web pages.

The largest one, aside from the upgrade itself, is the inclusion of some pages for volunteering time and telescopes for groups and schools. Rick Tejera took charge with the Girl Scout Retreat in April, when I was unable to make it myself. He and his helpers had such a good time, and worked so hard, that it seems like a good cause to expand on. Rick suggested a few pages that would include downloadable activities and projects for kids and newbies, and information for teachers and group leaders, along with a guideline for group leaders on what we expect and what they'll

get. I think this is a wonderful idea, and encourage anyone who could not attend the meeting to let us know your ideas for additional content.

In a similar vein, Jack Jones, our Public Events Coordinator, has asked for some help in expanding our public outreach activities. He'd like some help contacting schools or coordinating events, as well as a bit more active participation. I appointed Rick Tejera to be Public Outreach Coordinator and Chris Hanrahan as School Contact Coordinator and both accepted. Their contributions should become apparent shortly.

Many ideas were put forth and two sub committees were formed to implement them. This was a really spirited meeting, and I hope we can achieve something that gives back to the community. We all love astronomy and what it gives us. Let's share that with others, just a bit more.

One last note on the GCSPNR-We appear to be all set, as far as volunteers go. The campsites are full, the park staff is on-board, and everything seems ready to go. I'm told that I've got it under control, but with all the plans I have for the future, there's still a lot for me to do once we get there. It is looking good, though. Hopefully, we'll be able to expand our footprint a bit next year, while keeping a handle on preserving the environment at the North Rim.

Here goes nothin'!



July 2008

SUN	MON	TUE	WED	THU	FRI	SAT
		1	2 ●	3	4	5 DTOM Star Party at Cherry Rd.
6	7	8 ATM Meeting 1930, Paul Lind's House	9 ☽	10	11 SAC Meeting, GCU 1930	12
13	14	15	16	17	18 ○	19
20	21	22	23	24	25 ☾	26 SAC Star Party, Cherry II
27	28	29	30	31	●	

Schedule of Events for July 2008

July 2nd	Moon is new at 1918mst.
July 4th	Earth at Aphelion at 0040mst, 1.0168 AU from the Sun
July 5th	DOTM Star party at Cherry II. Sunset 1944, Twilight 2129, Moonset 2157, Twilight 0338. 5 Hours 41 min of dark.
July 8th	ATM Sub group meeting at Paul Lind's house
July 9th	Moon at First Quarter at 2134mst.
July 11th	SAC Meeting at Grand Canyon University at 1930, Speaker TBA
July 18th	Moon is full at 0058mst.
July 25th	Moon at Last Quarter at 1141mst.
July 26th	SAC Star Party at Cherry II; Sunset: 1935, Ast Twilight: 2113, Moonrise: 0021

Future Planning

Aug 1-3, 2008	Julian Starfest, Julian California; See Page 3 for more information
Oct 25th, 2008	All Arizona Star Party.

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for another time. Our search begins with **M 69** that has stars from 14th to 16th mag. What is smallest telescope that can see the well-resolved nature of this object? On July 22, 1995 just 15' west of southwest of where Comet Hale-Bopp was discovered is the next selection – **M 70**. Still within the body of the Tea Pot asterism is the very bright **M 54**. Now moving more towards the east is **M 55**, the brightest globular cluster so far. Continuing to

the northeast part of the constellation is the planetary nebula **NGC6818**, often called the Little Gem Nebula. Can you detect it's slight elongation of 22"X15"? The last entry is nearby, **NGC6822** also known as Barnard's Galaxy and a Member of the Local Group of Galaxies. It has a surface brightness of mag 14.5 but is still viewable is telescopes smaller than 8". Look for the bright HII region.

Monthly Trivia Question

Lets take a page from a co-workers desk calendar and try a slightly different approach to this month's question:

FACT or CRAP? The last words Neil Armstrong spoke on the surface of the moon were "Good luck Mr. Gorsky".

Last Month's Answer: When Flight Controller John Aaron told Apollo 12 to try "SCE to AUX" after being struck by lightning, What did "S.C.E" Stand for?

As most know, Apollo 12 was struck twice by lightning about 30 seconds after launch into rainy overcast skies.

The first strike knocked all three fuel cells in the Apollo Spacecraft offline, causing a major electrical failure. The second strike took out the inertial guidance platform. This left the spacecraft essentially blind. It also knocked out the telemetry from the spacecraft to Mission Control. The controller's screens showed garbled nonsense.

Flight director Gerry Griffin was certain he'd have to call an abort, which at this stage of flight would have entailed the Launch Escape System pulling the Command module from the stack, which subsequently would be destroyed. No one seemed to have any idea what had happened. Except for EECOM controller John Aaron. He had seen this once before in a sim and told Griffin, "Flight, try S.C.E to Aux". Griffins response was "What the hell is that?". He repeated it and Griffin told Capcom Gerald Carr to relay that to the spacecraft. Again the command was met with a "What the hell is that", this time from Commander Pete Conrad.



John Aaron during the Gemini 5 Mission

It seemed the only two people who knew what it was were Aaron and fortunately LMP, Alan Bean. The switch was on an auxiliary panel next to his head. Once he flipped it Aux, telemetry was restored. The fuel Cells were reset and the platform was realigned once the spacecraft reached orbit. The mission was given a go to proceed and achieved all it's goals.

OK, so what IS the S.C.E? It stands for Signal Condition Electronics. It's purpose was to take the raw electrical impulses from instrumentation and format it so it could be read by the computers and thus displayed on controllers screens. Go to: <http://www.youtube.com/watch?v=eWQIryll8y8&feature=related> for a video of the launch and commentary regarding the incident.

As a side note, I've been asked how the spacecraft remained stable during this incident if it's navigation platform was knocked out. Simple, the Saturn V was not steered by the spacecrafts navigation system (Although it could be in an emergency). The big rocket was controlled by a he annular ring of computers called the Instrument Unit or IU. This ring was 22 feet in diameter and sat atop the S-IV-B third stage, below the LM. The IU was programmed with all the maneuvers and systems functions needed to control the Saturn V. When Apollo 12 was struck by lightning, the IU was unaffected and kept the Saturn on course, essentially oblivious to what was happening in the Command Module and Mission Control. The IU was built by IBM and Bendix. For more information on the IU, go to: http://en.wikipedia.org/wiki/Saturn_V_Instrument_Unit

5 Mile Meadow Album

Well this year The 5 Mile Meadow Star party lived up to billing. Although officially Friday/Saturday night, several folks made their was up as early as Wednesday.

Since pictures are worth more than words here are a few photo's taken by Karen Hanrahan & Steve Coe of some of the Folks & Scopes who enjoyed the company & skies on the rim.



Clockwise from top left: A.J. Crayon & Chris Hanrahan shoot the breeze. Dave' Fredericksen's 32" Looms in the background. (Karen Hanrahan)

The telescope field. Lots of polished glass waiting to capture ancient photons (Karen Hanrahan)

The Telescope field from the shade of the treeline (Karen Hanrahan)

Dave Fredericksen & his 32" wait for darkness as twilight settles in. (Steve Coe)

Rascal Polakis, The Astro Dog enjoys the Shade & Cooler temperatures on the rim, After all he's stuck wearing a fur coat! (Karen Hanrahan)



Bits and Pisces, Minutes of the May General Meeting

By A.J. Crayon



.After opening the meeting a request for visitors and new members was made. Three folks introduced themselves. There were 36 people present at this time.

In Charlie Whiting's absence, Steve Dodder gave the treasurer's report. We have \$4553 in checking and \$75 cash on hand.

Upcoming events were announced and discussed by president Steve Dodder. The included the ATM subgroup meeting on June 10th and July 8th. The next SAC meeting is on June 13th and will be preceded by a very important board meeting. Observing at Cherry Rd June 28th. The Grand Canyon Star Party will be June 21st to 28th at both north and south rims.

Rick Tejera presented awards for the 2008 All Arizona Messier Marathon.

Show-n-Tell began with Steve Coe talking about the upcoming observing session at Five Mile

Meadow. We were reminded about star party etiquette and not parking in the middle of the meadow. Pictures from prior trips to the Five Mile Meadow site were also shown.

Rick Rotramel had some slides from the prior star party and potluck get together at Stone Haven Observatory. Despite the breezy conditions all had a good time.

Rick Tejera reviewed the Brownie Encampment event that Jimmy Ray and Chris Hanrahan assisted. All helped many polite and well-behaved girls earn their Astronomy Merit Badge. They are planning on another event in September. If you like to work this kids this is a great opportunity to do so.

After the break, vice president Jennifer Polakis introduced the evening's speaker, Don Wrigley. The topic was *The Moon*. During the discussion he showed images of its many and varied features. OK SAC observers, this should be motivation to get out in the backyard and look at our nearest celestial neighbor.

Dark of the Moon Star Parties-2008

<i>Date</i>	<i>Sunset</i>	<i>Moonset</i>	<i>Twilight</i>	<i>Location</i>
<i>January 5th</i>	<i>1737</i>	<i>-</i>	<i>1905</i>	<i>Antennas</i>
<i>February 9th</i>	<i>1813</i>	<i>2113</i>	<i>1937</i>	<i>Antennas</i>
<i>March 8th</i>	<i>1835</i>	<i>2001</i>	<i>1957</i>	<i>Antennas</i>
<i>May 3rd</i>	<i>1915</i>	<i>-</i>	<i>2049</i>	<i>Cherry II</i>
<i>July 5th</i>	<i>1944</i>	<i>2157</i>	<i>2129</i>	<i>Cherry II</i>
<i>August 2nd</i>	<i>1927</i>	<i>2022</i>	<i>2103</i>	<i>Cherry II</i>
<i>August 30th</i>	<i>1857</i>	<i>-</i>	<i>2024</i>	<i>Cherry II</i>
<i>October 4th</i>	<i>1814</i>	<i>2125</i>	<i>1937</i>	<i>Antennas</i>
<i>November 1st</i>	<i>1742</i>	<i>2010</i>	<i>1906</i>	<i>Antennas</i>
<i>December 27th</i>	<i>1734</i>	<i>1748</i>	<i>1903</i>	<i>Antennas</i>

SAC 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%.

- \$28.00 Individual Membership
- \$42.00 Family Membership
- \$14.00 Newsletter Only
- \$10.50 Nametag for members,
Pinned Clasp
- \$12.50 Nametag for members,
Magnetic Clasp
(will be mailed to address below)

Magazine Subscription Services

The following magazines are available at a discount to club members. Check the magazines you wish to subscribe to or renew, and pay the club treasurer. Please allow 3-4 months for the order to be processed.

- Sky & Telescope \$33.00/yr
- Astronomy \$34.00/yr
- Astronomy \$60.00 for 2 Years

Please Print

Make Check Payable to : SAC

Name: _____

Bring completed form to a meeting or
mail it with your remittance to:

Address: _____

SAC Treasurer
c/o Charlie Whiting
4526 W Purdue Ave
Glendale, AZ 85302

City: _____ St: _____ Zip: _____

Phone: _____

- Check here if this is an update of information already on file.

E-Mail: _____

SAC on the Internet

SAC has several E-mail mailing lists. To subscribe, send an email to the email address and put **Subscribe in the subject box.**

SAC-Announce@freelists.org: SAC-Announce is a mailing list for just club announcements. Typically 3-5 messages per month.

SAC-Forum@freelists.org: SAC-Forum is a general discussion mailing list. Topics should be related to Astronomy or SAC

SAC-Board@freelists.org: SAC-Board is a mailing list for discussions of club business. If you'd like to see how the club is run (or not run), or have a question about the club, this is the list to read. Typically month to month matters are discussed.

AZ-Observing@freelists.org: AZ-Observing while not a Sac list, is well attended by SAC members. This is the list to with observing places around Arizona. Find out where people are going and what they saw.

Printed Newsletter

SAC can save a lot of money if you download the PDF version of the newsletter. PDF files are readable by both PC's and Macs. When the newsletter is published, a message will be sent to the address indicated above with the URL of the newsletter. Check the box below if you don't have access to the internet or if you prefer a printed copy.

- Please send me a hard Copy of the newsletter

SAGUARO ASTRONOMY CLUB

June 2008

5643 W. Pontiac Dr
Glendale, AZ 85308-9117

Phone: 623-572-0713

Email: newsletter@saguaroaastro.org



Videmus Stellae



SAC Schedule of Events 2008

SAC Meetings

January 18th, 2008	July 11th, 2008*
February 22nd, 2008	August 15th, 2008
March 21st, 2008	September 12th, 2008
April 11th, 2008*	October 10th, 2008*
May 16th, 2008*	November 14th, 2008
June 13th, 2008*	Holiday Party, TBA

* *Rescheduled Meeting Date*

Future Planning

April 5th, 2008	All Arizona Messier Marathon
May 30th-June 1st, 2008	5 Mile Meadow Star Party
November 28th-30th, 2007	Autumn Stargaze

SAC Star Parties

Date	Sunset	Astronomical Twilight Ends	Moonrise	Site
Jan 5th, 2008	1737	1905	0608	A
Feb 2nd, 2008	1824	1929	0507	S
Mar 1st, 2008	1829	1952	0346	S
Apr 26th, 2008	1911	2042	0100	S
May 3rd, 2008	1915	2049	0401	C
Jun 28th, 2008	1945	2130	0142	C
Jul 26th, 2008	1935	2113	0021	C
Aug 23rd, 2008	1903	2033	2303	C
Sep 27th, 2008	1815	1938	0455	S
Oct 25th, 2008	1747	1910	0432	S
Nov 22nd, 2008	1726	1853	0331	S
Dec 12th, 2008	1730	1859	0128	S

S= Saddle Mountain; C= Cherry Road; A=Antennas