Saguaro Astronomy Club

SACnews

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Inside This Issue

August 28th Lunar Eclipse

Depending on your body's internal clock, you'll want to Either Stay p late or get up early on the morning of the 28 Aug. It's been a few years since we've had a good opportunity to see a total lunar eclipse. The moon will be well placed high in the southern sky at the beginning of the eclipse. The moon will still be 9° above the horizon at eclipse end. Get out your cameras & imagers and have at it.

Here are the Local Circumstances

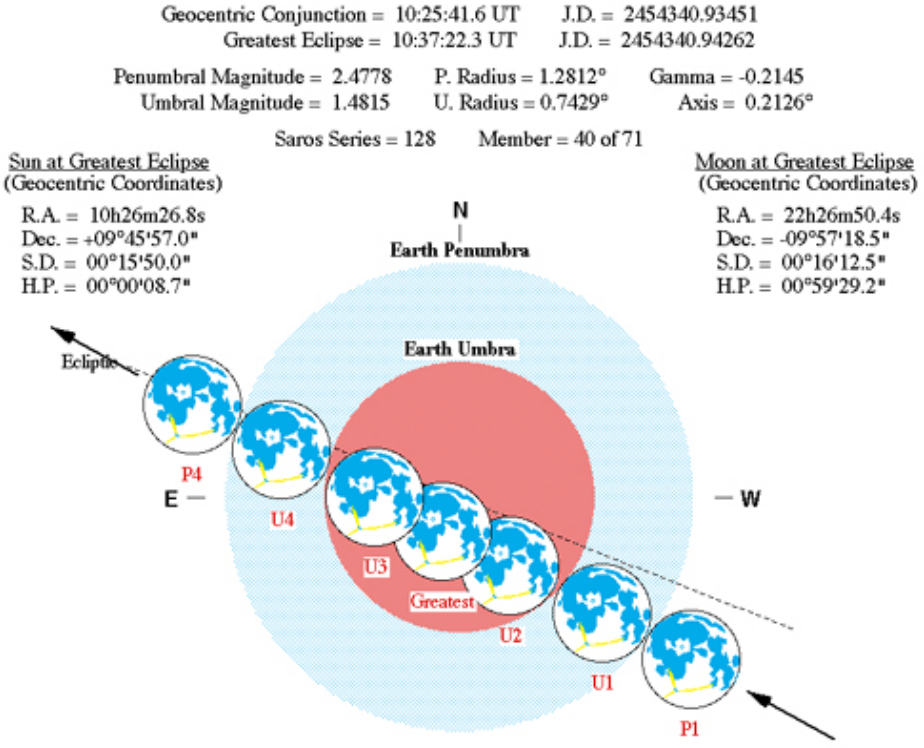
Moon enters penumbra:	Aug 28 00:52:07
Moon enters umbra:	Aug 28 01:50:53
Start of totality:	Aug 28 02:51:57
Maximum eclipse:	Aug 28 03:37:18
End of totality:	Aug 28 04:22:41
Moon leaves umbra:	Aug 28 05:23:46
Moon leaves penumbra:	Aug 28 06:22:25

Magnitude and Duration

Umbral magnitude:	1.481
Penumbral magnitude:	2.478
Duration of total phase:	1h 30m 44s
Duration of umbral phase:	3h 32m 53s
Duration of penumbral phase:	5h 30m 18s

Moon's Altitude

Moon enters penumbra:	44.7°
Moon enters umbra:	41.5°
Start of totality:	34.7°
Maximum eclipse:	28.0°
End of totality:	20.4°
Moon leaves umbra:	9.3°
Moon leaves penumbra:	-2.1°



NASA Space Place

Tones from the Deep

by Patrick Barry and Tony Phillips

Now is an exciting time for space enthusiasts. In the history of the Space Age, there have never been so many missions “out there” at once. NASA has, e.g., robots on Mars, satellites orbiting Mars, a spacecraft circling Saturn, probes en route to Pluto and Mercury—and four spacecraft, the Voyagers and Pioneers, are exiting the solar system altogether.

It’s wonderful, but it is also creating a challenge.

This artist's concept shows the New Horizons spacecraft during its planned encounter with Pluto and its moon, Charon. The spacecraft is currently using the beacon monitor system on its way to Pluto. Credit: Johns Hopkins University Applied Physics Laboratory/Southwest Research Institute (JHUAPL/SwRI)

The Deep Space Network that NASA uses to communicate with distant probes is becoming overtaxed. Status reports and data transmissions are coming in from all over the solar system—and there’s only so much time to listen. Expanding the network would be expensive, so it would be nice if these probes could learn to communicate with greater brevity. But how?

Solving problems like this is why NASA created the New Millennium Program (NMP). The goal of NMP is to flight-test experimental hardware and software for future space missions. In 1998, for instance, NMP launched an experimental spacecraft called Deep Space 1 that carried a suite of new technologies, including a new kind of communication system known as Beacon Monitor.

The system leverages the fact that for most of a probe's long voyage to a distant planet or asteroid or comet, it's not doing very much. There’s little to report. During that time, mission scientists usually only need to know whether the spacecraft is in good health.

"If you don't need to transmit a full data stream, if you only need some basic state information, then you can use a much simpler transmission system," notes Henry Hotz, an engineer at NASA's Jet Propulsion Laboratory who worked on Beacon Monitor for Deep Space 1. So instead of beaming back complete data about the spacecraft's operation, Beacon Monitor uses sophisticated software in the probe's onboard computer to boil that data down to a single "diagnosis." It then uses a low-power antenna to transmit that diagnosis as one of four simple radio tones, signifying "all clear," "need some attention whenever you can," "need attention soon," or "I'm in big trouble—need attention right now!"

These simple tones are much easier to detect from Earth than complex data streams, so the mission needs far less of the network's valuable time and bandwidth, Hotz says. After being tested on Deep Space 1, Beacon Monitor was approved for the New Horizons mission, which is currently on its way to Pluto, beaming back a simple beacon as it goes.

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

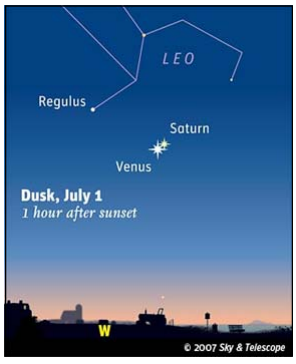
Bits & Pisces, Minutes of the SAC Blue Moon Meeting, June 29th, 2007

By Jennifer Polakis

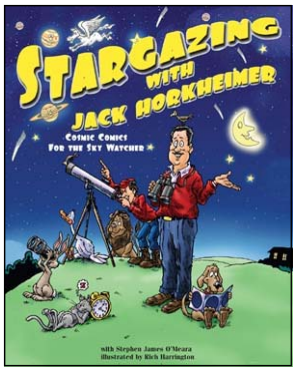
This was the celebration of our 110th Semi-every so often, bi-periodically, quasi seasonal, SWAP MEET AND SHOW AND TELL. Paul Lind, VP, took up a figurative gavel in absence of both our President and a gavel.

There was a record low attendance of 37 folks with many of our illustrious dignitaries and leaders absent. This caused a real glut in the market of used astro-equipments with approximately 2.3 scopes for sale per 1 attendee. Rumor has it that an 8" Orion Dob with a Telrad (not you Mr. President) and a deluxe focuser was sold for $84 bucks--a really great deal even if the companion fishing bucket observing chair was not included.

Five guests were included in our meager numbers but they were all extremely quality guests. Modg Anderson who was observing with us at this year's 5MM & Chigger Feed, Silvio Jaconelli from the E. Siders, John Welch also from the E. Siders, Bill Rothanburg former member just back from the "Show Me No Stars" state and another great astronomer I didn't catch the name of--I think it was something like Buszaldren or something like that.



Our regular classroom was occupied by the He-Man Woman Haters' Club, so Alfalfa moved the meeting to Blanchard Hall so Darla could attend. This was the same great hall we hosted Don "Comet" Maccholz in not too long ago and I wished for Jack Horkheimer to accidentally show up for the Show and Tell event of the evening. That just would've been cool! "Good evening fellow stargazers Saturn and Venus appear low in the West tonight, less than 1o apart."



But that's ok, Starman set up SKYGZR's pronto, and Damien set up a nice little refractor (for sale by the way) for some pleasing views of the pair during the break.

AJ Crayon, our colorful Deep Sky Chairman awarded Bob Christ thee highly coveted SAC-Plaque for completing the 110 Double Stars observing list. Congratulations Bob! Bob did not sell his Plaque at the SWAP MEET and would not even trade it for BOTH the green Donkey and the yellow Puss-N-Boots SHREK Knight Lights.

Upcoming events that are still upcoming at this SACNEWS date: September 30th---*SAGUARO ASTRONOMY CLUB'S 30th ANNIVERSARY DINNER AND PARTY*, at *CHALLENGER SPACE CENTER*, 7-10 pm, $25 per person. And JTP's birthday, December 17th--see her gift registry at http://www.astro-physics.com/ .

Paul Dickson, Treasurer Extraordinaire gave a favorable treasury report. SAC will have enough money left after the Challenger Space Center hall rental to hire a couple o' big Texans to set up Fred's new Texan scope next star party.

Show and Tell opened with Jack Jones, Public Events Guru's photo essay of the Grand Canyon Star Party. SAC sponsors the 1st Sunday

(Continued on page 6)

Call For Observations–Serpens

By A.J. Crayon

The constellation Serpens is divided into two parts, separated by Ophiuchus. For this session the western part will be studied and the east will be saved for another time.

We have a new SAC member that has submitted his first observations. He is Dick Harshaw and has moved to the Valley of the Sun from Kansas City, MO. He is a long time double star and deep sky observer and has just published a book that contains a CD. It is titled "*The Complete CD Atlas of the Universe" (Springer-Verlag New York, LLC, ISBN 0387468935)*. Note that some of his observations have been done from suburban skies. Something we have been noting from this column over the last couple of years. Next time, when you see Dick, please give him a warm Arizona and SAC welcome.

Palomar 5

To get there, it is 29' in PA 172 deg from 4 Serpentis. If you don't have a 20" or larger telescope try using a hood and averted vision while waiting for moments of good seeing. Don't forget that lightly tapping the telescope will help bring out the brighter stars. It probably won't have the characteristics of a globular, but a few faint stars, that come and go, should be good enough.

8" f6, Dobsonian, 81X; Rick Tejera: Did not see this. I was able to match the field, so I knew I was at the right spot. This was confirmed by Dan Gruber. We looked through Dan's 18" and could not see it there either. The seeing was just too soft to observe this object tonight. This globular will have to re-observe at another time.

8" f6, Newtonian, 120X; Charlie Whiting: Did not observe a GC at Pal 5's location, but at 120 X (the best magnification for tonight's seeing); I did spot two or three 14th mag stars within its vicinity. Pal 5's 11.8 magnitudes were spread out to a very low surface brightness which I could not reach with an 8" telescope.

14" f10, SCT, 125X; Joe Goss: Globular Cluster - Fairly small, very-very faint haze, located between a 9th and 10th mag stars, AV only except for 5 brighter stars. This is a very poor excuse for a globular cluster!

18" f4.5, Dobsonian, 74X; Dan Gruber: This extremely dim and sparse globular is located roughly midway between mag 5 – 6 stars to the NW and the SE. These two stars are about 60' apart. The immediate area of the cluster is marked by a mag 9 – 10 star on its SE edge. With a hood and averted vision at **209X** and then **329X**, I observed what I think are 4 cluster stars as follows (all PAs and distances are from the mag 9 – 10 star): ~6' at PA 270°, 8' at PA 290°, 15' at PA 315°, and 10' at PA 350°. I was not able to see any of these stars with direct vision, so I believe their magnitudes all were 15+.

M 5

This was a nice treat after the challenge of Palomar 5; except no mention was made about its visibility in a finder. Yet, Dick Harshaw did submit a binocular view. That should be close enough.

14x70 binoculars; Dick Harshaw: from suburban Kansas City, MO; very large, very bright, with very rapid brightening to the middle. The edges were fuzzy.

8" f6, Newtonian; Charlie Whiting: from Glendale this GC is visible in **9x50** finder scope as an extended bright gray patch against a dull gray background. At **38X** there is a bright star, 5th mag, to the SSE of the GC. There are several dimmer points of light in the FOV, but the pale yellow color makes the bright star really stand out. The GC is a gray ball, somewhat diffuse, but having no discernable texture. At **60X** the gray ball is now seen to be the condensed core of this GC. Surrounding the core is a halo that extends to 4 times the size of the core. The halo has a granular appearance. There is an 11.8 mag field (?) star in the outer fringe of the halo a few degrees S of due W of the core. At **160X** the halo has, at first, disappeared and in its place are 20-30 resolved stars. Staring longer, I can see that the 20-30 stars are only the brighter of two levels of resolved stars. The dimmer level consists of tiny dots of semi-resolved lights, numbering perhaps a hundred or more. Zooming in on the core, at **320X**, the core remains unresolved, and almost disappears. The core is surrounded by a hundred tiny sparklers. The cluster almost looks like a highly concentrated open cluster. This is a WOW! Object. From a dark site it is clearly visible as a GC in the **9x50** finder scope. At **38X** it is a Wow! Object. It is dazzling! It is large and round. It looks splashy. Like a snowball thrown against a wall. It is very much brighter in the middle. Some outliers seem to be resolved. Going to **60X** a lot of stars are resolved. Strings of stars form wings running east and southwest. Another string of stars forms a loop

(Continued on page 5)

(Continued from page 4)

arching towards the southeast, in the direction of the 5th magnitude star 5 Serpentis. Jumping up to **120X** the view is breathtaking! I felt like I could have reached around the back side of the telescope tube and touched this GC. There were hundreds of stars resolved. But not all were resolved. The central 25% was a brilliant core that looked like an illuminated ball of sugar crystals. And at this magnification I got a feeling of just how large this GC is, about 15' to 20'. This is a magnificent object. This is an instance of the live and visual appearance being superior to any photograph. You've got to see it to believe it.

8" f6, Dobsonian, 49X; Rick Tejera: Very dense globular, more or less circular in shape stars resolvable on outer edge easily, more to the South than North, very dense central core but star resolvable throughout. At **81X** I'd forgotten what a great cluster this is. The central core is very dense, yet stars are resolvable throughout out. There is a halo of stars extending at least the diameter of the core in all directions with way too many stars to try to count.

8" f10, SCT, 206X; Dick Harshaw: from suburban Kansas City, MO; Resolved, and at high power is a stunning view. It has a slightly oval shape.

10", f10, SCT; 65X; Joe Goss: Globular Cluster - VERY large, VERY bright, very compressed center, many arc's and chains of stars resolved away from center.

11" f10, SCT, 98X; Dick Harshaw: Estimated class of 6. Fairly rich, it fills 1/3 of the FOV. It was semi-resolved and very dense at the center. A bright double star (STF 1930/5 Ser) lies about 20 min SE.

14" f10, SCT, 150X; Joe Goss: Globular Cluster- Very large, over 50% of FOV, very bright, well resolved to center, many arc's and chains of stars spiraling out like arms of a galaxy

18" f4.5, Dobsonian, 135X; Dan Gruber: This globular cluster is about 15' in diameter with many chains radiating out from the core. It appears more compact to the N and E and more extended to the S and W with long chains visible in those quadrants. There are 75+ mag 8 – 12 stars in the extended halo. At **329X** the bright core, about 3' in diameter is resolved almost completely showing 12 – 14 mag 8 – 11 stars.

NGC5921

This bared galaxy's brighter middle was noted by most observers. Wouldn't you suspect the elongation is part of the bar?

8" f6, Newtonian, 60X; Charlie Whiting: I could just barely detect NGC 5921. This galaxy appeared as a small and faint nebulous area. It was nuzzled up to 10th, 11th and 12th mag stars generally to its south. It rather looked like a nebulous cluster. At **120X** the galaxy is the 4th point in an arc of three 12.2-mag to 13.8-mag stars, further enhancing the cluster appearance. It was a challenge to see 5921's halo due to the proximity of the bright stars. Direct and averted vision gave different views of this object. Averted vision showed it as mostly round, about 4' in diameter. Direct vision showed the bright middle to be elongated about 2' x 1', aligned to the northeast. This had to be the central bar of this type SBb galaxy.

8" f6, Dobsonian, 81X; Rick Tejera: Seen with averted vision as slightly elongated smudge. It is slightly brighter in the middle. Some mottling noted.

8" f10, SCT, 65X; Dick Harshaw: from suburban Kansas City, MO; Very faint. A 12th mag star is 1.3 min SSW of the center.

10" f10, SCT, 65X; Joe Goss: Galaxy- Fairly small, fairly faint, very irregular shape, even brightness.

18" f4.5, Dobsonian, 209X; Dan Gruber: This galaxy is slightly elongated N – S about 4' X 3'. There is a small bright core 1' X 0.5' also elongated N – S. Four mag 9 – 10 stars extend to the SE in an arc, rather like an extended "tail" on the galaxy.

NGC5957

8" f6, Newtonian, 60X; Charlie Whiting: I detected a faint fuzzy patch. At **120X** it turned out to be a round galaxy of about 5' in diameter. It was evenly illuminated over its extent. No core observed, just the halo.

8" f6, Dobsonian, 81X; Rick Tejera: Again seen only with averted vision. Confirmed location as there is a curved chain of stars pointing to it from the SW. Seen as small, round and suddenly brighter to the middle.

10" f10, SCT, 65X; Joe Goss: Galaxy- Fairly small, very-very faint, AV only, irregularly round, even brightness.

14" f10, SCT, 155X; Joe Goss: Galaxy- Fairly large, fairly bright, irregularly round, gradually little brighter to the core, could be mistaken for a comet.

18" f4.5, Dobsonian, 209X; Dan Gruber: This galaxy is dim, about 4' X 3' and slightly elongated NW – SE. There is a faint core about 2' in diameter and no stellar nucleus.

NGC5962

8" f6, Dobsonian, 81X; Rick Tejera: Seen with averted vision as a slightly elongated E-W and noted mottling throughout. There is an interesting circle of Stars to the east. The eastern most of these is about mag 7,

(Continued on page 8)

President's Corner

By Rick Tejera

Well, so far, Meteora is winning. The monsoons seen to always be in full swing around observing weekends. Hopefully we'll have a nice nice Aug 11 for the Annual To Heck With the Monsoon Star Party & Novice Group. It's at Cherry II and if you're new to the hobby, please feel free to come on up with your questions. Steve Coe will hold a talk on things astronomical during twilight, so plan on being up there about an hour before sunset so things can get set up and leave time for the talk. Afterwards, feel free to mosey on around the observing field and ask questions. Don't be shy about asking for a peek through someone's scope. I've yet to meet the SAC member who wouldn't share the sky.

For those of you who like to sleep in, you may want to set your alarms Early on 28 Aug. as we will be treated to a total Lunar Eclipse. The eclipse will begin at 0150, if you don't consider the Penumbral Stage the beginning of the eclipse. Totality begins about an hour later and lasts for 90 minutes. With some luck I'll get some good images with my new Orion Solar System Imager. Keeping my fingers crossed.

Invitations are being sent out for the 30th Anniversary Dinner 29 Sept. Please Return them as soon as possible with your payment so we ensure things go smoothly.

Till Then, Clear Skies

(Continued from page 3)

Pizza Luncheon of this 8 day event which is put together by the good guys of TAAA--and their fearless leader, honorary SAC member, Dean Ketelsen. Go next year--whatever else you do, go to this star party. Oh my.....

Next time you see Jack, please thank him profusely for his great effort and time spent on T Shirt Sales. This has made a huge positive impact in our budget enabling the continued funding of events like pizza at the Grand Canyon, sponsoring the hall rental for our anniversary party, and "facilities" rentals for star parties. Another good way to show your appreciation would be to buy a shirt or two or ten--some on clearance and they make great Christmas presents for your spouses, main squeezes, mother in laws, and significant others.

JD Maddy showed a photo of an inadvertent but definitely blue Moon--how apropos!

Tom Polakis spoke about Alan Dyer and the clips he has made using a digital camera timer and showed his own first effort filmette from 5MM. Then he went on to show his new, and in my wholly unbiased opinion amazingly photographed and phenomenally choreographed slide presentation which he made just for us in celebration of our 110th every so periodical SWAP MEET AND SHOW AND TELL.

Seventeen of us continued on to Part II of the meeting at JBs and set up an all nighter 1st every so often ASTRO PARK AND SWAP there in the parking lot while the waitresses served up some deluxe breakfastanytime special.

September 2007

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

Schedule of Events for September 2007

Sept. 3rd	Moon at 3rd Quarter at 1932mst.
Sept. 8th	SAC Star Party at Cherry II, Sunset 1845 End Ast. Twilight 2011, Moonrise 0415.
Sept. 11th	Moon is new at 0544mst.
Sept. 15th	DTOM Star Party at Cherry II, Sunset 1835 , Ast. Twilight 2000 Moonset 2028, 0455 Ast. Twilight begins.
Sept. 19th	Moon at first Quarter at 0948mst
Sept. 26th	Moon is full at 0335mst.
Sept. 28th	SAC General Meeting at Grand Canyon University at 1930, Speaker: TBA
Sept. 29th	SAC 30th Anniversary Dinner. Challenger Space Center, Peoria, AZ

Future Planning

Oct. 12th –13th	All Arizona star Party, Got to www.eastvalleyastronomy.org for more info
Nov. 9th-10th	Sentinel Schwaar Stargaze.

(Continued from page 5)

with the remainder (about 10 in number) at 13th mag.

8" f6, Newtonian, 120X; Charlie Whiting: I could see that NGC5962 is smaller but brighter than NGC5957. 5962 is about 3' in diameter and has a brighter core not quite stellar. However, after staring at 5962 for a few minutes, I saw a bright spot suddenly flash in the middle. But then it went away and I didn't see it again.

8" f10, SCT, 83X; Dick Harshaw: suburban Kansas City, MO; Small and faint, with a W-E axis.

10" f10, SCT, 65X; Joe Goss: Galaxy- Fairly small, fairly faint, irregular shape, slightly brighter to center.

11" f10, SCT; 115X; Dick Harshaw: suburban Kansas City, MO; Stellar nucleus and very small and soft halo. A 13th mag star lies nearby. A 12th mag star lies 8 min N.

18" f4.5, Dobsonian, 209X; Dan Gruber: This galaxy is slightly elongated 2' X 3' E – W. There's a small 0.5' X 1' slightly elongated core with a possible nucleus.

NGC5970

8" f6, Newtonian, 120X; Charlie Whiting: A 7.2-mag star to the northeast of 5970 made it difficult to see. But the galaxy (or at least the core) was bright enough to punch through the glare. 5970 is an oval galaxy of 3' x 2' in dimensions. Aligned due east. It is very gradually brighter towards the middle.

8" f10, SCT, 83X; Dick Harshaw: Small, with an E-W axis. Three bright stars serve as landmarks in this field. 5 min to the NE lays SAO 101663 (7.9m), a real pest for seeing the galaxy!

10" f10, SCT, 65X; Joe Goss: Galaxy- Small, faint, irregular oval, even brightness.

14" f10, SCT, 150X; Joe Goss: Galaxy- Fairly small, fairly faint, irregular oval shape, gradually brighter to the center.

18" f4.5, Dobsonian, 209X; Dan Gruber: This dim galaxy has an elongated 3' X 2' halo extending NE – SW and surrounding an elongated core about 2' X 1'. No nucleus was observed.

NGC6070

8" f6, Dobsonian, 81X; Rick Tejera: Seen with averted vision as a large featureless smudge. It is maybe very slightly elongated NE-SW. Again there is a diamond shaped asterism pointing right at it from the NW. The asterism is 5 stars, 4 in an elongated rhombus with a star in the center slightly offset towards the galaxy.

8" f6, Newtonian, 120X; Charlie Whiting: The galaxy appeared as a very faint smudge. It is an oval of 3' x 2' dimensions and aligned about 60°. I saw a string of stars running away in the same alignment. After checking Sky map the string turns out to be a 14th mag star, then 14th mag galaxies NGC6070A and NGC6070B. I was probably seeing the stellar cores of these two tiny galaxies.

8" f10, SCT, 65X; Dick Harshaw: 6.8m SAO 121396, 8 min to the NW, is tough on the seeing. It has low surface brightness and will be tough even on a good night- but remember you are seeing this galaxy THROUGH the Milky Way. The axis runs NE-SW.

10" f10, SCT, 65X; Joe Goss: Galaxy- Fairly large, fairly faint, irregular oval, even brightness.

14" f10, SCT, 150X; Joe Goss: Galaxy- Fairly small, fairly faint, elongated 2x1 oval shape, gradually brighter to the center.

18" f4.5, Dobsonian, 209X; Dan Gruber: This galaxy has a very faint halo extending 4' X 2' in a NE – SW direction. It brightens slowly toward the center but there is no nucleus. There is a mag 7 – 8 reddish star about 10' NW.

NGC6118

8" f6, Newtonian, 120X; Charlie Whiting: NGC 6118 is a very faint galaxy. It was almost undetectable with direct vision. With averted vision it is elongated about 4' x 2' and aligned to the northeast. It has a stellar core. There is a triangle of dim stars off of its southern edge.

8" f10, SCT, 65X; Dick Harshaw: It has a NE/SW axis and is a little brighter in the middle and with a very low surface brightness.

10" f10, SCT, 100X; Joe Goss: Galaxy- Fairly small, very faint, irregular oval shape, much brighter towards core.

16" f4.4 Newtonian, Rick Rotramel: G - fL, vF, oval spiral, low surface brightness. Hard to see!

18" f4.5, Dobsonian, 209X; Dan Gruber: Another faint elongated galaxy 6' X 3' extending NE – SW. There is no apparent core; the entire galaxy is of fairly uniform brightness (or rather dimness).

Call for Observations

It isn't clear what I'm getting myself into but I'd like for us to do an observing sequence on the *Table of Scorpius*. http://www.schursastrophotography.com/xtiastro/ic4628.html This is a magnificent section of this constellation that stands out to the naked eye, is an excellent binocular area, yet to review with a telescope is a very rewarding experience. While

(Continued on page 9)

(Continued from page 8)

there are a number of open clusters there are some interesting dark nebulae involved that will add some variety to the process. **NGC6242**, to the northern part of this section of sky, will be the beginning. It is bright and large so should be easily found. Next is **Trumpler 24** about a degree in size and containing some 200 stars. Involved in its northern part is the bright nebula **IC 4628,** it to, has several stars involved that belong to the cluster. Just to the west is the rather elongated dark nebula **Barnard 48**. The SAC database indicates a UHC brings out the bright nebula. Try this and let us know your results. Next slew your telescope west, to **Collinder 316**, which almost involves all of Tr. 24. This cluster is about 1.5 degrees in size, but is rather scattered about. Just to the west is the cluster **NGC6227** that is 18', large and rich. Back in 1985 it was non-existent and is not listed in SIMBAD, yet NED gave coordinates as 16h 51m 33.54s and -41 13' 50.2" which looks to be a 5th magnitude star in a rich Milky Way Field. Are there enough stars in an 18' area to qualify as an open cluster? Before leaving this area slew south to **NGC6231**, a cluster we have already done, but not as part of this kind of observing sequence. This is a 2nd magnitude cluster and should be visible to the naked eye. Can you see it? Continue your slew south and take a quick look at zeta 1 and zeta 2 area as there are some pretty bright stars there. Finally slew farther south to **SL 17**, another dark nebula elongated in a somewhat northern position. The SL references the dark nebula catalog of Sandqvist and Lindroos.

For October let's take on Lyra for the first time. We are all aware of the gem there, but there's more to the Lyre than the Ring Nebula. So, before getting there let's check what else there is to offer and start from the northern region. First up, in the same 15' field of view will be the galaxies **NGC6702** and **NGC6703**. The former will be the more difficult of the two, at mag 12.2 and about half the size. For the next galaxy, slew to **NGC6646**. This one is about 2deg northwest from Vega. For a change, go to the yellow and blue double star **Struve 525**. Reminds you of Albiero, doesn't it? Reason this was selected is due to the proximity to next selection, but I wanted you to stop and smell, I mean view, this one because it gets passed by on the way to the magnificent *Ring Nebula*. Yes, just to make it clear **M57** is next on the list. There has been much discussion amongst amateurs and professionals about the visibility of its central star. It is considered variable from 14th to 16th mag and, regardless, you will need a clear transparent sky for any chance at seeing this one. Let us know if you see it – a simple yes or no should do. Before ending there are two more observations on the list. **NGC6765** wonder of all wonders this is another planetary nebula. Yes its magnitude is listed at near 13th, but don't let this stop you as it should be, at least, stellar in an 8". The NGC description in the SAC database lists it as elongated. Does this show up in larger telescopes? After this you will understand why it is a little known planetary. The final selection is the famous variable star **RR Lyre**http://en.wikipedia.org/wiki/RR_Lyrae_variable. Its fame comes from being called a standard candle that is its absolute magnitude has been well determined. From knowledge of the absolute and visual magnitudes they are able to determine its distance. Pretty neat!

Monthly Trivia Question

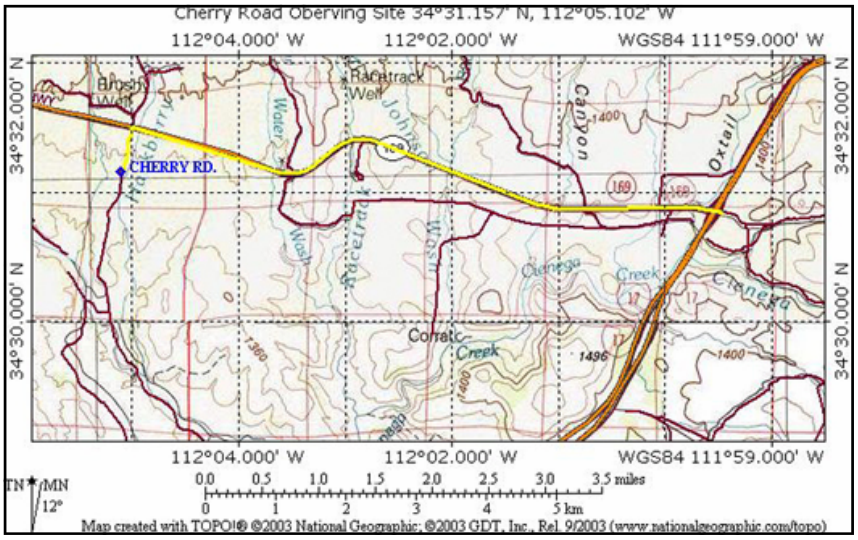
OK here' the 3rd & final question of 3 about the Original Mercury 7 Astronauts:

Name the two surviving Mercury & Astronauts.

Last Months Answer:
Who was the only Mercury 7 astronaut to walk on the moon? Ans: Alan Shepard. Shepard had been in line to command the first Gemini mission which would have made him the first astronaut to fly twice in space. He was grounded due to a condition called Ménière's Disease, a disease of the inner ear which causes severe vertigo. As a result Gus Grissom became the first astronaut twice in space. Shepard became head of the astronaut office and as such had a direct role in selecting crew assignments. He later had surgery to correct his ear condition and was restored to flight status. He was originally to command Apollo 13, but moved himself back to Apollo 14 as he felt he needed more time to train. It is believed that had he not been grounded, he would have been selected as the Commander of the first lunar landing. Ironically, If Gus Grissom had not died in the Apollo 1 fire; he would have most likely had that honor as Shepard was still grounded at the time.

SAC Meeting and Observing Sites

Cherry Rd. Star Parties



Take I-17 north to the Cherry Rd exit. Turn west (left) and continue on Cherry Rd for about 5 miles. Turn Left on the dirt road just past the sign that says Cherry 6. Note you turn in the direction Opposite the arrow on the sign. The site is 3/4 down the road on the left.

Dark of the Moon Star Parties

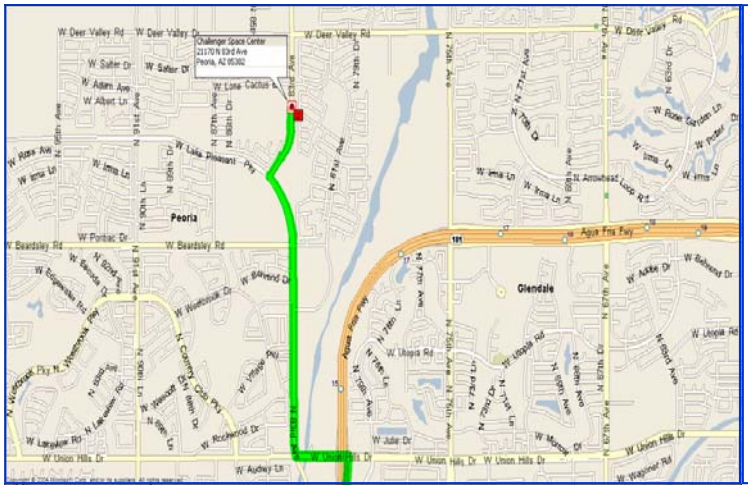
Date	Sunset	Moonset	Twilight	Location
May 19th	1931	2311	2109	Antennas
June 16th	1941	2142	2127	5 Mile Meadow
July 14th	1942	2019	2124	Cherry Road
August 18th	1913	2157	2044	Cherry Road
September 15th	1835	2028	2000	Cherry Road
October 13th	1804	1911	1926	Antennas
November 10th	1735	1749	1900	Antennas
December 8th	1726	____	1855	Antennas

Saguaro Astronomy Club

SERVING METRO PHOENIX, ARIZONA Since 1977

You are cordially invited to join us as The Saguaro Astronomy Club Celebrates Thirty Years of Observing in Arizona.

Our celebration will be held on September 29th, 2007 at 7:00 p.m. at The Challenger Space Center 21170 N 83rd Ave Peoria, Arizona 85382



Directions from Loop 101 & Union Hills Drive (exit 15)	
Turn (West) onto W Union Hills Dr	0.3 mi
Turn RIGHT (North) onto N 83rd Ave	1.0 mi
Keep STRAIGHT onto W Lake Pleasant Pky	0.4 mi
Turn RIGHT (North-East) onto N 83rd Ave	0.4 mi
Arrive Challenger Space Center [21170 N 83rd Ave, Peoria, AZ 85382]	

Cost: $25.00 per person.

Please make checks payable to SAC and remit to :

SAC, c/o Paul Dickson
7714 N 36th Ave
Phoenix, AZ 85051-6401

Mr./Mrs./Ms. _____

Will Attend: ☐

Number of Guests: _____

Payment Enclosed: $_____

Will Not Attend: ☐

Please respond prior to September 8th, 2007

SAGUARO ASTRONOMY CLUB

August 2007

5643 W. Pontiac Dr
Glendale, AZ 85308-9117

Phone: 623-572-0713
Email: newsletter@saguaroastro.org

Videmus Stellae

www.saguaroastro.org

SAC Schedule of Events 2007

SAC Meetings

January 5th, 2007	July 27th, 2007
February 2nd, 2007	August 24th, 2007
March 2nd, 2007	September 28th, 2007
April 6th, 2007	October 26th, 2007
May 4th, 2007	November 16th, 2007
June 1st, 2007	December, 2007
June 29th, 2007	Holiday Party-TBA

Future Planning

June 15th-16th, 2007	5 Mile Meadow Star Party
Sept. 29th, 2007	SAC 30th Anniversary Celebration Dinner
November 9th-10th, 2007	Sentinel Schwaar Stargaze

SAC Star Parties

Date	Sunset	Astronomical Twilight Ends	Moonrise	Site
Jan 13th, 2007	1725	1854	0336	F
Feb 10th, 2007	1811	1935	0223	F
Mar 10th, 2007	1835	1958	0112	F
Apr 14th, 2007	1901	2029	0447	F
May 12th, 2007	1927	2059	0311	C
Jun 9th, 2007	1940	2125	0140	C
Jul 7th, 2007	1944	2128	0013	C
Aug 11th, 2007	1920	2054	0522	C
Sep 8th, 2007	1845	2011	0415	C
Oct 6th, 2007	1809	1932	0314	F
Nov 3rd, 2007	1737	1902	0207	F
Dec 1st, 2007	1723	1851	0057	F

F= Flat Iron; C= Cherry Road