



SACnews

Volume 32 Issue 12

December 2008

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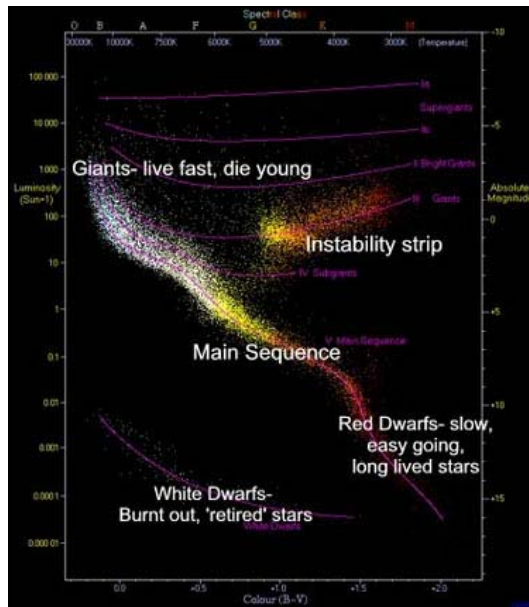
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The Simonsen T-M Diagram By Mike Simonsen, Simostronomy

You've heard of the H-R Diagram. It's a plot of luminosity versus color for stars. Up through the middle runs the main sequence, where typical stars, like our Sun, spend the majority of their lives, steadily converting Hydrogen into Helium.

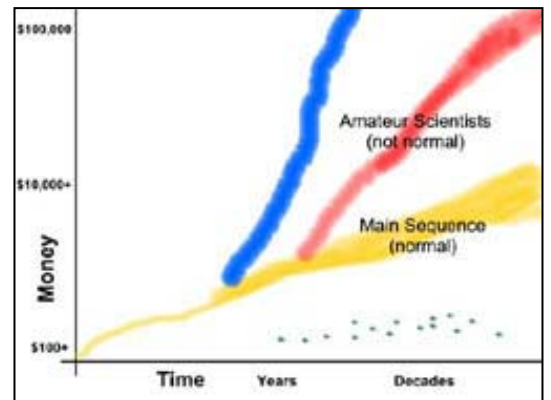


rate. Near the bottom we find the burnt out cinders of evolved stars, the white dwarfs.

Many things can be illustrated using the H-R Diagram, but mostly it is an excellent way to track stellar evolution, the birth, life and death of stars.

I have invented something similar to describe the evolutionary track of amateur astronomers. I call it the T-M Diagram. The vertical axis represents money, in dollars. It is a log scale. The horizontal axis represents time, in months, years and decades; also a log scale.

Through the middle of the diagram we find our normal amateur astronomer as he progresses from an initial minor



Veering off to the right and up is the instability strip, where we find stars that have undergone changes in their interiors and are now pulsating, like Miras and Cepheids. You knew I had to slip in something about variable stars, right?

Near the top left is where huge, massive, ultra-luminous stars spend their short lives (for stars anyway), gobbling up their interior resources at a fatal

investment of time and money, say a few books and some binoculars, to more sophisticated and expensive

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Superstar Hide and Seek by Dr. Tony Phillips

It sounds like an impossible task: Take a star a hundred times larger in diameter and millions of times more luminous than the Sun and hide it in our own galaxy where the most powerful optical telescopes on Earth cannot find it.

But it is not impossible. In fact, there could be dozens to hundreds of such stars hiding in the Milky Way right now. Furiously burning their inner stores of hydrogen, these hidden superstars are like ticking bombs poised to 'go supernova' at any moment, possibly unleashing powerful gamma-ray bursts. No wonder astronomers are hunting for them.

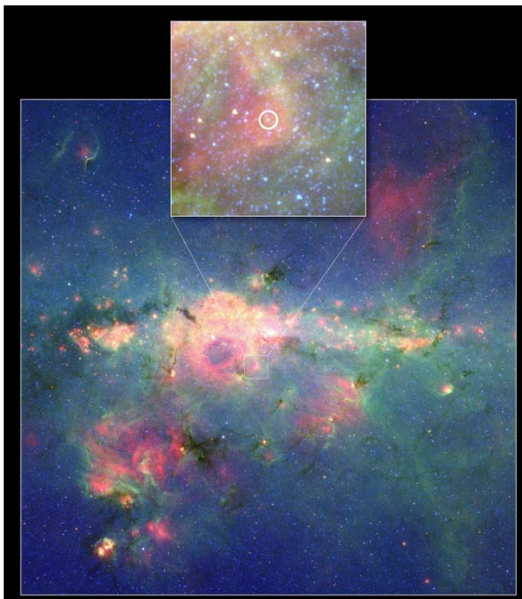
Earlier this year, they found one.

"It's called the Peony nebula star," says Lidia Oskinova of Potsdam University in Germany. "It shines like 3.2 million suns and weighs in at about 90 solar masses."

The star lies behind a dense veil of dust near the center of the Milky Way galaxy. Starlight traveling through the dust is attenuated so much that the Peony star, at first glance, looks rather dim and ordinary. Oskinova's team set the record straight using NASA's Spitzer Space Telescope. Clouds of dust can hide a star from visible-light telescopes, but Spitzer is an infrared telescope able to penetrate the dusty gloom.

"Using data from Spitzer, along with infrared observations from the ESO's New Technology Telescope in Chile, we calculated the Peony star's true luminosity," she explains. "In the Milky Way galaxy, it is second only to another known superstar, Eta Carina, which shines like 4.7 million suns."

Oskinova believes this is just the tip of the iceberg. Theoretical models of star formation suggest that one Peony-type star is born in our galaxy every 10,000 years. Given that the lifetime of such a star is about one million years, there should be 100 of them in the Milky Way at any given moment.



The "Peony Nebula" star is the second-brightest found in the Milky Way Galaxy, after Eta Carina. The Peony star blazes with the light of 3.2 million suns.

Could that be a hundred deadly gamma-ray bursts waiting to happen? Oskinova is not worried.

"There's no threat to Earth," she believes. "Gamma-ray bursts produce tightly focused jets of radiation and we would be extremely unlucky to be in the way of one. Furthermore, there don't appear to be any supermassive stars within a thousand light years of our planet."

Nevertheless, the hunt continues. Mapping and studying supermassive stars will help researchers understand the inner workings of extreme star formation and, moreover, identify stars on the brink of supernova. One day, astronomers monitoring

a Peony-type star could witness with their own eyes one of the biggest explosions since the Big Bang itself.

Now *that* might be hard to hide.

Find out the latest news on discoveries using the Spitzer at www.spitzer.caltech.edu. Kids (of all ages) can read about "Lucy's Planet Hunt" using the Spitzer Space Telescope at spaceplace.nasa.gov/en/kids/spitzer/lucy.

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

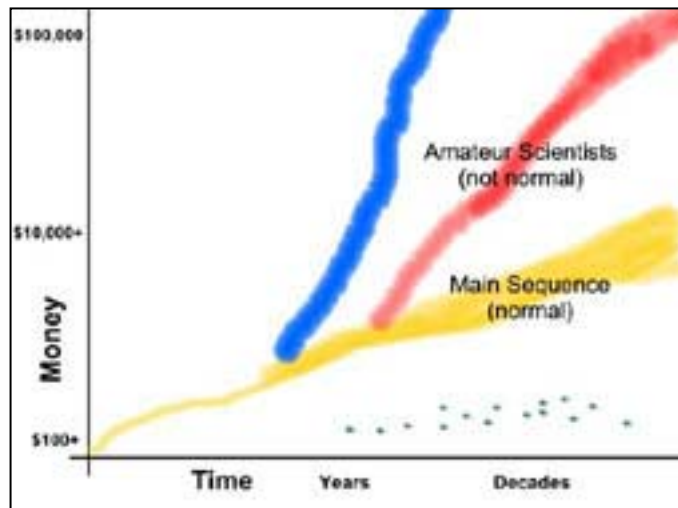
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items. After a few months or years the amateur probably purchases a telescope and some accessories, and over a period of years to decades may invest several thousand dollars

.For some, once they have tracked down and observed the Messier objects and some other faint fuzzies, they get the bug to try something else, maybe even contribute to science in some way. After a few years they break from the main sequence and form their own branch of the T-M Diagram. They may become variable star observers, search for novae, supernovae, asteroids or comets, or they may become planetary imagers, employing digital SLRs or CCD cameras.

This invariably leads to larger aperture instruments, computers, CCDs, home observatories and an extreme laundry list of accessories, nay, *necessities!* Before they know it, usually in a matter of years, they have spent tens of thousands of dollars on their hobby. This is not normal behavior and may lead to serious consequences later.

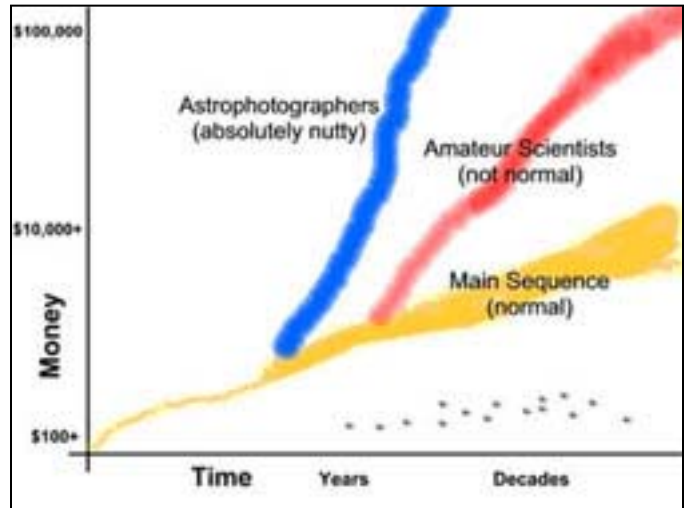
Even more worrisome is the path taken by the serious astrophotographer. These poor people give up their souls, money and in extreme cases, family ties, to pursue the ultimate images of galaxies and nebulae. The addiction takes hold quickly, and there seems to be almost no limit to the time and money they will invest to get the 1000th perfect image of the Eskimo Nebula.



Across the top of the T-M Diagram we see a dashed line. In spite of its interrupted appearance,

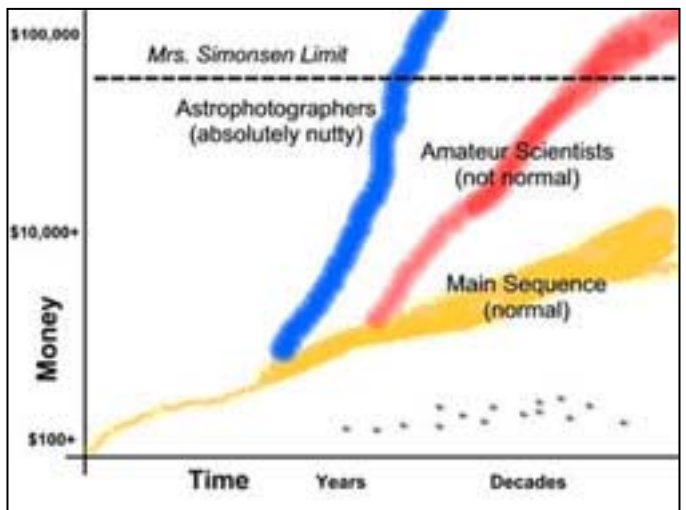
this line represents a definite limit. The Mrs. Simonsen Limit, which no amateur in this house will dare to cross.

Lastly we find, represented by small circular im-



pressions near the bottom of the T-M Diagram, the burnt out remains of once promising amateur astronomers, who after decades pursuing a hobby that has grown into an obsession, or worse, find themselves insane and bankrupt.

We will discuss this troubling trend in astronomy in



future blogs, when we address such things as aperture fever and the signs you or your loved one may be suffering from 'astronomy obsession'. Stay tuned.

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Call For Observations–Pisces Austrinus

By A.J. Crayon

Piscis Austrinus isn't a constellation we spend much time with, especially since almost all of the NGC entries are galaxies and we can find all of these we want in the spring time. Yet there are some interesting ones bright enough to be seen in an 8" telescope. So it is with this in mind that this constellation was selected. Again SAC observers didn't disappoint us they came through with flying colors. I hope you enjoy this selection as much as they did collecting the observations.

The first entry was an asterism titled **Air Balloon**. Perhaps I could have given better directions by including the comment that 3° 20' northeast is M30. In all cases each observer wasn't completely satisfied it was located. Decide for yourself.

60mm f 5.8 ETX, 39x; Rick Tejera: Hard to see a balloon in this asterism. Possibly there are three stars in a triangle to the west that could be the envelope of the balloon and several stars to the east that could be the basket. It's a stretch.

8" F6 Newtonian, 38X; Charlie Whiting: The globe of the balloon is formed by 5 or 6 seventh to ninth mag stars in roughly a circular pattern. The basket is defined mostly by 3 seventh to eighth mag stars. The basket "hangs" to the east north east of the globe.

8" f6 Dobsonian, 60x; Rick Tejera: The asterism is still a stretch to see a balloon, although the grouping of stars that would be the basket is bit more defined.

16" F4.5 Dobsonian, 55X; Dave Hofland: I'm not certain I found this asterism. If I have the right spot I found ~ 20' diam. "loop" of stars, three of them ~8-9 mag are on the W side of the loop and fainter stars close the loop, although the NE side does not appear really "closed" to me. A faint tail of sorts dribbles off to the east for about another 20'. That's the closest thing I see in the area that would seem to meet the description, otherwise I missed it.

18" f4.5, Dob, 65X; Dan Gruber: (I'm not certain that I found the correct object.) Large ring of stars 50' X 60' elongated N - S, consisting of 10 - 12 mag 7 - 8 stars in a very rough circle. There are at least a dozen other, fainter stars around the ring. There's a gap in the ring that extends over almost 90 degrees in the SE quadrant. Inside the ring there's a dipper-like asterism composed of about 10 stars mag 10 - 11. The dipper opens to the SE and the handle extends SW.

The first of the galaxies was **NGC7135**. Here each was satisfied they found the correct galaxy.

8" f6. Dobsonian, 80x; Rick Tejera: Seen with averted vision, would wink in & out. Almost stellar-like, very slightly elongated to N-S. Located at the base of an

elongated Cepheus shaped asterism.

8" F6 Newtonian, 150X; Charlie Whiting: I just barely detected this galaxy using averted vision. It is just off the southeast side of a triangle of 3 field stars. All I could see was a very faint gray smudge.

16" F4.5 Dobsonian, 261X; Dave Hofland: ~3 deg NNW of 3rd mag Gamma Gruis. ~1' diam glow just SE of a 5' wide triangle of ~10-11 mag stars, gradually much brighter middle.

18" f4.5, Dob, 329X; Dan Gruber: A faint oval galaxy 3' X 2' N - S with a brighter core but no nucleus. There is a very faint star (mag 13 - 14) at the western edge of the core just touching the halo. A few minutes west of the galaxy there's a nice right triangle of mag 11 stars with the hypotenuse facing SW. At **209X** with a slightly wider field, there is a small, very faint galaxy about 20' W (perhaps NGC 7130, yes ajc).

The next selection, consisting of 5 galaxies in one field of view and has an alternate name of Hickson 90. The first of these **NGC7172** is easy to identify. The others, in a clump about 7' south, aren't. According to decreasing magnitudes they are NGC7176 at 11.3, NGC7172 and LEDA198475 both at 11.9, NGC7173 at 12.0 and NGC7174 at 13.3. It is understandable that identification of some of these galaxies wasn't an easy task.

8" f6, Dobsonian, 80x; Rick Tejera: Seen with averted vision, not much detail to be seen, in spite of it's size it apparently has a low surface brightness as it could not be held with direct vision.

8" F6 Newtonian, 150X; Charlie Whiting: I was unable to detect NGC 7172. Perhaps too much atmospheric extinction. Due south of NGC 7172, I was able to see some of the Hickson 90 group of galaxies (NGC 7173, NGC 7174, NGC 7176 and LEDA 198475). I saw 2 halos and 2 nuclei with averted vision only. The halos appeared to overlap. I don't know which 2 galaxies I saw. The more northern halo and nucleus probably belonged to NGC 7173, while the southern halo and nucleus was the other 3 overlapping.

16" F4.5 Dobsonian, 261X; Dave Hofland: ~4' N of the trio of NGC 7173/74/76, a moderately faint rather smooth ~2'x1' oval glow aligned E-W, no distinct nucleus.

18" f4.5, Dob, 209X; Dan Gruber: This galaxy is elongated 4' X 2' E - W. It has a faint halo brightening gradually to a core without an obvious nucleus. The field is quite interesting. There are two chains of mag 11 - 13 stars extending southward from the galaxy, one from the eastern tip and the other from the western end.

(Continued on page 5)

(Continued from page 4)

There are at least two other galaxies south of 7172, between the ends of the two star-chains.

The elliptical **NGC7173** and is in the grouping south of NGC7172. It is also the northern most of the remaining Hickson galaxies.

8" f6, Dobsonian, 80x; Rick Tejera: Seen as slightly smaller and about as bright as NGC 7174, it is elongated about 1 1/2 -1, and perpendicular to NGC 7174.

16" F4.5 Dobsonian, 261X; Dave Hofland: ~ 1.5 deg NW of 4.5 mag Mu PsA and 4.9 mag Tau PsA, At **55x** a pair of small faint spots of haze ~10' NW of a 6.6 mag star. At **261x** two areas of glow are seen with averted vision, separated by ~1' aligned ~SE-NW, the SE member (overlapping pair NGC 7176 and NGC 7174) is extended ~E-W with the E side (7176) much brighter than the W side (7174). The E side has a small brighter middle, the W side is rather smooth glow. <1' NNW is NGC 7173, round faint spot of with a gradually brighter middle.

18" f4.5, Dob, 329X; Dan Gruber: This is one of the galaxies (the northernmost) in the field south of NGC 7172. It is roughly round about 3 - 4' in diameter, with a faint halo that fades into the background. There is a bright core and a possible stellar nucleus.

The early type spiral **NGC7174** is a little larger, somewhat elongated in an easterly position and at mag 13.3 is the faintest of the group.

8" f6, Dobsonian, 80x; Rick Tejera: Brightest of the group elongated about 3-1, slightly brighter to the middle.

16" F4.5 Dobsonian, 261X; Dave Hofland: With brighter NGC 7176 to its E, NGC 7174 is an E-W elongated faint ~1' x <1' extension of the NGC 7176 halo.

The last, another elliptical, is **NGC7176** only very slightly elongated with an uncertain position angle. Also involved in this triple grouping is the mag 11.9 galaxy **LEDA198475**, not part of the Hickson group, located between NGC7173 and NGC7174.

8" f6, Dobsonian, 80x; Rick Tejera: Suspected with averted vision as a brightening in NGC 7174 away from NGC 7173. **LEDA198475**: Seen as a small knot between NGC 7174 & NGC 7173. Seen with averted vision only.

16" F4.5 Dobsonian, 261X; Dave Hofland: The E member, and brightest member, of an E-W aligned pair of overlapping galaxies. The pair appears as ~2'x1' wide slightly bent E-W aligned glow with averted vision, with the E side (NGC 7176) an ~1' diam round glow, gradually much brighter middle though no distinct nucleus, much brighter than the W side.

18" f4.5, Dob, 329X; Dan Gruber: These two galaxies,

south of both NGC 7172 and 7173, overlapped and I observed them together. NGC 7176 is the eastern member of the pair. The eastern halo of 7176 is well-defined and roughly circular about 3' in diameter, and there is a bright circular core. NGC 7174 adjacent to the west has a dimmer diffuse and irregular western halo that fades into the background. There's no core or nucleus other than that of 7176. Together the two galaxies are roughly 5' X 3' elongated E - W. I could not see any boundary or obvious transition between the two. They look like a single galaxy with a "smeared" western halo and an off-center (to the east) core.

Moving on, past Hickson 90, is the elongated **NGC7314**. NGC7314 is 4' to the southwest and is 11th mag.

8" F6 Newtonian, 60X; Charlie Whiting: Detected this galaxy as a faint gray blob due west of an 8.4 mag star. **150X**: I was able to see this galaxy with direct vision and with averted vision. Overall it is fairly large, about 4'. Not as dim as the other galaxies in Piscis Austrinus. It is a little larger in the north-south axis than in the east-west axis. No nucleus seen. Some mottling, maybe spiral arms? Hard to tell. SAC data indicates this is a barred spiral with loose arms. I tried to see / detect NGC 7313 to the southwest of 7314. At best all I saw was a star at the place where 7313 belonged.

16" F4.5 Dobsonian, 261X; Dave Hofland: ~ 1.5 Deg NW of 4.2 mag Epsilon PsA. At **55x** just barely detectable small spot of glow ~ 1 deg due E of 6.4 mag Zeta PsA. **261x** ~4'x1' streak of diffuse glow aligned ~N-S, ~2' E of a 12th mag star.

18" f4.5, Dob, 329X; Dan Gruber: Very elongated 6' X 2' N - S, with a halo that fades at the edges and brightens to a elongated but diffuse core about 3' X 1' also N - S. There's a faint mag 13 - 14 star just east of the core. There might be another galaxy about 5' SSW, very small and very faint.

Moving away from the NGC for a moment is **IC5269**, a rather small, elongated galaxy of mag 12.2.

8" F6 Newtonian, 150X; Charlie Whiting: At first I was unable to detect this galaxy. The area around it is rather barren, except for a few 14th mag stars. Then I tried bumping the Dec control of my mount back and forth. That did it. The motion of the object in the eyepiece gave away its location. I cannot tell you any details, only that I located and detected it.

18" f4.5, Dob, 329X; Dan Gruber: A very faint galaxy elongated 2' X 1' NE - SW with a faint halo and a bright core elongated slightly in the same direction. There is no nucleus.

Next is the nearly edge-on **NGC7361** at mag 12.3. The observing list asked if anyone could detect the little brighter middle. Read on and see.

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President's Corner

By Richard Harshaw



Greetings, fellow Star Gazers! This being my first President's Corner as your new president, I would like to outline what I hope we can accomplish together in 2009 as one of America's premier astronomy clubs.

2009: The International Year of Astronomy

As you may have heard, 2009 has been declared the International Year of Astronomy by the United Nations Education, Scientific and Cultural Organization (UNESCO), in honor of the 400th year of Galileo's first observations of the universe with a telescope. (Aren't you glad he did!)

Mike George of the Arizona Science Center has contacted SAC about our helping them celebrate this milestone in science. Starting with a special Galileo Day on January 10, the Science Center will offer monthly astronomy days throughout the year. The Science Center is asking local clubs to help with daytime public activities and evening star-gazing sessions with telescopes. I will be working with the Board of Directors to coordinate SAC's participation and to work with the other astronomy clubs in the Valley (EVAC, PAS, DFAC, etc). Your help will be greatly appreciated and I am sure the citizens of the Valley of the Sun will be grateful for your participation too. It will be a great opportunity for us to work on my second objective for 2009...

Expanding Our Membership

I will be working with the Board to find ways to expand our

membership, including the possibility of a new membership classification for students, and possible dues endowments for young people who want to pursue astronomy but are too poor to come up with the dues. You never know when an economically deprived child from our city may have his or her heart ignited by the wonders of the universe and go on to contribute powerful science to humanity! I also want to explore creating a brochure that describes SAC and what it does and how to become a member. These brochures could be handed out at public events and given to guests at meetings (as part of a new "guest packet"?).

Expanding our Public Outreach

I want to see SAC continue participation in the Messier Marathon, the Grand Canyon North Rim Star Party, the All-Arizona Star Party and others and provide assistance to schools and churches that request help for evening astronomy sessions.

Staying Economically Solvent

At the November General Meeting, treasurer Charlie Whiting sounded the ominous note that we are in danger of running a deficit in 2009. I want to work with the board to investigate non-profit status for SAC. That will make it possible for businesses and individuals to give to SAC as a tax deduction, and some businesses have matching grant programs—if an employee gives \$25, say, to a qualified group, the employer matches it. I also want to work with the members and the Board to find other ways to generate funds for our club. All in all, 2009 promises to be a busy and exciting year for SAC in particular and our hobby in general. I look forward to what we do together this year! Keep looking up!

Monthly Trivia Question

This month the questions is: What procedure used to get help navigate to the moon is use by amateur Astronomers today?

Last month's Answer: What procedure used to get help navigate to the moon is use by amateur Astronomers today? Answer: The next time you're out aligning your got telescope thank Charles Stark Draper. Draper's instrumentation laboratory at MIT developed the navigation system for Apollo. The system was an inertial system that used a gimbaled platform kept oriented in space by gyroscopes. Your scope doesn't have gyroscopes you say, true. But during flight in translunar space, the platform would slowly drift out of alignment. The orientation of the spacecraft with relation to navigation stars was easily calculated. The Command Module Pilot would, from the lower equipment bay, Adjust the attitude of the space craft until he sighted the proper navigation stars in the spacecraft's sextant. He would note the angle of the star and compare it to the angle predicted to determine how much the platform drifted. The platform could then be realigned. Sound a lot like your two star alignment? The procedure we use is a direct offshoot of that that led Apollo to the Moon.

When presented with doubts as to if it would work, Draper offered to "Volunteer as a crewmember on the Apollo Mission to the moon. Let me know what application blanks should fill out...". His confidence was well borne out as Apollo 8 entered lunar orbit within 150 feet of the expected location. During the Mission, Command Module Pilot Jim Lovell's alignments were often more accurate than those obtained by telemetry, the reverse of what was expected.



Charles Stark Draper 1901-1985

The MIT Instrumentation Lab was renamed the Charles Stark Draper Laboratory in his Honor.

January 2009

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

Schedule of Events for January 2009

Jan. 4th	Moon at first quarter at 0456mst.
Jan. 6th	ATM Sub group meeting at Paul Lind's house
Jan. 9th	SAC Meeting at Grand Canyon University at 1930
Jan. 10th	Moon is full at 2027mst.
Jan 17th	Moon at Last Quarter at 1946mst.
Jan. 17th	SAC Star Party, Site: Saddle Mountain, Sunset 1748, Ast. Twilight 1915, Moon-rise 0114.
Jan. 24th	DOTM Star Party at the Antennas, Sunset: 1750, Ast. Twilight ends 1925, Ast. Twilight begins 0609
Jan. 26th	Moon is new at 0055mst.

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8" F6 Newtonian, 150X; Charlie Whiting: I saw this galaxy as very elongated, 4' x 1'. Aligned approximately due north. Pretty faint - could only detect / see it with averted vision. No nucleus noted. Halo brightness equal over the whole extent. There's a 7.8 mag star to the northwest. In a lower power view there's a close pair of stars to the southeast. The SAC data indicates that this is a spiral galaxy with loosely wound arms. It is listed as nearly edge on. Listed as 13 mag.

16" F4.5 Dobsonian, 261X; Dave Hofland: ~ 3 deg W of Alpha PsA (Fomalhaut) very faint averted vision only ~4'x<1' ~N-S aligned streak of diffuse glow slightly gradually brighter middle.

18" f4.5, Dob, 329X; Dan Gruber: A very dim spindle 5' X 1' N - S without an obvious core. The halo brightens slightly toward the center but without any definition. There's a mag 8 star about 5' SE that must be moved out of the field for best viewing.

Last we have the very elongated **IC5271** at mag 11.6. Again, the observing list asked if the observer saw anything in the middle.

8" F6 Newtonian, 150X; Charlie Whiting: Finally, a galaxy that is at least bright enough to see some form to it. I still needed averted vision to see it. It is elongated about 4 to 1. Aligned to the southeast. Uniform brightness over its whole extent. About 2 arc minutes long. There is a 12th mag star to the north and a little east.

16" F4.5 Dobsonian, 261X; ~1.5 deg SE of 4th mag Gamma and Delta PsA, **55x** can just detect it, **261x** ~2'x1' SE-NW aligned fat oval pretty even lit a little brighter middle no distinct core. ~2' SW of a 12th mag star, quite nice little galaxy

18" f4.5, Dob, 329X; Dan Gruber: This galaxy is about 3' X 1' NW - SE with a dim halo and a bright elongated core. There is no nucleus.

Call for Observations

For January we will do something a little different, like do a study of Trumpler classification for open clusters. Briefly there are 3 codes used to describe a cluster. They are concentration, magnitude range and richness. The first, concentration, indicates how the cluster stands out from the Milky Way background and used 4 Roman Numerals. Their descriptions are

- I Detached, strong concentration towards the center,
- II Detached, weak concentration towards the center,
- III Detached, no concentration towards the center,

IV Not well detached from surrounding star field.

There are 3 number for magnitude range; 1 for small or ± 2 magnitudes, to 3 for wide range. One of 3 letters are used for richness they are p for poor, under 50 stars; m for medium with 50 to 100 stars and r for rich, over 100 stars. For this session we will have all concentration classes as they seem to be the description causing the most difficulty. To this end we will not stay in one constellation as in the past, but will meander around fall constellations. If you are interested in learning more about this classification methodology see *Touring the Trumpler Classes* by Richard Harshaw, which can be found on the SAC web site. To get a better feel for the classification, pan around the cluster to see how the detached description relates to each. While at it note the magnitude range and count, or estimate, the number of stars. Now on to the clusters, in descending concentration order. **M 37** in Auriga is I 2r. **IC 361** in Camelopardalis is II 1 r. **NGC1513** in Perseus is II 1 m. **NGC7789** in Cassiopeia is II 2 r. Back into Perseus for III 1 r is **NGC1245**. Finally, again in Cassiopeia is **NGC 225** an III 1 p cluster. Now, having done this study, perhaps we should consider doing during the summer. Let me know your thoughts and preferences.

It just seems there is more and more left to do in Cassiopeia, so let's not delay any more. While there are a few galaxies we will steer clear of them, at least until the spring. For this pass we will do, mostly, open clusters and, oh, don't forget to review the Trumpler Class for each. With that the first is **NGC7788**, containing about 20 stars from 10th mag. It is just northwest of NGC7790, don't confuse them. Moving east about 4° is a Herschel 400, **NGC 136** that is much smaller and fainter. **King 16** is to the northeast and may be a little harder to detect than the previous cluster. Moving another 6.6° east is our next, **NGC 637** another Herschel 400 entry. It is also pretty small but should stand out from the Milky Way background. Advancing much farther east is **NGC1027**, last of the Herschel 400 entries for this month. It is rather large, has about 40 stars from mag 9.3; but this depends on where the cluster boundary is determined. Our last is an asterism titled **Kemble's Kite**, is located at R.A. 03 28.0 Dec +72 00, is about 6th mag and 90'X30', includes red M2 star - what color do you see. Can you see its 6th mag naked eye? What about using binoculars to locate then try naked eye. Yes it does look like a kite, don't you think so?

Bits and Pisces, Minutes of the October General Meeting

By A.J. Crayon



The meeting was called to order on the 14th of the month with 38 people in the meeting room. There were no visitors or new members present. The President Steve Dodder made the announcement that the novice meeting would be held at his residence and observatory on an as needed basis. All we need to do is contact him in advance.

The treasurer announced we had \$3715 in the checking account and \$273 cash-on-hand. Yet there's the possibility of a \$600 to \$800 short-fall for the coming year. Now is the time to pay dues for 2009. Check the web site or newsletter for details, make check payable to SAC and get it to Charlie Whiting.

Reference was made about the 2009 calendar to which Rick Tejera indicated it would be in the next newsletter.

Coming Events, that haven't yet happened. 12/09, ATM Paul Lind; 12/20, star party site TBD; 12/27, star party Antennas; 01/18, star party site TBD; 01/25, star party – Antennas. We will attempt to find a site for TBD star parties and are expected to be in the low desert.

Election for 2009 Board was opened and the final two positions filled. They are Dick Harshaw – President; Chris Hanrahan – Vice-President; Treasurer – Charlie Whiting; Secretary – AJ Crayon; Properties – Jack Jones. It was proposed, seconded and passed to accept the slate of candidates by acclamation. Folks, we should keep in mind the President and Vice-President have been members of SAC for less than 18 months and they may not know the ins and outs of our club. Consequently they should be given our undivided support. More so now than if a long standing member had come forward.

For Show-n-Tell Jimmy Ray displayed a travel case for ETX90. He even described how to make one from a small suit case. Next Steve Dodder discussed his binocular mount that is under construction. This nice looking parallelogram mount is made of solid oak. He has CAD plans if anyone is interested. Finally Steve Coe gave a slide presentation of his travels west to the Chief Land Star Party in Florida and to the Smithsonian Museum in Washington, D.C.

After break Vice-President Jennifer Polakis introduced our speaker Dan Heim from Desert Foothills Astronomy Club. His talk: *Light Pollution*.

New Board Members

As noted above in the November meeting minutes, nominations for officers were concluded candidates nominated and elected.

Incumbents who ran for election were:

- ★ Treasurer: Charlie Whiting
- ★ Secretary: A.J. Crayon
- ★ Properties: Jack Jones

Current President Steve Dodder & Vice president Jennifer Polakis opted not to run for re-election this year. Thus nominations were made to fill these two positions.

The final nominees were:

- ★ President: Dick Harshaw
- ★ Vice-president Chris Hanrahan.

Upon conclusion of nominations, since all candidates ran unopposed, a motion was made to accept the slate as is, which was passed unanimously.

Let's all thank Steve & Jennifer for their service and dedication, and offer Dick & Chris (and the returning board members) our support.



Incoming President Dick Harshaw with outgoing president Steve Dodder at the Holiday Party



Incoming Vice president Chris Hanrahan with outgoing Vice President Jennifer Polakis

SAC Membership Services

Saddle Mountain Star Party



GPS DATA

N33° 21.465, W113° 2.323, Elev: 1034

Drive west on I-10 to the Wintersburg Rd. Exit, this is Exit 98. Turn left (south) over the freeway and you will be driving directly toward the domes of the Palo Verde Power Station. Drive for 9.1 miles until you reach a "T" at Elliot Rd. Turn right (west) on Elliot Rd.

** For the return trip, notice that Wintersburg Road has become 383rd Ave. **

Drive west on Elliot Rd for 5 miles until you reach mile marker zero. The road turns sharply right then the pavement ends and a wide dirt road begins. Drive 4 miles on the dirt road to mile marker 11. Turn left and drive 0.3 miles, there is a wide opening on the left side of the road. There is a white rock marker on the left and room for lots of telescopes.

SUCH A DEAL

Orion 8" F10 SCT & SkyView Pro Equatorial Mount

Standards include: XLT coatings, 24mm Plossl and manual for mount. Extras include: Pro GoTo Upgrade Kit, v 3.20, firmware upgraded, cable and documentation

manual for GoTo upgrade kit, polar axis finder and 12v battery.

List price \$1999.00

This equipment is 18 months old. Used sparingly because 14.5" Dob gets preference. Reason for sale is to finance an upgrade.

Sale price \$1600.00

If you are interested in seeing this telescope contact AJ Crayon at 602-938-3277 or e-mail at acrayon@cox.net



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 your prefer a printed copy.

Please send me a hard Copy of the newsletter

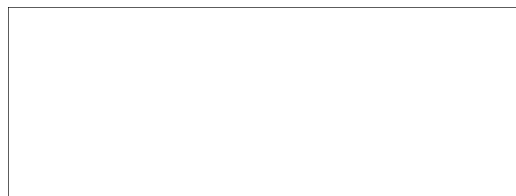
SAGUARO ASTRONOMY CLUB

December 2008

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Glendale, AZ 85308-9117

Phone: 623-572-0713

Email: newsletter@saguaroastro.org



Videmus Stellae



SAC Schedule of Events 2009

SAC Meetings

January 9th, 2009	July 10th, 2009*
February 6th, 2009	August 7th, 2009
March 6th, 2009	September 4th, 2009
April 10th, 2009	October 2nd, 2009
May 8th, 2009	October 30th, 2009
June 5th, 2009	Holiday Party, TBA

Future Planning

March 28th, 2009	All Arizona Messier Marathon
June 19th-20th, 2009	5 Mile Meadow Star Party

SAC Star Parties

Date	Sunset	Astronomical Twilight Ends	Moonrise	Site
Jan 17th, 2009	1748	1915	0114	S
Feb 14th, 2009	1815	1939	0002	S
Mar 21st, 2009	1844	1939	0417	S
Apr 18th, 2009	1905	2033	0246	S
May 16th, 2009	1925	2104	0111	C
Jun 13th, 2009	1942	2128	2339	C
Jul 18th, 2009	1940	2121	0229	C
Aug 15th, 2009	1916	2047	0117	C
Sep 12th, 2009	1839	2004	0012	C
Oct 10th, 2009	1800	1923	2313	S
Nov 7th, 2009	1729	1855	2216	S
Dec 12th, 2009	1719	1849	0455	S

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