

# Saguaro Astronomy Club



# SACnews

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## Astronomy: Hobby or Obsession? By Mike Simonsen: Simostronomy

I've often wondered if astronomy is still a hobby for me, or if it has evolved into something much more serious. Have I become *obsessed*?

To begin my quest for the truth, I looked up the definition of astronomy in several sources. The one that seems the most sensible is:

"The scientific study of the universe and of objects which exist naturally in space, such as the moon, the sun, planets and stars."

So, what then, is a hobby? Research yielded these results:

"A pursuit outside one's regular occupation engaged in especially for relaxation."

"An activity which someone does for pleasure when they are not working."

Adding them together I'm not sure what to think about this concept. 'The scientific study of the Universe for relaxation and pleasure'? Sounds kind of crazy, doesn't it?

I was sure I was in trouble when I looked up the definitions of obsession. The first definition wasn't so bad:

"A compelling motivation."

Yes, I think I have been compelled and motivated by astronomy in many ways. But then I read:

"A *persistent disturbing preoccupation* with an often unreasonable idea or feeling."

Eew, that's creepy.

"Something or someone that you think about all the time."

Double eew, that's really creepy. I may have a problem. I do think about it all the time. I'm thinking about it right now!

How do we tell the difference between a nice, well-adjusted hobby and *astronomy obsession*?

What are the signs of *astronomy obsession*? Is there a cure?

Apparently, my search for the truth had just begun.

The evolutionary path that many amateur astronomers take seems benign at first glance. But as you will see, this path is fraught with danger at every step.

### Stars

The imagination and curiosity of individuals is often sparked by their first experience seeing the stars overhead from a very dark sky. This can happen on a camping trip or a vacation to a remote part of the world, far away from city lights. Most city dwellers, about 60% of the world's population now, never see the Milky Way from their homes. In fact, so few stars can be seen with the unaided eye from the city that most people just don't bother to look up any more.

### Constellations

Once they can actually see stars, patterns in the sky become obvious and the curious newbie astronomer will learn



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## Severe Space Weather

### by Dr. Tony Phillips

Did you know a solar flare can make your toilet stop working?

That's the surprising conclusion of a NASA-funded study by the National Academy of Sciences entitled *Severe Space Weather Events—Understanding Societal and Economic Impacts*. In the 132-page report, experts detailed what might happen to our modern, high-tech society in the event of a "super solar flare" followed by an extreme geomagnetic storm. They found that almost nothing is immune from space weather—not even the water in your bathroom.

The problem begins with the electric power grid. Ground currents induced during an extreme geomagnetic storm can melt the copper windings of huge, multi-ton transformers at the heart of power distribution systems. Because modern power grids are interconnected, a cascade of failures could sweep across the country, rapidly cutting power to tens or even hundreds of millions of people. According to the report, this loss of electricity would have a ripple effect with "water distribution affected within several hours; perishable foods and medications lost in 12-24

hours; loss of heating/air conditioning, sewage disposal, phone service, fuel re-supply and so on."

"The concept of interdependency," the report notes, "is evident in the unavailability of water due to long-term outage of electric power—and the inability to restart an electric generator without water on site."

It takes a very strong geomagnetic storm to cause problems on this scale—the type of storm that comes along only every century or so. A point of reference is the "Carrington Event" of August-September 1859, named after British amateur astronomer Richard Carrington who witnessed the instigating solar flare with his unaided eye while he was projecting an image of the Sun on a white

screen. Geomagnetic storms triggered by the flare electrified telegraph lines, shocking technicians and setting their telegraph papers on fire; Northern Lights spread as far south as Cuba and Hawaii; auroras over the Rocky Mountains were so bright, the glow woke campers who began preparing breakfast because they thought it was morning!

"A contemporary repetition of the Carrington Event would cause ... extensive social and economic disruptions," the report warns. Widespread failures could include telecommunications, GPS navigation, banking and finance,

and transportation. The total economic impact in the first year alone could reach \$2 trillion (some 20 times greater than the costs of Hurricane Katrina).

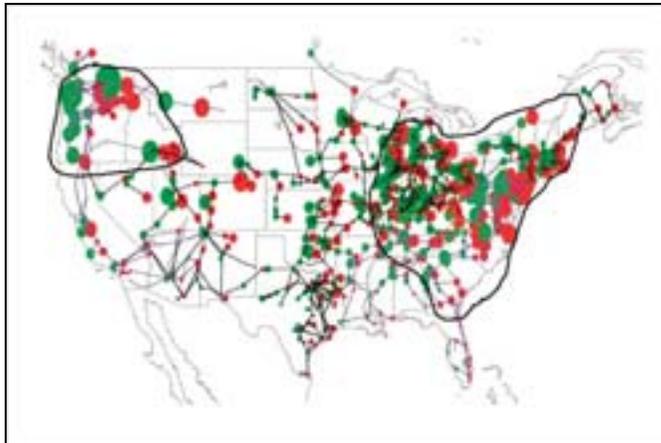
The report concluded with a call for infrastructure designed to better withstand geomagnetic disturbances and improvements in space weather forecasting. Indeed, no one knows when the next super solar storm will erupt. It could be 100 years away or just 100 days. It's something to think about ... the next time you flush.

One of the jobs of the Geostationary Operational Environmental Satellites (GOES) and the Polar-orbiting

Operational Environmental Satellites (POES) operated by NOAA is to keep an eye on space weather and provide early warning of solar events that could cause trouble for Earth.

You can keep an eye on space weather yourself at the National Weather Service's Space Weather Prediction Center, [www.swpc.noaa.gov](http://www.swpc.noaa.gov). And for young people, space weather is explained and illustrated simply and clearly at the SciJinks Weather Laboratory, [scijinks.gov/weather/howwhy/spaceweather](http://scijinks.gov/weather/howwhy/spaceweather).

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



*On this power-grid map of the United States, the black-circled areas are regions especially vulnerable to collapse during an extreme geomagnetic storm. Inside those boundaries are more than 130 million people. Credit: National Academy of Sciences report on severe space weather.*

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the bright constellations like Orion, Ursa Major, Leo, Scorpio and others, until they know their way around the sky fairly well. In order to see fainter objects the amateur may purchase her first pair of binoculars and learn the sky to more depth.

### First Telescope

The acquisition of the first telescope can be the first real dangerous step on the road to destruction. The first look at the Moon through a telescope is often all it takes to get a person hooked on astronomy.

Seeing Jupiter and the Galilean satellites for the first time stirs feelings in most people they didn't know existed. The first look at Saturn and its rings is nearly 100% fatal. I think there should be a warning label on every telescope box saying, "WARNING: Looking through this telescope may change your life forever!"



### Messier Objects

It is the quest to observe all the [Messier objects](#) that is the event horizon for most amateur astronomers. Once this boundary is crossed, there is no escape for the unwary amateur. It begins simply enough with casual peeks at the Orion nebula or the Pleiades. Then many of the other bright Messiers become well known to them, and oft visited. Most of the passionate amateurs I know can literally kick their Dob and land it on M81 and M82, after years of showing these two fine galaxies to everyone they know.

This journey usually ends in frustration trying to eek out detail in M108 or the madness of trying to view all the Messiers in one night, an exercise in futility known as the ['Messier Marathon'](#).

### Aperture Fever!

The frustration experienced by amateurs, trying to see faint, fuzzy objects with their first pair of binoculars or their first modest sized telescope, leads to the first obvious symptom of astronomy obsession- Aperture Fever.

This is the unquenchable thirst for larger and larger telescopes and binoculars with which to view fainter and fainter objects. The history of astronomy in the last 400 years is littered with the wreckage of amateur and



professional astronomers investing their hearts, minds, souls and money into the quest for larger and larger telescopes!

(Note the telescopes shown here are actually *called* Obsession telescopes!)

This affliction is so serious I am devoting an entire blog to this subject alone.

### NGC and other faint object catalogs

Once hopelessly obsessed with viewing fainter and fainter galaxies, clusters and nebulae, the amateur discovers the New General Catalog and other catalogs and observing lists from which to satiate their appetite for photons emanating from faint, distant sources. As if this weren't madness enough, many take the next step into astrophotography or photometry!

### Deep sky photography and CCD imaging

It is with complete reckless abandon that the amateur dives head first into deep sky imaging and photometry. Once she has gone this far there is no stopping her until she hits rock bottom. Nothing else matters anymore, and there is little hope for intervention or salvation until the amateur is insane or bankrupt.

All of this can be graphically represented in what is now known as the [Simonsen T-M Diagram](#).

Other sure signs of impending *astronomy obsession* for the concerned spouse, relative or friend to look for are:

- *Observing alone*
- *Making excuses, finding excuses to observe*
- *Daily or frequent astronomy fix needed to function*
- *Inability to reduce or stop astronomy activities*
- *Becoming angry when confronted about astronomy habit*

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# Call For Observations--A Trumpler Tour

By A.J. Crayon

The Trumpler classification certainly drew observations and words out of SAC observers. So much so that another short discussion of the classification will be skipped, other than to suggest your reading [Touring the Trumpler Classes](#) by Richard Harshaw. It is found on the SAC web site. Also should we consider doing another study of the Trumpler codes for around the summer? Let me know.

**M 37**, I 2r, detached with strong central concentration, moderate range of magnitudes with more than 100 stars.

**14x70 Binocs**, Dick Harshaw and suburban locale: Easy, small and grainy.

8-inch SCT at 65x; Dick Harshaw, suburban locale: Dense, and a moving sight! Note the 9<sup>th</sup> mag O star at the center and the arrowhead shape. Smythe called it "a magnificent object." Webb said "the whole field being strewn, as it were, with sparkling gold-dust; and the group is resolvable into about 500 stars from 10<sup>th</sup> mag to 14<sup>th</sup> mag, besides the outliers. Even in smaller instruments, extremely beautiful, one of the finest of its class." Steve Coe calls it "a winter version of M11." Personal Rating: 1 E (1 = outstanding, E = easy).

**6" f/8 refractor 14mm**; Steve Coe: 88 stars in condensed cluster--WOW! Bright, very large, rich, much compressed, a magnificent cluster and a Winter favorite. There is a bright star dead center that is light orange in color. Several dark lanes wind through the cluster, they are most prominent on the south side. It is very well detached.

**8" f6 Newtonian, 48X**; Charlie Whiting: This open cluster has a Trumpler concentration rating of "I": detached, strong concentration towards the center. M 37 has a high concentration of its stars in its center portion. Away from the center, stars trail outward in lines. Some lines even look like spirals. Another aspect of this concentration classification is that the cluster is well detached from the background. I had to choose my eyepiece carefully in order to see and appreciate this feature. There is a significant amount of black sky around the outer fringes of M 37. M 37 has a Trumpler magnitude range rating of "2": more than +/- 2 and less than a wide range. A few of M 37's stars are tiny, bright, sharp pinpricks of light. A lot more stars are like small, bright fuzz patches, as though bunches of stars are huddling close together. Then there are some dim fuzz patches. Overall the magnitude range is probably 3 or 4 magnitudes, earning M 37 the middle rating. The final Trumpler classification is richness. M 37 gets an "r" rating because it contains over 100 stars.

**8" f/6, Dobsonian, 71X**; Rick Tejera: A large & Bright,

seen somewhat triangular in shape with a dark lane running E-W the brighter stars are to the south of this lane, several levels of stars seen here as opposed to the northern side of the cluster which showed as more uniform in brightness and showed some mottling. My Trumpler rating: II2r.

**18" f4.5, Dob, 66X**; Dan Gruber: The cluster has a strong central concentration, so if the Roman numeral in the designation means central concentration then the cluster indeed merits code I. However, it is much more clearly detached from the field in its eastern hemisphere than on the western side. The western hemisphere of the cluster doesn't look detached at all. This side of the cluster becomes sparse away from the center and in the equally sparse field there is no clear demarcation between the edge of the cluster and the field. If the first code is taken to denote detachment, then in effect this OC merits code I on its east side and code IV on its west side, or it could be summarized as partially or weakly detached. At **209X**, there are about 4 magnitudes of stars visible in the cluster (mag 9 or 10 to mag 13 or 14). If 1 means a magnitude range of 2 or less, then an observed range of about 4 magnitudes merits 2. There appears to be about 150 stars, which justifies richness code r.

**IC 361**, II 1 r, detached with weak central concentration, small range of magnitudes, more than 100 stars.

**8" f/6, Dobsonian, 71X**; Rick Tejera: Matched the star field but could not discern anything at the location of the cluster. Averted vision did not help here. Probably didn't give it enough time as it was PDC (pretty dang cold!)

**8" f6 Newtonian, 160X**; Charlie Whiting: This cluster is supposed to have 60 stars. The mag of the brightest star is listed as 14.6m. Edmund Scientifics' classic book, *All About Telescopes*, has a table of telescope performance that shows the faintest star that an 8" telescope can reach is 13.3m. I know from past experience that I have seen some 14 mag stars. I did not expect to be able to see 14.6 mag stars. But I was surprised! I detected 20 to 25 extremely faint and tiny pinpricks of light that scintillated for me like little dancers ducking in and out of shadows in a dark theater. I was amazed and awed. The cluster is quite spread out. I would class the cluster as III, detached from the background but not at all concentrated. For magnitude range all the stars that I could see must have been around 15<sup>th</sup> mag., so the rating number would be #1. Lastly for richness my results would be "poor" for less than 50 stars seen.

**8-inch SCT at 104x**; Dick Harshaw, suburban locale:

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Very faint, I could not resolve it. Personal Rating: 4 D (4 = fairly poor view, D = difficult)

**18" f4.5, Dob, 209X**; Dan Gruber: This is a very small (about 5' in diameter), faint cluster that is clearly detached from the field and has weak central concentration. The visible stars are very faint and seem to be mag 13 - 14 or perhaps mag 14 - 15, justifying code 1 for magnitude range. However, to the limit of visibility I counted roughly 50 stars. This would warrant code m, at most; by my count this OC is on the borderline between code p and code m. I certainly couldn't see the more than 100 stars required for code r.

**NGC1513**, II 1 m, detached with weak central concentration, small range of magnitudes and 50 to 100 stars.

**8" f6 Newtonian, 38X**; Charlie Whiting: There is a neat pattern of stars in a spiral figure that lead the eye to this cluster. **60X**: I saw this open cluster as Roman Numeral III - detached, no concentration to the center. I saw a magnitude range of at least 2, if not more. So I would classify this as #2. I saw 25 to 35 stars resolved. So, for richness, I would classify it as "poor" for under 50 stars.

**8" f/6, Dobsonian, 71X**; Rick Tejera: Lots going on here. the cluster shows a ringlet of stars near its southern edge and an E-W Chain of about 6 stars to the north of that. Both aspects are seen over a mottled background of unresolved stars, with several other stars noted resolved within what would be the boundary of the cluster. To the north there is an arc of bright stars surrounding the cluster for about 180 degrees. My Trumpler rating: II2r.

**8-inch SCT at 83x**; Dick Harshaw, suburban locale: Delicate- use averted vision. The rich field competes fiercely with it. It has a "C" shape, and a 10<sup>th</sup> mag star lies a few minutes N. Personal Rating: 2 M (2 = very nice, M = medium)

**11-inch SCT at 115x**; Dick Harshaw, suburban locale: A faint ringlet of six stars plus 3 or 4 outliers.

**13" f5.6, Newtonian, 100X**; Steve Coe: Pretty bright, pretty large, rich and somewhat compressed. 34 stars counted, including a nice arc of pretty bright stars on the North side. The bizarre thing about this cluster is that it is shaped like a horseshoe. Wouldn't it be fun to fly out there and see if that is the true shape of this cluster?

**18" f4.5, Dob, 209X**; Dan Gruber: Although the cluster clearly is detached, I did not see any central concentration at all; I would call it code III. The cluster has two lobes N - S. The southern lobe has more stars than the northern, but the stars appear evenly distributed within each lobe. I see 3 - 4 magnitudes of stars in the cluster, so I would call it code 2 rather than 1. I counted approximately 60 stars in the two lobes,

justifying code m. I would give this OC T classification III 2 m.

**NGC7789**, II 2 r, detached with weak central concentration, moderate range of magnitudes, more than 100 stars.

**6" f/6 Mak-Newt, 22mm**; Steve Coe: obvious cluster, Bright, large, compressed, a nice grouping. This low power only resolves about 15 stars. The 8.8mm is a great view, 31 stars are seen with direct vision, averted vision shows off another 20 very faint stars. The dark lanes that wind through the cluster are obvious.

**8" f6 Newtonian, 60X**; Charlie Whiting: I would rate this open cluster for concentration as a Roman Numeral II - detached with weak concentration to the center. The magnitude range is a 1 or 2 mag, so I would classify this as #1, but bordering on #2. At this magnification I saw about 60 to 80 stars. But on a previous observation at **120X**, I saw up to 100 stars. So I would classify this OC as "medium" to "rich".

**8" f/6, Dobsonian, 60X**; Rick Tejera: Seen as a large ringlet of about 8 bright stars with at least 50 stars resolved within the circle over a mottled background. My Trumpler rating: II2r.

**8-inch SCT at 65x**; Dick Harshaw, suburban locale: It shimmers, like the Wild Duck (M11). Use low powers. Higher powers suggest two curving dark lanes cutting into the cluster. Personal Rating: 1 E

**11-inch SCT at 115x**; Dick Harshaw, suburban locale: Grand sight! Many, many stars, mostly faint, and with a moderate spread in magnitudes. Too numerous to count; the field looked grainy it is so rich.

**18" f4.5, Dob, 209X**; Dan Gruber: This cluster has limited or no central concentration, although many stars are arrayed in arcs, chains, etc over its entire area. I would give it code III for concentration. The cluster is clearly identifiable but the periphery blends into the field. It would be appropriate to describe the cluster as weakly detached. This example again demonstrates to me why the Trumpler classification would be more useful if it noted degrees of detachment just as it does degrees of central concentration. The stars in the cluster appear to span 3 or 4 magnitudes, justifying code 2 for magnitude range. I count more than 150 stars, warranting code r for richness.

**NGC1245**, III 1 r, detached with no central concentration, small range of magnitudes, more than 100 stars.

**8" f/6, Dobsonian, 71X**; Rick Tejera: Seen as large with many stars resolved over a mottled background a chain of stars from the NE points to the cluster. Two Bright Stars to the SE & E. My Trumpler rating: III3r.

**8" f6 Newtonian, 150X**; Charlie Whiting: This open

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## President's Corner

### By Dick Harshaw



Was Santa good to you this year? Did you get any Astro-toys?

(Sigh) I did not, but had a wonderful time with my bride of 37 years, the kids and grandchildren. All I got under the tree was a lump of coal, but since my wife nodded her approval for the construction of my new observatory in the autumn, I cannot complain. Brilliant Sky Observatory (so named for the street on which I live) was built with the help of many SAC friends and had its official "first light"

December 30, 2008. (I had used it earlier in December with Darrel Spencer and his son, Noah, but had technical bugs that night that I had to work out. Dec. 30 was the first night of flawless operation, and it was a blast!). The second night I used BSO was New Year's Night, and with good dark skies, managed to bag 4 double stars, 4 open clusters, and 41 galaxies (some as faint as 13.4 mag!). The new PierTech motorized pier (elevator) works like a humming bird and made for a very comfortable night of viewing.

In a future SAC meeting, I will do a show and tell on the construction of BSO, and feature those who helped me pour cement and raise the roof (more on that later). I certainly hope to be able to get in a lot more observing in 2009 than I did in 08!

As you may have heard by now, 2009 is the International Year of Astronomy, in honor of Galileo's first use of a telescope to observe the heavens. SAC will be participating this year with other Valley clubs to help at star parties and special events at the Arizona Science Center, so if Steve Dodder or Chris Hanrahan approach you about helping out, please jump in and do your part. It will be a busy year and I don't want 3 or 4 hard-working members get burnout because many more members did not bother to help. The Science Center events are daytime events and will mainly involve us sitting at a table or booth, answering questions about SAC and amateur astronomy in the Valley of the Sun, and helping with some solar observing through properly equipped telescopes. (Let's hope for some sunspots! It has been a disturbingly quiet cycle so far.) There will also be ample opportunity to assist at evening star parties at the ASC too, and we will have the Thunderbird Park Star Party this spring, as well as the Grand Canyon Star Party (where I'll be at the North Rim with Steven Dodder and others).

Looking ahead for 2009, I don't think the weather could get much worse than it was in 2008, so here's to celebrating dark skies, awesome heavenly wonders, and good fellowship and comradere in the coming year!

Clear skies and dilated pupils to you all!

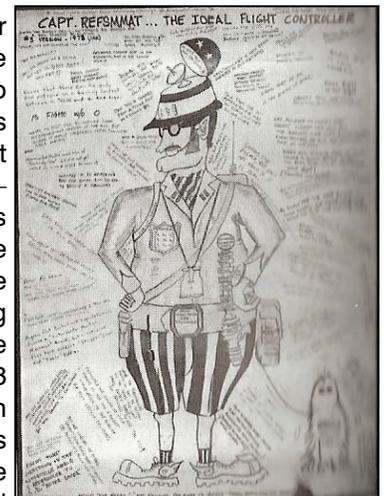
## Monthly Trivia Question

Which piece of Apollo hardware made a reappearance in Sept. 2002?

Last Month's Answer: Who was Captain REFSMMAT?: Captain REFSMMAT was a fictional characterization of the Ideal Flight Controller, drawn By Apollo Flight Controller Ed Pavelka. His drawings of Captain REFSMMAT were hung around bulletin boards in at Mission Control and the Controllers wrote notes on them, often letting off some steam from the pressures they faced in getting Apollo to the moon. The term REFSMMAT means "REFerence to a Stable Member MATrix". A REFSMAAT was in the simplest terms a definition of which way Up-Down, Left-Right & Fore-Aft was at any point in a Mission. Prior to any maneuvers, the ship's computer had to know which way to point the ship. While a single reference could be used, (i.e the Earth's Horizon at launch) it would make the instrumentation difficult to interpret. So for each major maneuver a new REFFSMAT would be loaded and the computer platform aligned to it. This would allow the FADI (Flight Attitude Direction Indicator or "8" Ball) to show a normal indication once the ship was pointed in the right direction. As An example for the Lunar Orbit Insertion (LOI), which slowed the spacecraft

down to allow it to enter Lunar Orbit, The REFSMMAT was set to be Level to the Moon's local horizon at the point of pericyynthion (x & y - Axis', the Z Axis was through the center of the moon and normal to the x & y Axis'). Depending on the mission, there were between 3 & 8 REFSMMAT's for a given flight. The REFSMMAT's were defined using the navigational stars, and were entered into the computer prior to the scheduled maneuver.

For a more detailed description, go to: <http://en.wikipedia.org/wiki/Refsmmat>



Captain REFSMMAT, The Ideal Flight Controller

# February 2009

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

## Schedule of Events for February 2008

Feb. 2nd	Moon at First Quarter at 1612
Feb. 3rd	ATM Sub group meeting at Paul Lind's house
Feb. 6th	SAC Meeting at Grand Canyon University at 1930, Speaker TBA
Feb. 9th	Moon is full at 0749mst.
Feb. 14th	SAC Star Party at Saddle Mountain: Sunset 1816, Astronomical Twilight ends 1940, Moonrise 0002. 4:22 Hours Dark Time
Feb. 16th	Moon at Last Quarter at 1436mst.
Feb. 21st	DOTM Star Party at the Antennas: Sunset 1825, Astronomical Twilight 1948, Astronomical Twilight Begins 0548. 10:00 hours Dark Time
Feb. 24th	Moon is new at 1834mst

## Future Planning

March 28th-29th	All Arizona Messier Marathon, Farnsworth Ranch
May 2nd	Thunderbird Star Watch, Thunderbird Park, Glendale

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cluster I would rate as Roman Numeral II for concentration. It was detached and had only a weak concentration to the center. Its stars spanned 2 or 3 magnitudes of difference. So I would rate the cluster as #2. I saw only 30 to 40 stars. So I would rate this cluster as "poor" for less than 50 stars.

**8-inch SCT at 104x**; Dick Harshaw, suburban locale: Nebulous and faint, it is round and very dense. Use high powers- it takes them well, but refuses to yield any secrets to you. A bright star is on the S side, and an 8 mag star lies to the NE. The brightest member is 12.0 mag. Personal Rating: 2 D

**11-inch SCT at 98x**; Dick Harshaw (Okie-Tex Star Party, 2005): 16 stars counted.

**13" f/5.6, Newtonian, 165X**; Steve Coe: I counted 82 members, many in nice chains of stars that form curved lines. This cluster takes high power well and the many faint members remind me of NGC 7789 in Cassiopeia.

**18" f4.5, Dob, 209X**; Dan Gruber: I agree this cluster has no central concentration. It's better detached on the south and east than on the north and west, so I would prefer to call it weakly or partially detached. I see only about two magnitudes of stars, justifying code 1. I count about 75 stars, justifying code m rather than r.

**NGC 225**, III 1 p, detached with no concentration, small range of magnitudes, less than 50 stars.

**8" f/6, Dobsonian, 71X**; Rick Tejera: Loosely packed cluster roughly rectangular in shape. Several chains of star within the cluster. Stock 24 just outside FOV. My Trumpler Rating: III3m.

**8" f6 Newtonian, 150X**; Charlie Whiting: I would classify this cluster as Roman Numeral III for concentration. It was detached from the background but had no concentration to the center. The stars I saw ranged from 9<sup>th</sup> to 13<sup>th</sup> mag. So I would classify this cluster as #3. I saw about 25 to 35 stars. So I would rate the cluster as "poor" for richness.

**8-inch SCT at 65x**; Dick Harshaw, suburban locale. Nice! Note the "W" pattern, and the many B and W stars. Has a loose scattering. Note the chain of stars on the E side. Personal Rating: 2 E/

**17.5" f4.5, Dobsonian, 135X**; Steve Coe: 21 stars counted. Bright, pretty large, little compressed. There is a nice chain of 7 stars on the east side.

**18" f4.5, Dob, 209X**; Dan Gruber: I agree that is no central concentration, but it's also only weakly detached. To the north and the west, it isn't detached at all. At **66X**, the cluster as a whole (10 - 15' in extent) doesn't stand out clearly from the field. The cluster members seem to cover only 2 or possibly 3 magnitudes, justifying code 1. I counted about 25 stars for a code p of mag 9 - 11 in a triangular shape.

## Call for Observations

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 10<sup>th</sup> 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 6<sup>th</sup> mag and 90'X30', includes red M2 star – what color do you see. Can you see its 6<sup>th</sup> 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?

Time for another visit to Orion as there's lots to choose from. This month's selection will include multiple objects in the same field of view, which is something with which I have organization troubles. Yet the following should give us some fun time observing. Start in the northern reaches of Orion with **Cr 65**, a large, sparse open cluster with a wide magnitude range and includes several stars in Taurus. Just to the south are some dark nebulae, three to be exact. The first **B 30**, is about one degree; second **B 31** extends about 0.5° to the northeast and is the darker part of the triad; finally **B 225** is the south end of an extension running south from B 30. With their irregular shape you should have fun unraveling this set. Continuing with multiple objects in the same field of view are **NGC1973**, **NGC1975** and **NGC1977** and have the moniker *Running Man Nebula*. Keep in mind NGC1973 and NGC1975 are north of the elongated NGC1977 and NGC1973 is west of NGC1975. Keep in mind there are quite a number of stars involved in these nebulae. Moving to a more southerly place is **NGC2022**, a planetary nebula. Although it is small and faint, can you detect any annular form? Finally there's **NGC2024** also called *Tank Track Nebula* or *Flame Nebula*. It is bright but the glow of its source stars, ζ Orionis, needs to be masked to see the delicate detail. These last two entries are on both the SAC 110 Best NGC and 400 Herschel observing lists.

(Continued from page 3)

- Poor eating habits, increased coffee intake
  - Failure to care for physical appearance
- Inability to remember or function properly the next morning

1 Misery loves company, so inevitably the obsessed astronomer will end up joining mysterious, secret societies and organizations of similarly afflicted astronomers. The danger these organizations pose to you or your loved ones is directly proportional to the number of letters in the acronym associated with them.

2

AL- Astronomical League (relatively benign)

3 ASP- Astronomical Society of the Pacific (could be trouble)

4 ALPO- Association of Lunar and Planetary Observers (time for concern)

5 AAVSO- American Association of Variable Star Observers ("Houston, we have a problem")

6 BAAVSS- British Astronomical Association Variable Star Section (it may be too late)

7 BAAVSSSSC- British Astronomical Association Variable Star Section Supernovae Search Committee (these people are completely mad, avoid any contact whatsoever!)

### Where to go for help

If you or a loved one has succumbed to astronomy obsession or addiction there is help, Astronomy Addicts Anonymous (AAA).

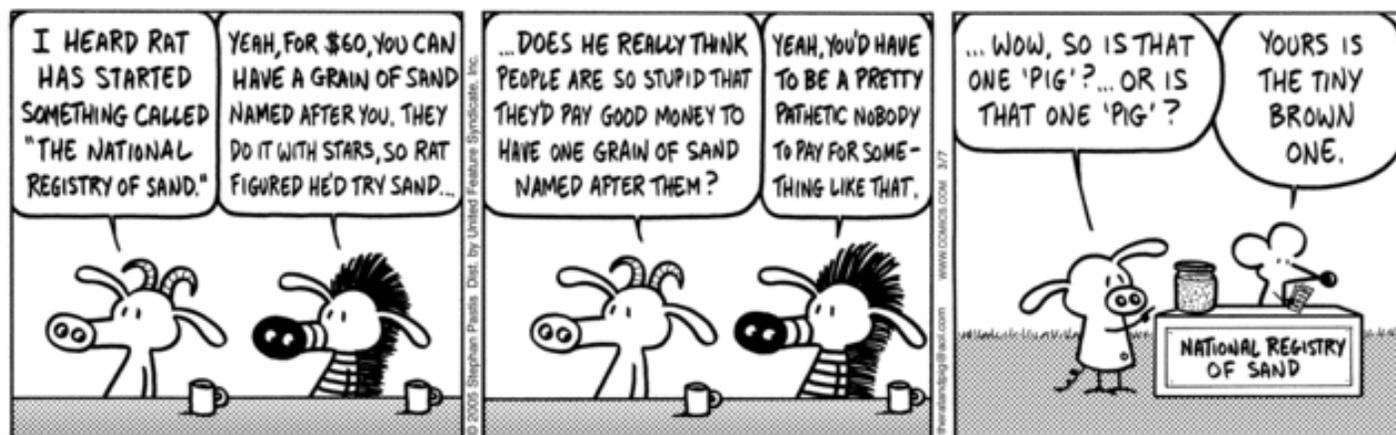
The Seven Step Program of AAA is very similar to many twelve step programs for other addictions. Astronomy

addiction is not nearly as serious as most addictions, people rarely die from it, so only seven steps are required for the recovering astronomer.

1. We admitted we were powerless over astronomy.
2. Came to believe that only a power greater than ourselves could restore us to sanity.
3. Made a decision to turn our will, our lives and our pocketbooks over to the study of the Universe, as we understand it.
4. Made a list of all persons we had ignored or taken for granted, and became willing to make amends to them all.
5. Made direct amends to such people wherever possible, except when to do so would cause us to miss a clear night.
6. Seek through prayer, meditation, observations and Internet connection to improve our conscious contact with the Universe, as we understand it, seeking only knowledge and good weather.
7. Having had a spiritual awakening as the result of these steps, we tried to carry this message to other obsessed astronomers, and to practice these principles in all our affairs.

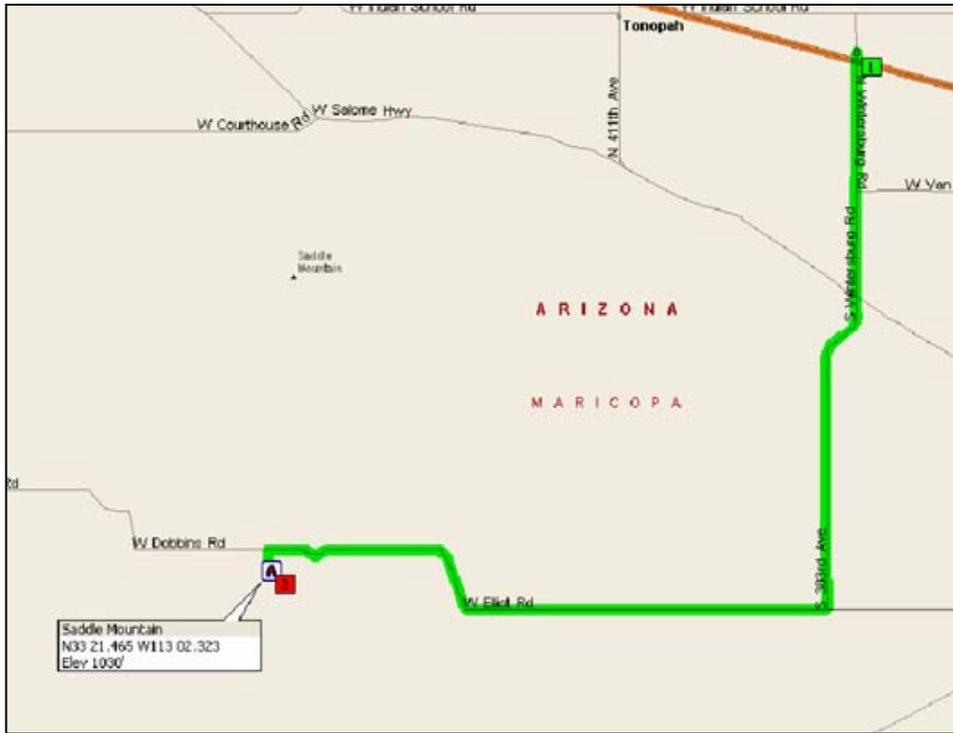
If followed faithfully, the astronomer may once again become a functioning member of society, but he will never return to a completely normal life. The best we can hope for is some inner peace and an acceptance of our relationship with the cosmos, as we understand it...

### Pearls Before Swine, by Stephan Pastis



Cartoonist Stephan Pastis wrote about this strip: "It's always astounded me that people will pay money to have a star named after them. To me, it is no different than having a grain of sand named after you." And he's not even an astronomer!

## Saddle Mountain Star Parties



After a test run last month, this new location near Saddle Mountain got pretty good reviews for a close in observing site. It is 55 Miles from the Loop 101-I-10 Intersection and just about 1 hour from there.

Based on this, we will hold our regular star parties on 3rd quarter moon here.

The GPS coordinates are:

N33 21.465 W113 02.323

Elevation: 1030'

Direction	Leg Dist.	Total Dist.	Leg time	Total Time
From the loop 101 & I-10, head west	0 ft	0 ft	0:00:00	0:00:00
Take exit 98 to the right onto Wintersburg Rd	34.3 mi	34.3 mi	0:27:08	0:27:08
Turn left onto N Wintersburg Rd	0.5 mi	34.9 mi	0:00:42	0:27:50
Turn right onto W Elliot Rd	9.6 mi	44.5 mi	0:09:23	0:37:13
Turn right onto S 435th Ave	6.1 mi	50.6 mi	0:06:47	0:44:00
Turn left onto S Worley Dr	4.0 mi	54.6 mi	0:05:26	0:49:26
Saddle Mountain Observing Site	0.4 mi	55.0 mi	0:01:14	0:50:40

## Dark of the Moon Star Parties-2009

Date	Sunset	Moonset	Twilight	Location
January 24th	1758	-	1925	Antennas
<b>February 21st</b>	<b>1825</b>	<b>-</b>	<b>1948</b>	<b>Antennas</b>
March 28th (Messier Marathon)	1835	2001	1957	Antennas
April 25th	1913	2022	2043	Antennas
May 23rd	1930	-	2111	Cherry II
August 22nd	1907	2020	2037	Cherry II
September 19th	1829	-	1953	Cherry II
October 17th	1758	-	1921	Antennas
November 11th	1758	-	1858	Antennas
December 19th	1730	2034	1859	Antennas

## 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

January 2009

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*Videmus Stellae*



## SAC Schedule of Events 2009

### SAC Meetings

January 9th, 2009	July 10th, 2009
<b>February 6th, 2009</b>	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

### SAC Star Parties

Date	Sunset	Astronomical Twilight Ends	Moonrise	Site
Jan 17th, 2009	1748	1915	0114	S
<b>Feb 14th, 2009</b>	<b>1815</b>	<b>1939</b>	<b>0002</b>	<b>S</b>
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

### Future Planning

<b>March 28th, 2009</b>	<b>All Arizona Messier Marathon</b>
May 2nd, 2009	Thunderbird Starwatch
June 19th-20th, 2009	5 Mile Meadow Star Party

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