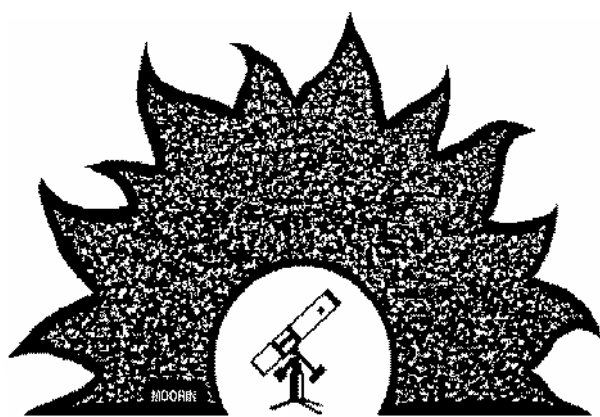




PAStimes

Phoenix Astronomical Society

www.pasaz.org

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Volume 61 Issue 5

PHOENIX ASTRONOMICAL SOCIETY — ESTABLISHED 1948

January PAS Meeting ???

January 8 Speaker to be Frank Timmes

By Terri, Event Coordinator

Did I hear you right? Did you say PAS is holding a JANUARY PAS MEETING? Wow!!! I must attend that!!! Yes, you heard me right.... please feel free to enjoy a PAS Meeting on January 8th at PVCC in the Library with a very spectacular guest speaker! It was discussed at one of the Meeting of the Minds that we start having January meetings again. So, I have found a speaker for this month's meeting. We would love to see you there!

Frank Timmes will speak about: On White Dwarf Supernova: Dark Energy and Astrobiology.

We'll explore supernova from white dwarf stars. We'll talk about historical supernovae, the present state-of-the-art, recent contributions from amateur supernova hunters, observations of the cosmic expansion history and the dark energy, near-future \$1B NASA missions, and the contributions such supernova make to astrobiology.

Frank Timmes is presently at the School of Earth and Space Exploration at Arizona State University. In past lives he has baled hay, examined semiconductor devices in Silicon Valley, taught at the School of the Art School in Chicago, bicycled through Alaska, and dabbled in weapons physics at Los Alamos.

Additional details of his interests may be found at <http://cococubed.asu.edu/>.

PAS Social Jan 10, 2009

4pm to 11pm in Goodyear

By Terri, Event Coordinator

By now you know that we have a PAS Social each year. This tradition was started by Dan Heim who originally named it a Holiday Social and it was held in January after the main rush of Christmas and New Years was over. Well, we since have changed it to just THE SOCIAL. It isn't related to any holiday and the purpose of it is to get to know your fellow astronomer in the daylight, since most of the time you meet at night!!!

This year's Social has a discussion going in the PAS forums at <http://www.pasaz.org/forums/showthread.php?t=198>. We are having this event in Goodyear. Chris has offered his home for the event. And I'd like to give you an idea of what to expect.

1. We will need people to bring tables. If you can bring one, please drop Terri an email or write in the forum so she can make

sure we have enough tables for the number of attendees. When you mention the table you are bringing, please tell me how many people can sit at it to eat comfortably.

2. We need chairs, bring your own folding chair and if you do not have one, let Terri know so she can possibly get extras from those who have more. A folding chair is best, for easy transport.

3. We will be doing the annual Dart game. A board has been found. If you have one and can bring it, it would be useful as we like to keep 2 boards going at the same time. We'd also like a volunteer to run the dart board game. Because this is at someone's house, it is suggested that those involved in the game, please stick around the game so we do not have to hunt you down when it is your turn. Socialize by the game, please. Also, if you have darts to share, bring them along. A prize or 2 will be given for top score, however, if no one donates a prize for this event, we will have

to just congratulate you. So, think about informing me of a door prize you wish to donate. At least one is needed. Terri will bring the 3 Easels (2 for dart boards) and White Board for keeping score and marker. Ed will bring the extra boxes to protect the wall behind the dart board. You do not have to participate in this game, but it is fun to play. If you wish to volunteer to run the game, please let me know, very soon.

4. Remember, a PAS Member may invite one guest, so long as the guest knows what to bring, and what to expect, so that no one goes without. Either the PAS member or the guest needs to RSVP with Terri, ASAP.

5. Each person attending needs to bring 1 dish of food to share and one drink to share. It can be anything you wish to bring... Past items have been KFC, Dessert, main dishes, meats, etc. Bring enough to feed about 6 people. And as far as drinks, a 2 liter of pop, a gallon of water, tea bags, hot

Continued on page 2

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PAS Social Jan 10, 2009

chocolate packets, if you wish, Drinks should be considered, can they fill 6 glasses worth? That would be enough. Chris has approved Beer, but you bring your own, and you have to have a designated driver to leave his house. No other alcohol, please. As an example, William brings his HOT dip. Yes, one needs to be aware that anything made and brought to the Social by William will probably burn more than just your lips. Terri brings desserts and other interesting things to eat, usually several dishes for variety. This year, Terri is bringing something new. You will have to attend to find out what it is.

6. White Dwarf Gift Exchange: Everyone playing the game MUST BRING A GIFT TO EXCHANGE. You can not play if you do not bring a gift. We are asking that you spend up to \$20 on a gift, astronomy related, something you wouldn't mind getting as a gift from this game. Past items have been Star Globes, Books about Astronomy, Games, Puzzles, Mugs, Shirts, Calendars, anything astronomy. If your gift does not get close to \$20, you might consider throwing something else into the gift to make the cost about \$20. Disguise the gift in gift wrap, doesn't have to be xmas gift wrap, although some of us only have xmas wrap available. Make it very pretty so that we fight over it. If it is breakable, either mark on the box it is fragile or wrap it very well. Do not disclose who wrapped the gift, this is a secret. We do this anonymously.... Wrap and disguise it. When you arrive at the party, swap Terri your gift for a ticket to play the game.

7. Door Prizes needed: For attending the Social, you have a chance to win the Main Door Prize. Jerry usually donates this one to the Social. I think he said he has one for this year. We also need a Dart Prize. Please donate extra prizes so we can have several winners. One year Rod & Sue donated a bunch of items, which made it really nice to give away prizes for several

extra things. We need a main door prize, a prize for the Dart game, and a prize for the Puzzle I'm bringing. Extras are welcome. Prizes can be anything... doesn't have to be a set price, or even astronomy related. Just a little something for trying the games. And the winners will choose their prizes randomly, as in, it won't be, I'll draw and they win the prize I pick. It will be, I'll draw for a winner and they choose from the collection on the table.

8. One special game I am bringing for which I have a prize to the first to solve it.... One prize will be given to the first person to put together the Cube. It will be a box that travels around the Social from table to table until there is a winner. You might want to be the first one to try it so you can win. No one has solved it since I first bought it back in March. Let's see if you can. The winner gets a choice of the available donated prizes.

PAS WHITE DWARF GIFT EXCHANGE RULES:

* Bring a gift to play the game. One gift per participant, wrapped and disguised.

* Trade your gift for a ticket that allows you to play the game later in the evening.

* In a circle, gather to play the game.

* Gifts are on a table down one end of the circle.

* A ticket is drawn, player 1 then chooses a gift from the table

* A ticket is drawn, player 2 then chooses, steal gift from P1 or take a gift from the table.

* A ticket is drawn, P3 chooses, steal gift from P1 or P2, or take gift from table.

* The idea of the game is to STEAL GIFTS. Don't just pick one from the table. Let's have fun stealing from each other and laughing our heads off.

* Rule #1: No taking a gift from a player who JUST took a gift from you. P1

takes gift from P2, P2 can NOT take, at that moment, the gift back from P1. However, P2 can go get gift from P3, and P3 then can take gift from P1. Do not steal back from someone who just stole from you.

* Rule #2: DO NOT open your gifts until you are instructed to. Gifts stay closed until the very end.

* We play until all gifts have been stolen and everyone is holding a gift in their lap.

* Then using the tickets again, we draw for the start person who will then open their gift. Then the person to their left opens their gift, and so on, each taking turns, showing what they stole, and allowing the photographers to get photos of their gifts with them.

* Game ends when all gifts have been opened.

* Then we have one more thing you can do. If you do not like your gift, let's say you received a flashlight and you have a ton of flashlights at home, you can put the gift on the Gift Exchange table. Another player may do the same in trade for your gift. Be sure to leave with a gift when you go home that night.

We hope you will attend and enjoy the PAS Social. RSVP with Terri is required. Currently we have: Matt, Jerry, Mike, Ed, Bette, Bruce, Sam & Frank. If your name sn't in this list, you need to let me know you are attending and who is attending with you. I'm not premaking name tags this year, but when you arrive, we will be giving you a name tag for your first name and sign in on the sheet for me so I can better write the review of the event and include you in it. Thanks. More details can be found in the PAS Forums on line at: <http://www.pasaz.org/forums/showthread.php?t=198> Join our discussion and give us ideas of how we can make the Social a better event for all. See you there!! REMEMBER TO RSVP TODAY! Thanks.

Upcoming January Events

By Terri, Event Coordinator

January... not only do we greet the new year, but January is a cold month & so PAS doesn't have as many activities as usual within this month. You'll find that viewing can be very rewarding if you wish to brave the cold. Check out the AZ Skies column written by our own PAS Member, Leah. She is awesome & so is her column in our Newsletter. Her column can lead you to some fantastic night time Jewels!!! And if you are wanting to go out to view something with another PAS Member, remember, the Roster is only a few clicks away on the PAS website for all PAS Members to be able to contact those who they wish to observe with.

1/3: We begin our year with a Meteor Shower Star Party at PV Park. PAS will be there, weather permitting, from 5pm to 10pm. RSVP is required & without any public RSVP's, we will cancel the event. The RSVP for this star party is Rod. We will be enjoying the Quadrantid Meteor Shower as well as viewing the night sky through telescopes. Bring chairs, warm clothing, snacks & drinks for yourself.

1/8: This date should go down in history. It is our first, in many years, PAS

Meeting in January, 7pm in PVCC Library. That's right... attend this historic meeting. We have an awesome speaker lined up for that evening. Frank Timmes will be sharing information on SuperNova. You won't want to miss this meeting!!!

1/10: PAS Social - new location. We will meet at Chris's home in Goodyear 4pm to 11pm. Please see site for details, or contact Chris, our Webmaster, for info on how to get to his home. RSVP is required with Terri to attend. We wish to be courteous to Chris by giving him a head count of attendees. Please let us know you will be attending. Also, read about the Social in this issue. Bring what is required, especially your OWN CHAIR. Come have a great time with us. This is NOT a Star Party.

1/17: 3rd Quarter Moon Star Party at High Desert Park in Black Canyon City 5:30pm to ? Did you say you were looking for a really good, dark location that is near Phoenix, to do some observing? Well, this is it. There is a \$2/car fee to attend, so fill your car with as many people & scopes as you can. RSVP is required with Rod. No public RSVP's or PAS member RSVP's

will cancel this star party. Weather permitting.

1/24: Deep/Dark Sky Star Party at Cuttin' Edge Observatory in Mayer. PAS Members only. RSVP with Chris to attend. Arrive as early as Friday 4pm & stay as late as Sunday Noon. Plan for warm clothing, it is much colder there than here.

1/29: The next Meeting of the Minds. Do you have an interest in what goes on with the planning of the PAS events & how the club runs? Then come with your ideas & share them with us at this meeting. This is a Business Meeting, so no children please. PVCC G-147 7pm to 10pm. We begin at 7:30. We end when we are out of topics or 10pm, whichever comes first. If there are not enough topics to hold this meeting, we cancel it. Watch for cancellations in the PAS Calendar on line, or call Terri to confirm meeting will happen. I predict we will have topics for this meeting, as we cancelled the December meeting, & so those topics roll over to this meeting.

Make 2009 an Astronomical year by being part of PAS & enjoying these and more fun events!!! ***

Many Many Thanks

By Terri, Event Coordinator

At the PAS Social this year, there will be a card on one of the tables for which, everyone who attends, should sign. It will be at the Sign-in Table, where you make your name tags. Since I haven't yet made it

to Chris's house to check out how we will set up for the Social,

I don't know where that table will be but it will be closest to the main front door so that everyone entering can sign in, make themselves a name tag and sign the card.

Read the card to find out what it is for. Your signature and some thoughts with it would be a nice addition. The card will be presented right after we complete the White Dwarf Gift Exchange. Thank you so much for signing the card. See you at the 2009 PAS Social! ***

Amberlea Elementary School

By Rod, Prez

Star Party Nov 20th 2008

Sue and I arrived right at dark. We were the closest one's to the site and it only took us one hour and fifteen minutes to get there. Mike and Chet took the freeways and they had to travel a little longer. The sky's at least held off from clouding up until around 8:00. By that time everyone had already seen what they wanted and had left. Chet started out showing Venus, and I went to Jupiter. We stayed on these objects for about 15 minutes, we did have a line of about 12-15 people once in a while.

Mike was inside in the light showing meteorites, most of the people would come out and take a look through the scopes, we would tell them to come back in a few minutes to see something different. Chet then went to M-31 the Andromeda Galaxy and I went to M-57 The Ring Nebula. Sue would stand near the scope and tell the people what they were seeing while I was looking for satellites. We did get to see 3 of them go over, but no ISS. After that I went to Alberio and Its companion star, while Chet showed M-27. By this time most of the people had already left, we packed up at 8:00, left by 8:22 and was home by 8:55. It

was a beautiful night, not cold or hot. OK, next Star Party, here we come.

Received in email:

Thank you for your presentation. It was fantastic. The girls really enjoyed the program (parents really appreciated the laser pointer) and Mike the Meteor man was exciting. The parents commented that this setup was wonderful (hands on always impresses the group).

Again, thank you for your time and energy.

Terry Easley

Arizona Sky

By Leah Sapir

This month the Winter Circle is high in the east, centered around Orion.

Of course the highlight of that constellation is the Orion Nebula, a glowing mass of dust and gas in the middle of Orion's sword, visible even in binoculars. The nebula is illuminated by a young star cluster whose four brightest members, known as the "Trapezium", are visible at the center of the nebula.

There are several different types of nebulae that we can see in space. The Orion Nebula is an emissions nebula, where the stars of the Trapezium cluster are ionizing the surrounding gas and making it glow. On an atomic level, every atom has electrons revolving around its nucleus. The powerful young stars in the cluster are producing large amounts of ultraviolet light, which can knock electrons completely out of the atoms in the gas cloud, forming ions.

But eventually the electrons start to fall back into place, and as they do, they release the energy that they originally absorbed. As the electrons fall from one level to another, they emit specific wavelengths of light, corresponding to the difference in energy levels. At this stage, they often release the energy in a different wavelength; for example, the electron might have originally absorbed ultraviolet light that ionized the atom, but then it returns to the atom in several step-by-step drops, each time releasing light in a visible wavelength. The most prominent of these is the "H-alpha" line emitted in the red part of the spectrum by hydrogen atoms as their electrons fall from the 3rd to 2nd level.

Other transitions are possible, both in hydrogen and other elements, with emissions in both visible and ultraviolet wavelengths; but due to the predominance of hydrogen in the gas clouds, the H-alpha line contributes a large portion of the light produced by emissions nebulae. (However, since our eyes are not sensitive to red light at night, when the light is dim, the red color of emissions nebulae is usually visible only in photographs.

To our eyes, the nebula appears gray, with perhaps a greenish tint.)

The young stars that are illuminating an

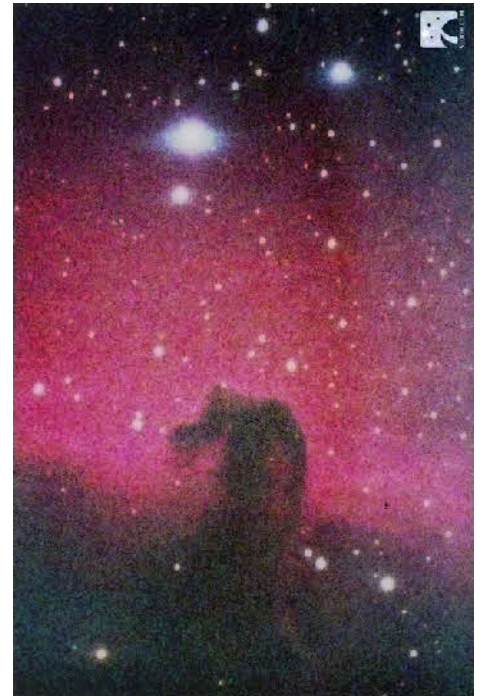
emissions nebula have often formed from the same gas cloud that they are now ionizing. Something – such as a density wave from a passing star or a distant supernova explosion – causes part of the gas to contract, and gravity then causes it to condense into spheres which accrete more gas from the nebula on the outside of each sphere. As each sphere grows larger, gravitational pressure at its core eventually ignites a fusion reaction and – a star is born! Ultraviolet light from the newly-formed stars then ionizes the remaining gas and produces the emissions nebula.

If the light from nearby stars is not powerful enough to knock the electrons out of their atoms in the gas cloud, we see instead a reflection nebula: light from the illuminating star is reflected and scattered by the particles of dust and gas. In a reflection nebula we see mostly blue light, because those wavelengths are most easily scattered by the particles. (This is the same process that causes our daytime sky to appear blue.)

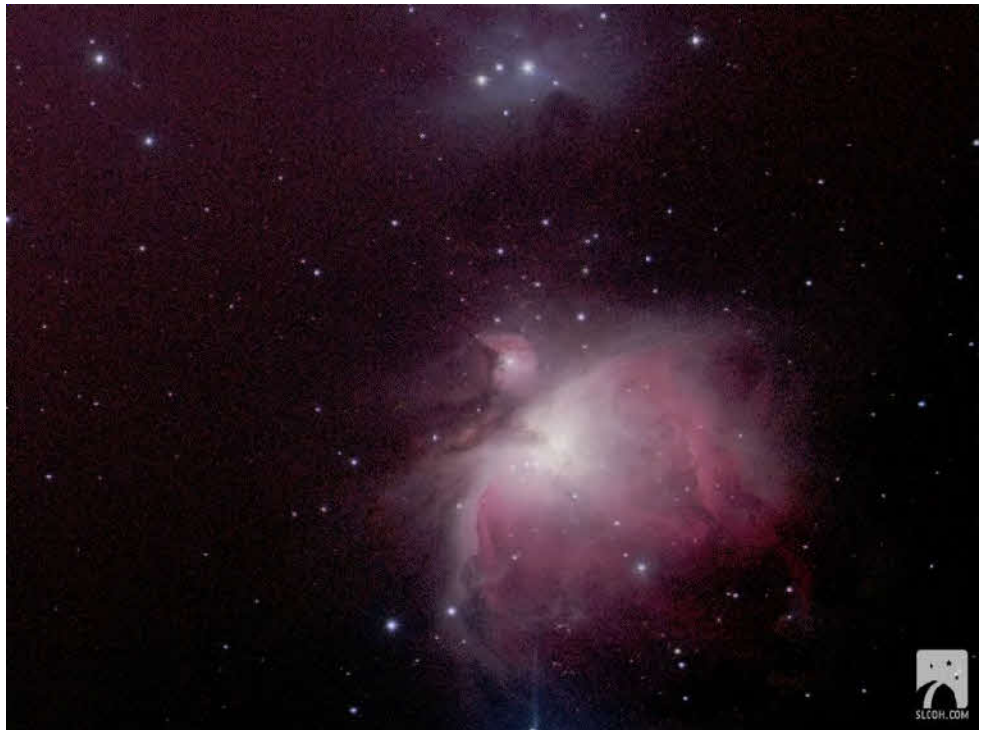
And sometimes, a dense cloud of dust and gas will block the light from a bright nebula in the background. We see this as a "dark nebula".

The Orion Nebula as we see it, about 40 light years across, is the centerpiece of an immense cloud of dust and gas, several

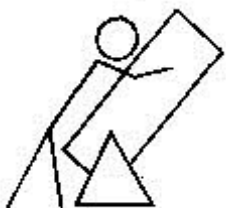
hundred light years across, and about 1500 light years away – the Orion Molecular Cloud. We can only see parts of this huge cloud where it is lit up by nearby stars as emissions or reflections nebulae; but fortunately there are many of these visible nebulae scattered through the Orion Molecular Cloud.



Horsehead Nebula



Orion nebula



Arizona Sky

For example, just north of the Orion Nebula is a beautiful reflections nebula, NGC 1977, the "Running Man" Nebula. (A detailed picture of the Running Man Nebula was featured in the October 2008 issue of PAStimes.) A bit further north, near Alnitak, the leftmost star of Orion's belt, a large emissions nebula extends southwards, designated IC 434. Ordinarily IC 434 would be just another emissions nebula, but in front of it is a dark nebula with an unusual shape – the Horsehead Nebula (Barnard 33). And northeast of Alnitak is NGC 2024, the Flame Nebula, a beautiful emissions nebula laced with dark streaks. Further north we encounter reflections nebula M78 with several smaller reflections nebulae nearby; and emissions nebula NGC 2174, which is sometimes called the "Tulip Nebula" (although that name is also used for emissions nebula Sh 2-101 in Cygnus).

Around the edges of Orion, visible in

photographs, is a large ring-shaped emissions nebula known as "Barnard's Loop". Barnard's Loop is thought to be the remnant of a supernova that exploded about 3 million years ago in a quadruple-star system. The three companions of the exploding star were sent speeding in different directions, and today they are located in Auriga, Columba, and Aries, about 1000 light years away from their original position. (How do we know that these stars – AE Aurigae, Mu Columbae, and 53 Arietis – originated in the Orion Molecular Cloud? By measuring their motion and tracing the line backwards.)

AE Aurigae is now speeding through another nebulous area, IC 405 in Auriga, where it produces a beautiful emissions nebula known as the "Flaming Star Nebula".

In the meantime, back in our solar system... at the beginning of the month,

Jupiter and Mercury will be in the west at sunset, but they will soon be disappearing from our view: first Jupiter, then Mercury at midmonth. Mercury will start to reappear as a morning star at the end of January, but Jupiter won't be visible again till at least mid-February.

Venus will be high in the west all month at sunset, and very bright. After many months of its gibbous phase, Venus is now beginning to appear as a semicircle, when seen in a telescope.

Saturn is now an evening object for us: rising at 11 pm at the beginning of January, and at 9 pm towards the end of the month. Mars still too close to sun to be visible, though.

Join us next month when we continue to explore the winter constellations. And till then – wishing you clear skies, and happy observing!

PAS Summer Meetings?

By Terri, Events coordinator

Now, let me also mention that it was also discussed at that same MOM's that we might want to have Summer meetings as well. Currently, I have NO SPEAKERS lined up for June, July or August 2009. So,

if you are interested in having a Summer speaker, one, two or 3 of them, please send me ideas for speakers so we can get that lined up. Otherwise, we will only have our usual Meeting of the Minds during the summer months. Help Terri make a change

this year by providing Speaker ideas. Thanks so much in advance!!! Mike has said he might do a lecture series, maybe a PVCC or at his home, again this summer. If you have any ideas to share on that, let's discuss it in the forums or at a MOM's. ***

Ask An Amateur Astronomer

How often do the moon and planets line up in the sky?

Kim

Dear Kim,

We frequently see conjunctions of the moon and planets.

The earth and other planets revolve around the sun very close to a plane that is known in astronomy as the "ecliptic". The moon revolves around the earth close to the ecliptic, too. The reason that the moon and planets are located in the ecliptic, is probably connected with the way that the solar system formed.

From our viewpoint on earth, we see the ecliptic as an area of the sky where the sun, moon, and planets are generally located. (In fact, the name "ecliptic" comes from the word "eclipse" - it is the part of the sky where eclipses can be seen.) The constellations in this part of the sky (i.e. along the ecliptic) are known as the

"zodiac". In ancient times, people paid more attention to these constellations rather than others, since they are the constellations where planets can be seen; that is why they have a special name.

Since the planets are all seen in the same region of the sky, we often see them seeming to "pass" each other in the sky (even though they are really quite distant from each other). This happens when the relevant planets are in the same line-of-sight from our point of view, and we call this a "conjunction". For any given pair of planets, this can happen one or more times a year, depending on their position in their orbit, relative to us.

Since the moon is revolving around the earth, we will see it "passing by" each visible planet at least once a month, when the moon's direction from us is the same as that planet.

Wishing you clear skies and happy observing!

best regards,

Leah Sapir

PAS Member

Which Chocolate bars do you eat in space ?
Milky-Ways and Mars Bars

StarTales

www.lowell.edu

Lowell Observatory, Flagstaff, AZ



This image shows a portion of a larger framed image product from a large survey using the Hubble Space Telescope. The survey, called the Great Observatories Origins Deep Survey

NASA, ESA, the GOODS Team & M. Giallardo (STScI)

(GOODS) was undertaken to study galaxy formation and to search for evidence about the origins of both young and old galaxies. Some

of the GOODS galaxies are four billion times fainter than an observer can see with the unaided eye.

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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.

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."

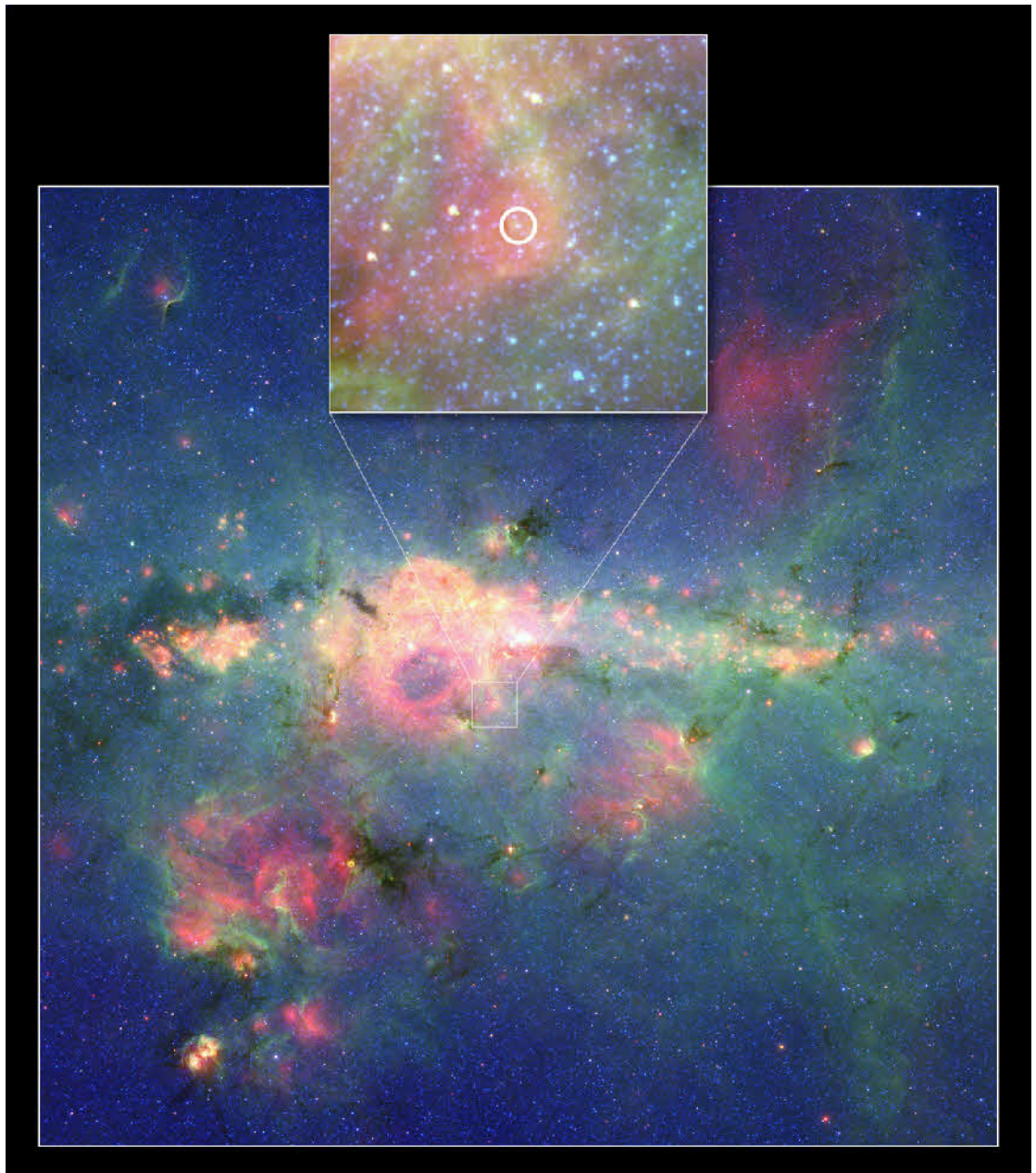
Nevertheless, the hunt continues. Mapping and studying supermassive stars will help researchers understand the inner workings of extreme star formation and, moreover, identify stars on the brink of supernova. One day, astronomers

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.



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.

December PAS Meeting Review

By Terri, Event Coordinator

It was a great meeting. Really turned out well. Our Guest Speaker was David Williams from ASU. His topic was Mars. He had some fantastic handouts available, for which he left a small pile with me for those of you who missed his presentation. Please pick them up at future PAS meetings. They are entitled "Water Everywhere on Early Mars But Only for a Geologic Moment?" You will definitely want to pick one up. Dave did a fantastic job with his presentation. Very informative. A person not working with JPL and NASA on space missions would not realize what goes into the thought and planning of these missions. Dave took us through the many steps and considerations before the rocket is even launched. Very well presented. He talked about what NASA has discovered as far as Mars and water. He reviewed the robotic missions historically. That was really something. I didn't realize we have so many different missionis and how many never made it to their destination to work correctly. He ended his presentation earlier than usual and allowed time for Q & A. And the questions he was asked were very interesting as well. Before closing for the night, Dave offered to return in 2 years for a follow up or even another topic... so, he & I have scheduled his return for Sept 2, 2010 PAS Meeting. We would like to see you there! It was a very enjoyable topic! Thank you Dave. We look forward to your return!

Many thanks goes to everyone who brought and provided snacks for the meeting. Water was sent over by Ed Wurst. Popcorn provided by Sam Insana. A box of Oreos was provided a month ago, unopened by Bob Senzer and not used, so I brought them back this month to share. They will be at several meetings as there are several individually wrapped packs of cookies in the box.

Terri did a 1 minute review of snacks, handouts, Swap Meet, etc. We had Jerry do a 5 minute presentation on some really cool portable scope ideas prior to turning it over to Dave. Very nicely presented and with humor. Thank you Jerry. See photos at the link below about this item.

This meeting was the PAS Swap Meet. Many items were brought, some were sold, one I know of didn't sell. Photos of the items are also at the link below. I do hope the sale was successful. We hope to see

more items next year for sale at the Dec 2009 Swap Meet. Plan for it now!

I brought the PAS T-shirts and it was agreed upon at the previous MOM's that we would Fire sell the t-shirts for Buy 2 get one free, at \$10 each, so for \$20 you get 3 shirts. We sold quite a few. Thank you all for supporting PAS. The remaining tshirts will be brought to future meetings, at \$10 each until sold out. Soon as they are sold out, we will consider creating and ordering another style t-shirt or maybe Polo Shirts with the PAS Logo on it. Please join that discussion in the PAS forums at: <http://www.pasaz.org/forums/showthread.php?p=355#post355>.

The 50/50 raffle was won by Bruce in the amount of \$18. Remember, the idea behind the 50/50 raffle is that we raise money for PAS by having a raffle. 1/2 of the amount collected goes to the winner of the raffle, and the other half goes into the PAS Bank Account for future use. We

appreciate all of the participants in the raffle. The second drawing we did was for a PAS T-shirt, and a visitor to PAS won that item.

I brought the Year in Space Calendars with me and handed them out to those who purchased them. If you didn't pick yours up, see me at a MOM or the next PAS Meeting.

I wish to welcome the following new attendees to the PAS meeting: Sharon R, Chris C, Don C, Tim J, & Bob C. It is wonderful to see new faces at our meetings. I would also like to mention that we missed John Pulis again this month. I got word that he isn't doing so well. He's sick and couldn't make it this month (or last). We wish him well.

Please enjoy the PAS photos from this meeting, taken by Terri and by William with his new camera he just got at Fry's Electronics on Black Friday at this link: <http://tinyurl.com/6dydnn>



David Williams
ASU School of Earth and Space Exploration

Temple Beth Star Party

By Rod, Prez

The evening started out warm. It looked like it was going to be a good night. After sunset there was still some moisture and dust in the air. Sam and Rod sat up next to each other, Mike sat up his meteorites near the light so the people could get a good look at them. I asked the gentleman that turned on the light, if he could point the two large lights that were pointing at Sam and I, in the other direction. He said not a problem, and he did move them for us. Sam

and I got quite a few customers to come over and view through our scopes. We showed objects such as M-31, M-22, Polaris, Alberio, Jupiter, and Venus. The Moon came up to late for us to show

it. Right after the group had dinner, we had a few more come over to our scopes, then they had some people get up and sing a few songs, right after that, the event was over, we were on the road by 8:30, everyone was gone except for the

Astronomy Members and the officer that was running the gate.

*Thank you for helping us to organize another most wonderful star party. We loved having everyone. I hope that you heard good things from the people who were here. There will be a heck in the mail. See you next year. It will probably be Friday night, October 2nd. We'll be in touch. Terry terry taubman, Executive Director, Congregation Beth Israel ****

Thanks from Bookman's Telescope Workshop Attendee 11/16

From Gloria Rodriguez, received by email

Hi Terri, It was great meeting you and everyone else who was there. I got to know little bit more about my telescope. I haven't used it in so long. I do plan to attend future events with PAS. I can tell it's a great group. Happy Thanksgiving. Talk to you soon. Gloria ***

PAS Thanks East Valley Tribune

By Terri, Event Coordinator

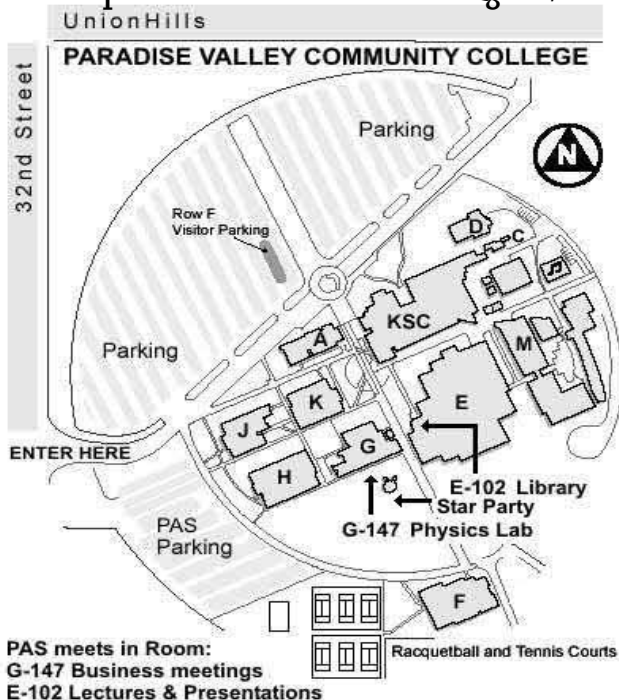
It was brought to my attention that Leah and Don experienced being contacted by the East Valley Tribune on Dec 2nd by Gabe Utasi asking about the awesome planetary line up for that evening: Venus, Jupiter & Crescent Moon. The article can be seen here:

<http://www.eastvalleytribune.com/story/131621>. We with to thank Gabe for including PAS in his article. ***

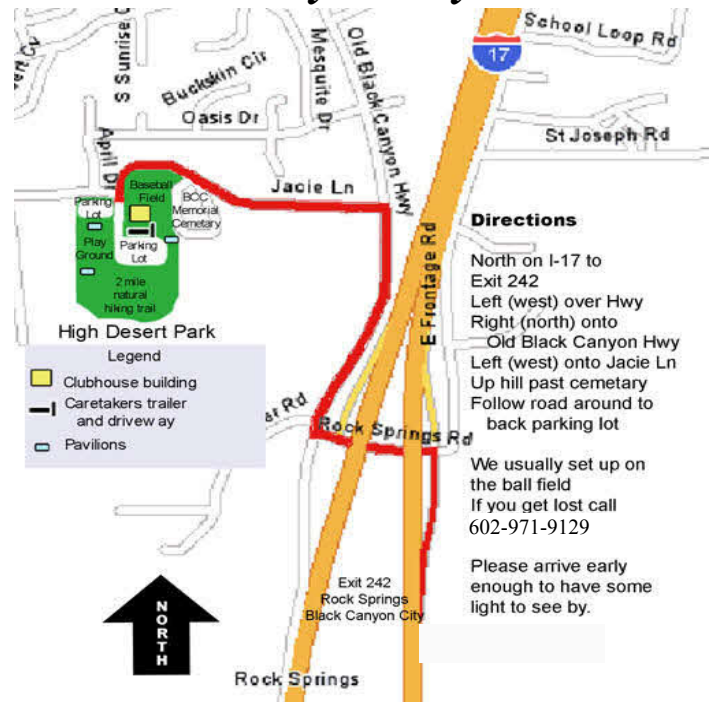


Pictures From the 2008 PAS Social

Map to PAS Meeting Location



Black Canyon City Site



For More Information on events See Page 3

January 2009

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3 Quadrantid Meteor Shower Peak & Party at PV Park
4	5	6	7	8 PAS General Monthly Meeting	9	10 PAS SOCIAL (Private - PAS Members ONLY Party)
11	12	13	14	15	16	17 3rd Quarter Moon Star Party at High Desert Park in BCC
18	19	20	21	22	23	24
25	26	27	28	29 PAS MEETING OF THE MINDS (Business Meeting)	30	31

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What’s Up For January?

By Rod Sutter, PAS President

Planets

Name	Date	Rise	Set
Mercury	01-1-09	08:52	18:57
Venus	01-1-09	10:20	20:11
Mars	01-1-09	07:06	16:54
Jupiter	01-1-09	08:43	18:52
Saturn	01-1-09	22:57	11:28
Uranus	01-1-09	11:17	22:56
Neptune	01-1-09	09:57	20:42
Pluto	01-1-09	06:34	17:01

All Times Arizona Time

January 15 2009

Sunrise: 07:33
Sunset: 17:44

New: December 27



Q1: January 9



Full: January 11



Q3: January 18