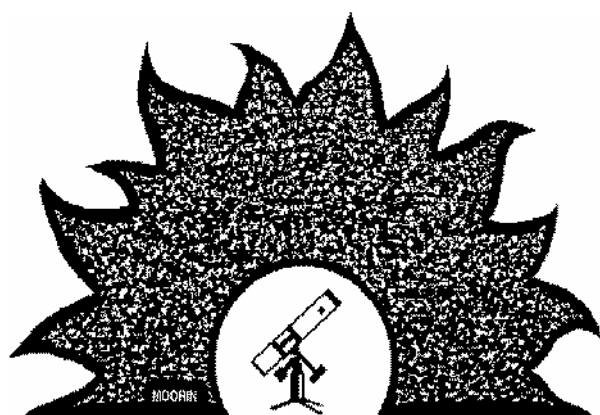




PAStimes

Phoenix Astronomical Society
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November 2010
Volume 62 Issue 3

PHOENIX ASTRONOMICAL SOCIETY — ESTABLISHED 1948

Mike Marron to be November Fourth Speaker

Upcoming Astronomical Disasters is about the difficulties the human race will have to endure in the near future. While Gamma Ray, Cosmic Ray, and X-ray bursts are not yet predictable eventually they are probable. Radioactive nova and supernova shells are observed heading towards us. A globular cluster star is soon going to be our closest neighbor and will disturb the Oort Cloud. Several asteroids have the potential to wipe us off the planet. A few supergiant stars are posed to explode. Only if we are prepared will humanity survive these stellar calamities.

I grew up in Michigan where my father lectured at the Rodger B. Chaffee Planetarium in the Grand Rapids Public Museum. They learned we had a dark hill and with the

Grand Rapids Amateur Astronomical Association we built the James C. Veen Observatory behind the solar heated house my family built. At eight I would help grind mirrors and teach astronomy to a few museum visitors. At ten enough of the observatory was finished that I began teaching astronomy to public tours on a regular basis. By high school I was unhappy with 20th century astronomy and began to develop better explanations. I took physics, astronomy, and geology in college but have become an independent researcher with better ideas. For over thirty years I have been modernizing an old cowboy ranch. In the PAS I am the guy with meteorites and lengthy explanations to any question.



Mike Marron

Photo By Terri

October PAS Meeting Review

By Terri, Event Coordinator

The PAS Meeting was enjoyed by all. Jenny did a spectacular job with her presentation. She had audience participation through the whole night and seemed to be enjoying the input from the audience. Thank you Jenny, for a marvelous presentation. Jenny has agreed to do another presentation in the future for PAS.

We opened the meeting a little late. Dave Hellman, of PVCC, announced the Picket Post star party for October 15. The map and details are available on our site in the Members Only Downloads section. Jerry Belcher talked about some sales on astro equipment through Astronomics, that he found in the current Astronomy Magazine. Then he talked about needing telescope parts to make the next Plaque / Trophy for the Moon Marathon. There is an article about this project in this issue. ["Wanted:

Old, Broken Telescope Parts", on page 5] Someone asked Dave about the meteorite that was donated to the Solar System walk on campus and if it was still there. Dave confirmed it was. Mike gave a brief Treasury Report, current balance is \$13,348.19. Then he talked about his Halloween Party on October 23. We then turned the floor over to Jenny.

I wish to thank several people for their assistance during this meeting. Steve Palmer brought cold pop to drink. That was appreciated by many of the attendees. Sam brought the most delicious popcorn. I got into it, and that was the end. I was hooked! Amanda didn't attend but supplied a bag of candy for the group to enjoy. Bottled water was brought by Joe and me, but only my case was opened. Many thanks to all mentioned above, who made the meeting run smoothly. And thanks to everyone who pro-

Continued on page 5



Jenny Neureuther

President / Librarian	Rod Sutter	602-971-9129	President@pasaz.org
Vice President / Events Coordinator	Terri Finch	602-561-5398	VicePresident@pasaz.org
Treasurer	Mike Marron	480-488-3031	Treasurer@pasaz.org
Newsletter Editor	Don Boyd	480-963-7189	Editor@pasaz.org
PAS Host	John Pulis	623-570-5308	
Webmaster	Chris Johnson	602-456-2456	Webmaster@pasaz.org
Rocketry Liaison	Jerry Belcher	623-328-9290	http://ahpra.org/launches.html

November PAS Events

By Terri, Event Coordinator

For the links to these events, download the Upcoming Events file from this link: <http://www.pasaz.org/forums/downloads.php?do=file&id=49>. Then use the links within the document to quickly get to these events within the online PAS Calendar.

Nov 2: Cancer Treatment Center (CTCA) Star Party. RSVP is with Joe jcollins79@cox.net. This is a paid star party and only [PAS](#) members may attend. Dinner may be provided. Contact Joe for details. Official time of event is 8pm to 10pm.

Nov 4: PAS Meeting – PVCC Library. Mike Marron is guest speaker with a topic that will knock your socks off! Meeting is from 7pm to 9:30pm. Everyone is welcome - bring the whole family!

Nov 5: Desert Botanical Gardens (DBG) Star Party. Private event, PAS members only. Sign up with Sam insanas@aol.com to help out. This is a paid

star party. Event is from 7pm to 9pm.

Nov 6: Cuttin' Edge Observatory (CEO) Star Party. PAS members only. RSVP is with Chris webmaster@pasaz.org. This event is held in Mayer, AZ. All PAS members are welcome. Serious observers only.

Nov 12: Back up date for Nov 5: DBG star party.

Nov 14: FREE PAS Telescope Workshop at Bookmans - 19th Ave & Northern – 3:30pm to 5:30pm. RSVP is with Terri Events@pasaz.org for this event. Bring your scope and accessories, and learn how to use your telescope.

Nov 16: Back up date for Nov 2 CTCA star party.

Nov 17: Park Ridge Elementary School Star Party – Event is from 6pm to 8:30pm. RSVP is with Terri Events@pasaz.org for this event. We need telescopes at this event.

Nov 17: Aerospace Star Party – Paid event at the Biltmore. Event is from 10pm to midnight. Paid workers have already signed up.

Nov 18: PAS Meeting of the Minds (MOMs). This is the PAS Business meeting where we party and discuss topics. The MOMs Agenda can be found at this link: <http://www.pasaz.org/forums/downloads.php?do=file&id=60> If there aren't enough topics to hold a minimum of a one-hour meeting, the meeting is canceled, and the topics move to the next month's meeting. Everyone is welcome at this meeting. Check with Terri Events@pasaz.org as to whether the meeting is on or off. No RSVP is required.

Nov 27: Virtual Star Party (VSP) at Chris's in Goodyear. Bring your laptop and come image the night sky. RSVP is with Chris Webmaster@pasaz.org. PAS members only. This event begins at 6:30. Try to arrive ½ hour prior to allow time for set up.

Kyrene Akimel A-al Middle School Star Party

By Terri, Event Coordinator

Kyrene Akimel A-al Middle School is holding a school star party with other activities on Nov 29. This is NOT a PAS event, but the school contacted me to get a few

extra scopes at this event. Therefore, PAS members are requested to join the fun with their telescopes. If we can help out, that would be appreciated. The school is at 2720 E Liberty Lane in Phoenix. RSVP is with

Terri by day before event. More info can be read about this event in the forums at: <http://www.pasaz.org/forums/showthread.php?t=456> ***

December's PAS Swap Meet

By Terri, Event Coordinator

At the December 2 PAS meeting, we will have our annual PAS Swap Meet. To be included in this event as a seller, you should do the following. The deadline will be November 10th, to get this info to me.

FREE ADVERTISING: Send or phone me the following info: a description of your astronomical item for sale, and a starting bid.

What will I do with this info? I will compose a FREE AD about all the items

that we will see for sale at the December

PAS Swap Meet. The ad will appear in the December issue of the newsletter.

Then, when you come to the Swap Meet, bring your items with you. For each item for sale, provide a brief description on a piece of paper, with your starting bid, and set that in front of your item on display around the tables that are in the area in the PVCC Library, where we hold our meetings. Start on the audience's right side of the stage.

From 7 to 7:30, Dec 2, during the PAS Swap Meet, feel free to walk around, look at the items for sale, and make a SILENT BID on the page, with your initials or first name. Then, after the guest speaker has finished his presentation, we will conclude the sale of the items. Remember, we must get out of the Library by 9:30, so all transactions need to be done by then. We hope for some good SWAPPING... thus the name Swap Meet, and some happy sales and purchases. See you there!!!

Thanks To Mike

By Terri, Event Coordinator

I wish to thank Mike Marron for all the millions of times I have set up an event at his home and with the kindness of his heart, he has said "YES." This isn't an easy thing

to do... How often do you want to clean up your house and host a party for PAS? Mike is awesome!

We have a bunch of 2011 events happening at Mike's home in Carefree. Watch

for the schedule on the PAS website calendar at www.pasaz.org, and in the PAStimes newsletter. We hope to see you at them. And many, many thanks to Mike for hosting these events, public and private!!! ***

Temple Beth Review Sept 24

Text and Photos by Terri, Event Coordinator

The Finches arrived around 4:30 at Temple Beth. We didn't set up right away, but sat in our vehicle and enjoyed our dinner. Sam rolled in about 10 minutes later. While Sam and Frank were setting up for solar viewing, William and Terri enjoyed dinner some more. About the time Don arrived, dinner was done, so Terri set up her scope, Don was set up next to her, Frank had his Solar PST, and Sam had his solar filter on his scope, and then Mike arrived with his meteorites. The five of us roasted in the melting sun, but had a great time!

As the night progressed, many of the members of Temple Beth came over to view through the scopes. We were very fortunate this year. We got to see Venus, the Sun, the Moon, and Jupiter. Those were the highlights for the evening. The skies were cooperative, although

the heat was atrocious. The event wrapped up around 8, and after the Temple Beth setup crew was done loading their vehicles, we departed and went to 5&Diner down the street for a snack. We were all so hungry after that long event. Many thanks to Terry Taubman for inviting us again this

year. We hope to continue to be at every event we can do for Temple Beth. Photos for this event can be found in the PAS Photo Gallery at this link: http://www.pasaz.org/forums/gallery.php?g2_itemId=7343 - 56 photos were taken at this event and are ready for viewing. Enjoy!

THANKS FROM TEMPLE BETH

By Terri, Event Coordinator

At the event I talked to Terry Taubman, who organized the event on behalf of the temple. I suggested that for those who would be interested in staying a little later after their festivities ended, PAS could stay another half-hour so long as the two big lights were turned off during clean up, so we can show some fainter objects. Then, while she was over by the scopes for a moment, I told her to go see Venus before it set, but when I looked back only moments later, she had vanished from view, and never did get to see Jupiter through my scope.

PAS received the following nice note from Terry Taubman:

"We thank you for your contribution to our holiday celebration. You can see from the enthusiasm, appreciation, and interest of our congregants that they look forward to you all being there every year. I think that your idea is wonderful and we will talk about it before next year so that I can make sure that the right people know. I'm sure that what happened is someone came with something that I needed to do, and that was the end of the fun for me! Thanks again for sharing all of your knowledge and going to the effort of setting up so that we could see

the night sky. It was awesome. We'll be in touch." ***



ASU West Open House / Star Party

By Terri, Event Coordinator

ASU West is holding an Open House and Star Party at the ASU West Campus, 47th Ave & Thunderbird Rd, on November 9 from 7pm to 9:30pm. This is a public

event - everyone is welcome. Moreover, PAS members are invited to bring their scopes and help show objects in the sky to the public. RSVP is with Paul to help out at this event: paul.schmidtke@asu.edu. More

details can be found in the PAS Calendar on this event:

<http://www.pasaz.org/forums/calendar.php?do=getinfo&e=436&day=2010-11-9&c=1> ***

Order Your Year In Space Calendar At Nov. Pas Meeting

By Terri, Event Coordinator

Order your Year in Space Calendar today through Terri. I'm taking orders at the November PAS meeting. It's your last chance to get the calendar. If you'd like to see the current issue, please visit www.yearinspace.com. PAS saves money by ordering together. I collect the cash up-front, then put the order in shortly after the November PAS meeting, so that we can receive them in time for the holidays. I

usually am able to deliver them at the December PAS meeting. These calendars are very helpful in planning events, with plenty of space to write all your daily activities within the dates. If we order 10+ calendars at a time, we get them at \$10 each. That is the goal. Every year, we strive to get 10 calendars ordered. So, see me at the PAS meeting, bring cash, and we will get these calendars ordered. If you would like to re-

serve a calendar before catching up to me, I would love to know about it so that I can let you know if we are doing the calendars this year at \$10 for 10+ calendars, or \$11 for 2-9 calendars. Currently we are on the \$11 option, as we do not have 10 calendars on order at this time. Add your calendar to the list and remember that these calendars make great gifts for the holidays. Order yours now! ***

PAS Star Party At Seven Springs

By Sam Insana

On Saturday afternoon, October 2nd, Frank and Sam Insana, Bill Christ, and Mike Marron, attended the Star Party at Seven Springs for the Boy Scouts. We set up solar scopes for sunspots and solar flares, which amazed dozens of adults and kids. We were then provided with a very nice barbeque dinner. When it got dark, we showed Venus, Jupiter, the Andromeda Galaxy, the Dumbell Nebula, the Hercules Globular Cluster, and a few other objects. Although the skies were clear in the after-

noon, it started to cloud up really fast after dark. Luckily, most of the scouts and their parents saw some of the objects as they darted in and out between clouds. Mike again amazed the kids with his meteorite display. We were there from 3:30 pm until 9:30 pm. Just before we left, the scouts presented us with tip money and expressed their sincere appreciation.

THANKS FROM SEVEN SPRINGS

By Catherine Gates
Sam,

I know you've heard from others in the group, but I wanted to personally thank you, your son and the other men who made the trip out to 7 Springs to give our boys the thrill of sun/star gazing. Your venue helped to make our weekend the great success it was. Many thanks to you, Terri, and all involved in pulling this event off. with gratitude***

Meeting Of The Minds Review Sept 30

By Terri, Event Coordinator

Eight topics were reviewed at the September 30 MOM's (Meeting of the Minds). It took us all evening to discuss them, but it was a very productive meeting. A lot of issues were discussed and enjoyed and talked about at length. Here is a recap of what we discussed, and what was decided. Each paragraph has its own topic, and the review follows.....

PAS SOCIAL PLANNING: After a short discussion, Chris offered to hold the PAS Social at his home. The date of the event is set for January 22, 2011. Times and details will be posted in the December newsletter, as well as in the PAS forums at this link: <http://www.pasaz.org/forums/showthread.php?t=464>

PAS HALLOWEEN PARTY: The Halloween party for this year will be at Mike's house on Oct 23. By the time you read this

review, this event will have passed. However, it was discussed at the meeting, and an email was sent out about it to the PAS members. If you didn't get this email and would like updates like this in the future, email Terri so she can be sure you are on the PAS Members email list. If you would like updates but don't have email, give Terri your contact information so she can keep you informed.

Continued on Page 9

PAS Telescope Workshop at Bookmans Review Sept 26

By Terri, Event Coordinator

I'd like to start this review by thanking Sue for giving me a rose on my birthday, which was the day of this event. Thank you Sue!!!

We had five RSVP's for this event. Only four showed up but the room was a wonderful mess of conversation, assistance, help, etc. Many thanks to the four attendees at this event: Patrick Lonchar brought his 4.5" Meade, Bob Karberg brought his C5,

Robert Codney (a PAS member) brought his 8" SCT and David Ornstein brought his 1400mm x 150mm reflector. We helped each one in turn and hopefully answered questions and helped with setup. Bob had a little problem with the C5 being mounted backwards. That was unusual but interesting. Robert needed assistance in learning how to use a star chart, among other inquiries. It was a very successful event.

I wish to thank Rod and Don for help-

ing as telescope teachers. I'd like to thank Bob for being there with William to set up and take down the chairs and tables. Thank you all for your assistance in setting up the handouts table. This was such an awesome event, I hope we have a great turnout at the next one, and the one after that, etc. Photos for this event can be found in the PAS Photo Gallery at this link: http://www.pasaz.org/forums/gallery.php?g2_itemId=7301 ***

Wanted: Old, Broken Telescope Parts

By Terri, Event Coordinator, by request of Jerry

At the October PAS meeting, Jerry Belcher announced that he would like to BUILD the Trophy / Plaque for the Moon Marathon. To do this, he is requesting that anyone who has broken parts to a telescope... don't toss them. Give them to Jerry to make these plaques with. He's particular-

ily looking for a cracked or no-longer-wanted eyepiece, but all parts are wanted. So, at the next PAS meeting, bring your spare parts. Telescope parts, that is. And give them to Jerry. If Jerry doesn't attend a meeting for some reason, and you have some telescope parts for him, give them to me and I'll be sure to get them to Jerry. Sometimes, he

can't make some of the meetings and I'll be the back up for that, as I won't be missing any meetings for a while now. And the date of the MOON MARATHON is Mar 19, so we need these parts sooner than later. Thanks so much for your assistance and donations. ***

PAS Host / Hostess Needed

By Terri, Event Coordinator

Many years ago, one of the reasons that I chose to join PAS over the other astronomy clubs in the Phoenix area was because of PAS having a Host at the meetings to greet people and sign them in. So PAS needs a Host or Hostess. John Pulis is our Host but due to health issues, he isn't always at the meetings. Let me give you an idea of what we need the Host / Hostess to do; and if this fits something you can do at every PAS meeting, it would be greatly appreciated to have your assistance. The PAS Host

takes the sign-in board around to each person at the meeting. Greet them by name, if you know it; and if not, then hand the new people the "Who Are We" page for them to take home with them. Have them sign in, and then move on to the next person. Hang on to the sign in board until the end of the meeting, then deliver it to Terri before you depart. This is so you can catch those who sneak in once the speaker has started their presentation.

By greeting them, and welcoming in the new people as well as the returning

people, we become a closer knit group. The Host / Hostess would then know each person by their first name, after a few meetings. This would be so helpful! May I have a volunteer to do this for PAS? See Terri to sign up. When John Pulis makes it to the meeting, you may choose to let him take over, or help him get everyone to sign in. Please remember, if the person signing in is already part of PAS, they need not leave more than just their name to show their attendance. We only need their contact info if they have changed it,. ***

Special Interest Groups

By Terri, Event Coordinator

The link to the discussion of this topic in the forums is found here: <http://www.pasaz.org/forums/showthread.php?p=1125#post1125>

What is a Special Interest Group? This is a group of people who, within PAS, get together to talk about a single facet of astronomy. I would like to start some groups that share and specialize, in order to keep the interest. Here are some examples of what type of groups we could start up: Public Outreach, Imaging & Gadgets, Guest Speakers, Deep Sky Observing, Solar System Observing, Senior SIG, Junior Group, Telescope Making or Mirror Making, Astrophotography, Telescope Accessories, Star Tours Group, Meteorite or Astronomy Rocks group. These are just a few possible ideas.

Here's what's involved in a SIG. Members of PAS who have a common interest, let's say in Astrophotography, could meet at one of the members' houses, and discuss this topic with other members of their SIG. The location of the meeting could be decided among the members, putting one member in charge who reports to me the date, time, and location of the next SIG meeting for their group. It's just an idea, but when you think about it, we have quite a few members interested in astrophotography who might want to learn from those who already do it, or know about it, in a smaller group setting. For example, the meetings for an astrophotography group could be at Chris's home in Goodyear, or Chet's home in Scottsdale... moving the meeting as needed, sharing the knowledge, enjoying the company of those who want to learn what you have to offer, or just sharing cool ideas. We can use groups like that within PAS.

And the ideas above, as to the names of the groups, these are just ideas I had floating in my head, that hopefully could become the theme of a group, eventually. Mike could form a Meteorite group, whereby, when he is headed out to buy or find meteorites, he has a group that goes with him for the fun of it. We've had several people, who aren't part of PAS yet, mention they are interested in mirror making or telescope making. We could form a group that does that. Gets together at someone's house and works together to make telescopes or mirrors. These SIGs would be smaller groups within PAS and you can be a member of any, or all of the groups if you want. So, let's start a discussion in the forum listed above and get some SIGs happening. We can use the diversity as well as draw in new members this way. Your input is requested. ***

October PAS Meeting Review

vided snacks. There were several snacks that weren't opened, and they will be served at future meetings.

Before closing the meeting, Dave told us of his plans to have two 7-foot diameter dishes added to the PVCC campus to provide Radio Telescoping. It is his goal to get these

soon. Sam told us of his visit to Spur Cross Ranch to check out the viewing for a future star party for Desert Botanical Gardens, and said it was a good location. The 50/50 raffle was won by a gentleman named Tim, new to the meetings. He donated his portion back to PAS. The total income was \$16, which was

to be divided 50/50 between the winner and PAS, i.e. \$8 for each. But with Tim's donation, the whole \$16 went to the club. Thank you Tim! There were 16 in attendance, based on the sign-in sheet. Thanks to all who attended and made this event a success. See you at the next PAS Meeting! ***

Arizona Sky



By Leah Sapir

Cassiopeia is high in the northern sky this month, bringing with it a wealth of deep sky treasures. The constellation is supposed to represent a queen sitting on her throne, although any resemblance between this group of stars and a human picture requires a lot of imagination. Cassiopeia's shape is usually compared to a "W", but at this time of year it is more upright, and resembles a pointy number "3".

The center star of the "3" or "W" is Gamma Cassiopeiae, a blue giant about 700 light years away, which produces an amazing 40,000 times as much light as the Sun. Gamma is actually a "shell star" – an unstable star that is rapidly rotating, occasionally throwing off shells of gas from its equator. Near Gamma are two faint nebulae visible in photographs: reflections nebula IC 59 and emissions nebula IC 63. The nebulae represent the edge of a gas cloud which is ionized and illuminated by Gamma. The strong radiation from Gamma is actually causing parts of the cloud to evaporate into interstellar space. A good picture of Gamma and its companion nebulae can be seen here: <http://tinyurl.com/3yfzg48>

If we move a little further east, about 10 degrees from Gamma and about 5 degrees from Epsilon Cassiopeiae (the faint star at the left end of the "W" or the bottom of the "3"), we find a more prominent pair of nebulae, IC 1805 and IC 1848.

IC 1805 is also known as the "Heart Nebula" due to its valentine-shape. At the center of the Heart Nebula is a young star cluster, Melotte 15, that formed inside the nebula about 1.5 million years ago. Melotte 15 includes several huge stars, each about 50 times as massive as the Sun, as well as many smaller stars. The radiation and stellar wind from the larger stars of Melotte 15 are pushing aside the nebula's gas, creating the unusual shapes and billows seen in photos. Dark clouds of dust and gas are mixed in with the glowing areas; some of these dark clouds can be seen in more detail in the close-up view of Melotte 15.

The wide-field view shows the Heart Nebula at the right, and the slightly-dimmer IC 1848 at the left. As the companion of the Heart Nebula, IC 1848 has been

dubbed the "Soul Nebula". Both are actually just the illuminated parts of a much-larger dark cloud of molecular hydrogen. The Heart and Soul Nebulae are each about 200 light years across, and about 6000 light years away.

A little further to the east, about 2 degrees from the Soul Nebula, is a small planetary nebula, IC 289. In the wide-field picture of the Heart and Soul Nebulae, IC 289 would be just outside the picture's upper lefthand edge. Although it doesn't have a common name, I like to call it "Cassiopeia's Violet". IC 289 is about one light year in diameter, and about 4000 light years away. Photos show its lovely purple color; and professional studies show a basic ring structure surrounded by two fainter spherical shells. IC 289 is about 10,000 years old, and represents the last stage in a star's lifetime. The star that produced the nebula, now on its way to becoming a white dwarf, is estimated to have originally been about twice as massive as the Sun.

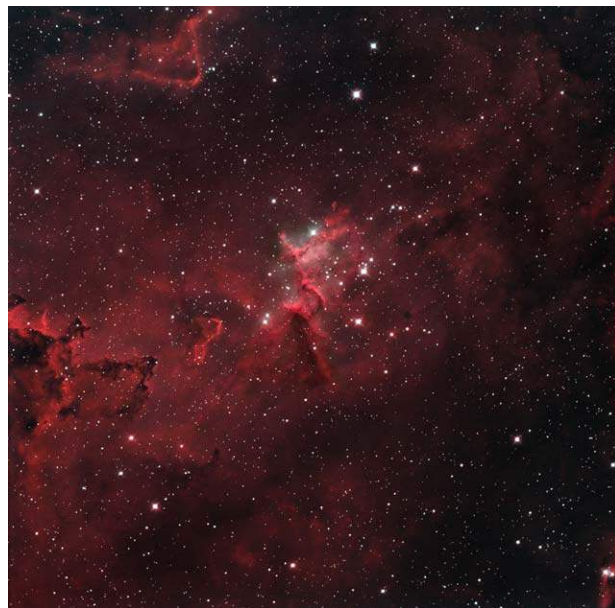
On the other side of Cassiopeia, the righthand side of the "W" (or top of the "3") consists of Beta Cassiopeiae ("Caph") at the tip and Alpha Cassiopeiae ("Schedar") at the first corner. Both stars have the same visual magnitude, about 2.2.; but Caph is a type-F light yellow giant just 50 light years away, about 30 times as bright as the Sun; while Schedar is a much-larger type-K orange giant about 200 light years away, with 850 times the Sun's luminosity and a radius about 40 times as large as the Sun's.

Near Schedar is a small nebula with an interesting shape – NGC 281, the "Pacman Nebula". Like the Heart and Soul Nebulae, NGC 281 is just a small bright bubble on

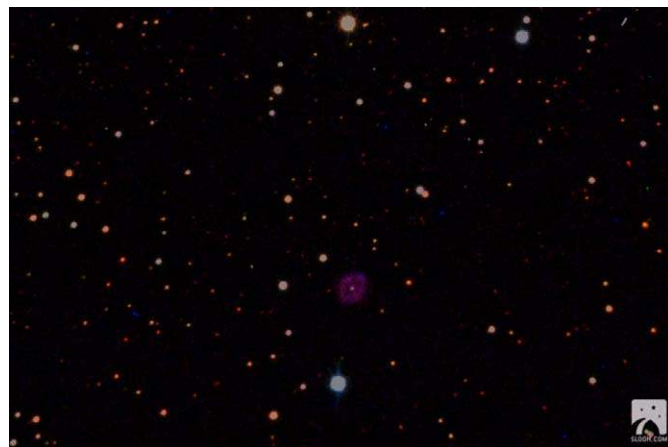
the edge of a large dark molecular cloud. At the center of the nebula is an open cluster, IC 1590, which formed there a few million



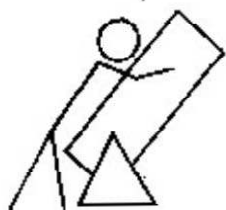
Heart and Soul Nebulae (Credit: Digitized Sky Survey, ESA/ESO/NASA FITS Liberator; Color Composite: Davide De Martin - <http://www.skyfactory.org>)



Melotte 15 close-up by Donato & Gianluca Ciraci, featured on www.astronomy.fm



IC 289, Cassiopeia's Violet



Arizona Sky

years ago. Most of the nebula's illumination comes from HD 5005, the bright star at the center of the nebula, a type-B light-blue star with four smaller companions. Dark globules of dust and gas can be seen scattered through the nebula; these might be the site of current or future star formation. The Pacman Nebula is about 100 light years across, and about 10,000 light years away.

Closer to home, Mars is in the southwest at sunset, and Mercury will be joining it as an evening star after midmonth. Both will be visible only during evening twilight. Jupiter, Uranus and Neptune will be in the southeast at sunset, and will be up most of the night: Jupiter and Uranus set around 3 am at the beginning of November, and 1 am at the end of the month; Neptune sets about two hours earlier.

Saturn is a morning star this month, and starting to rise earlier: around 4:30 at the beginning of November, and 3 am towards the end of the month. In October, Venus disappeared into the sunset, after gracing our western sky since the beginning of the year. This month Venus reappears as a morning star, especially visible during the second half of the month. Through a telescope Venus can be seen to be in its crescent phase.

On the mornings of November 3 and 4,

Saturn will be near the crescent Moon in the east before sunrise. On November 7 we will be able to see Mars and the crescent Moon in the west after sunset. The constellation Scorpius is now setting in the west, giving us an opportunity to compare its brightest star, Antares, with the planet Mars. Antares is a red giant star whose color resembles that of Mars; its name means "rival of Mars". Antares and Mars will be only around 10 degrees apart during the first half of November. Antares will be a little brighter than Mars.

The Moon will accompany Jupiter and Uranus across the sky on November 15-17. November 16-17 will also bring us the annual Leonid meteor shower. More meteors will be visible after 3 am, when the Moon sets.

On November 20-21, the full Moon will be near the Pleiades all night from east to west. On November 21-22 it will be between the Pleiades and Hyades, and on Novem-

ber 22-23 it will be near the Hyades.

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



NGC 281, the Pacman Nebula

CEO Review October 9

By Sam Insana

On October 9th, seven PAS members attended the Cutting Edge Observatory Star Party. There was Sam Insana, Frank Insana, Chris Johnson, Bob Christ, Tim Jones, Nathan Anspach and his wife, two new members from Miami. We started arriving in the afternoon to do some nature hiking, seeing a black hawk, coyote, lots of quail, and other animals. A grove of Cottonwoods gave a picturesque setting among the rolling hills. Chris rode up on his Easy Rider chopper to greet each of us. He showed us where to set up our scopes, and soon we were observing a sunspot and some solar flares.

Although some clouds had me worried around 6 pm, Chris assured us they would burn off. He was right since we soon started our night observing in cloudless, very dark skies. There was little wind and the temperatures went from about 70 to about 45 degrees during the entire night. Dressing in layers was a good idea. The great thing was

that we had 7 observers and 7 scopes which included a Newtonian reflector, a PST, a dobsonian, a refractor, two SCTS, and Chris's incredible professional scope with professional cameras. His observatory was terrific, not only housing his scopes and cameras, but also having a warming hut that housed a bed, chairs, TV, computer, desk, refrigerator, and microwave oven. When the temperature cooled down, it was enjoyable to take turns warming up in the hut to see Chris's artistic photos of the comet 103P/Hartley2, and several other astronomical delights of the evening. (It helped to wear a helmet or be a Hobbit since Chris economized on ceiling space.) We also made a pizza and hot chocolate run at midnight and used his microwave to warm up our treats.

I personally observed through my scope from 5 pm until 5 am and never slept. I observed 24 objects, 4 of which I had never seen before, and can say with all

sincerity that this was the finest viewing session I have had in the 25 years I have had my Newtonian reflector. I have no GPS or GOTO system, just setting circles and a clock drive, but it was easy to pick out the objects because you could see many of them with your naked eyes or binoculars, then use the finder scope, then see where the setting circles were, and then look up the objects on sky charts. This was kind of a reverse method used on many of the objects. Everyone had some serious observing time, but we each took time out to show each other some of our objects so we could see the differences in our various telescopes. Chris let Frank use his 12 inch Dob which kept Frank entertained for hours. This was my first time at CEO and I would definitely recommend the experience to everyone at PAS.***

Cancer Treatment Center (CTCA) Star Party Review Oct 12

By Joe Collins

Yes, we had our "best" CTCA event to date.... Viewing conditions were pretty much ideal: clear, no wind, cool. Temperatures dropped from 89 to about 79. We had a total of 21 guests, including patients, caregivers, and CTCA employees. PAS members in attendance were: Sam and Frank Insana, Steve Palmer, and Joe and Renee Collins. The event ran from 6pm until sunset for solar viewing and from 7pm until 10:30pm for the regular program.

Solar Viewing

Sam brought his Coronado for viewing solar flares and his solar-filtered 8" Newtonian for viewing sunspots. There were several flares and a huge filament visible in H-alpha on the Coronado, and one huge earth-sized equatorial sunspot visible on the filtered Newt. Solar viewing was brief from 5pm until sunset, but well worth it! Next time we will advertise the early start of our program better to get more people up to the 5th floor garden terrace for solar viewing.

Lunar Viewing

Frank used a spotting scope, Steve used his Meade ETX895 APO refractor, and I used my C-11 SCT for three different views of the Crescent Moon. We had really stunning views of the terminator tonight, no filters necessary. The October moon looked an eerie orange as it set in the west.

Planetary/ Solar System Object Viewing

Sam used his 8" Newt, Steve used his Meade ETX895, and I used my C-11 for looking at Jupiter and its moons: Io, Ganymede, Europa and Callisto. We also viewed Uranus and Neptune tonight! We did not view the inner planets because they set early during our event. Despite its large coma, Comet Hartley 2 was too difficult to see due to moonlight and local light pollution, though I heard from Steve that it was visible up at the Cuttin' Edge Observatory dark site this past weekend, and Chris Johnson took some spectacular long-exposure B/W pictures that showed the tail.

DSO & Stellar Viewing

Despite the light pollution, it did get dark enough after moonset for some practical hunting/viewing of deep sky objects. Sam, Steve and I, at various times, were able to see and show to the customers, the following objects telescopically: Andromeda Galaxy (M31), Great Globular Cluster in Hercules (M13), Globular Cluster in Aquar-

ius (M2), Open Cluster in Perseus (M34), Beehive Cluster in Cancer (M44), The Pleiades in Taurus (M45), The Ring Nebula in Lyra (M57), Albireo, Polaris, Vega, Fomalhaut, Deneb, and Altair.

Wildlife Viewing

We had our usual skyhawk visitors tonight, and one large owl illuminated by the skylights.

Gifts and Handouts

I gave out 25 red light keychain mementos, and was able to talk about the importance of preserving night vision by using red light. We passed out about 15 or so handouts of the SkyTour objects. I will modify it for November's event. Sam is going to modify it for one of his upcoming (Scouts?) events.

Good Question Tonight

I had one serious question from a patient: "Are there planets out there made up of dark matter?" Of course, all planets are made of "dark matter" - dark matter is simply all matter that does not produce its own light, including planets, nebulae, brown dwarf stars, black holes, and interstellar molecules. However, gravitational measurements have shown that about 85% of the matter out there is dark matter/energy, and all the above-mentioned non-luminous objects could not possibly account for that amount of mass. Therefore scientists have theorized that there are additional, more exotic, forms of "dark matter" that we have not been able to detect (except by the gravity that indicates it exists). I wouldn't be too surprised if planets or some other large aggregations composed of these more-exotic forms of dark matter exist, but I don't really know with any certainty. Astronomers haven't even detected planets made out of anti-matter (which is considered "normal" matter), and we have only just recently started to detect "exoplanets" made of ordinary matter. (The current count is just under 500 so far.) Since we can't see exoplanets directly, we have to use spectro-metric or gravitational methods to detect them. Based on the behavior of the light from exoplanets that have been detected so far, we think they are composed of matter similar to the planets in our own solar system. The majority discovered so far tend to be gas giants like Jupiter, Uranus or Neptune. Only one planet discovered so far has a size and composition similar to Earth's, and orbits within the "habitable" zone where water can liquify. This exoplanet's

unglamorous name is MOA-2007-BLG-192-L b. It is about 3.2 times the Earth's mass and orbits about 0.66AU around its star. That would be a little closer than Venus is to our Sun. This exoplanet's host star is 2283 light years away and is very small, only 0.6 times the mass of our Sun. I don't think scientists have a reliable method yet to distinguish specific objects made of any of the possible "exotic" types of dark matter, especially when we are talking about planet-sized objects. In fact, there is not a lot of comprehension about what really composes most of the dark matter/energy in a physical sense yet, other than it seems to be all over the universe!

For more information about dark matter:

<http://science.howstuffworks.com/dictionary/astronomy-terms/dark-matter.htm>

For more information about exoplanets:

<http://www.howstuffworks.com/planet-hunting.htm>

Logistics and Comments

We still need to better advertise the PAS-CTCA events somehow. Tonight's event was on the Patient Calendar, but we didn't have the regular sign by the elevators because the easel was being used in a conference room where a meeting was taking place (and we didn't have a sign printed out).

John Collier of CTCA marketing sent out a last-minute memo blast, and I think this is how we caught a few more employees tonight while they were on breaks or just before they got off of their shifts. Tonight a few folk came back several times, and several people remarked that they had never seen some of the objects we viewed. Several people were astonished that they could see Jupiter and its moons, and that our own Moon "looked so close!"

The PAS crew was well fed by CTCA and the cafeteria. Marisa of CancerFighters/CTCA marketing left us some "meal tickets" and we used them for getting supper. The cafeteria hospitality rep. brought up iced sodas and cookies around 8pm. Since we stayed longer this time, we purchased turkey/cheese sandwiches/wraps before the Cafeteria closed for late night munchies. I brought iced waters, though few people took advantage of them, since we had sodas delivered and some folks bought their own drinks in the cafe.

Summary: All in all, a great night! ***

Meeting Of The Minds Review Sept 30

from page 4

MOON MARATHON PLANNING: We asked Mike if he would like to host a Moon Marathon party in March, open to the public. Only those competing in the event, and their immediate families, will be allowed to join in the fun. We are currently seeking Moon Judges. Two people will be asked to attend this event to be judges of whether the Moon feature found in the scope is the proper feature for the Marathon. Kevin Harcey has agreed to be one of the judges. We have room for one more. In order to be a judge, you have to know the features of the Moon better than just a casual observer. The event will also include a potluck. Moreover, we are seeking someone to help create a trophy for this event, either by donating money, having one made, or having it made and PAS will reimburse. Maybe Jerry would like to help with that. More details about this event will be found

in the February PAStimes Newsletter, as well as in this link within the forums: <http://www.pasaz.org/forums/showthread.php?t=465>

[Note: at the October meeting, Jerry volunteered to prepare the trophy - See **"Wanted: Old, Broken Telescope Parts"** on page 5.]

TREASURY REPORT: Due to the Treasury Report, which led to the topic of raising the rates for the postal customers of PAS, it was decided that PAS will charge \$10 starting with the 2011 PAS Dues, for anyone receiving the newsletter via snail mail. Only the 2011 Dues Sheet or its pricing will be accepted as of 9/30/10. Please retrieve for yourself the newly designed PAS Dues Sheet and get your dues in today. This price increase only affects those who receive their newsletter by mail. Here's the link to the New Dues Sheet:

<http://www.pasaz.org/forums/downloads.php?do=cat&id=2>. You may also request to receive a Dues Sheet by mail or at a PAS meeting - contact Terri for details.

DESERT BOTANICAL GARDEN FUTURE STAR PARTIES: This subject was brought up by Sam and Frank, who help out at the Desert Botanical Garden and who wanted some input on where to hold some public star parties that have darker skies than DBG might have. Many ideas were shared. These would become paid events. The first DBG star party will be on Nov 5.

DARK SKY STAR PARTIES FOR PAS MEMBERS: Then the topic turned to what PAS used to do, where many, many PAS members and their scopes would come to a dark sky event and enjoy a night of observing together. We discussed it and decided to have our first big PAS Dark Sky

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Please Be Courteous To Our Guest Speakers

By Terri, Event Coordinator

It was brought to my attention, while at the October PAS meeting, that in my absence at the September PAS meeting, there were some PAS members who were not as courteous to the guest speaker as they could have been. I'd like to request that everyone attending the meetings, please be considerate of others' feelings. We should not be hounding the Speaker with questions during their presentation, unless they invite you to ask questions while they are presenting. Remember, the guest speaker is donating their time to come to talk to us, usually for FREE, and if we don't make them feel comfortable while they are at the meeting, they may not return to do another presentation.

At the October PAS meeting, the guest speaker Jenny was very much involved with audience participation, and in my opinion this keeps the interest of those who are listening... as they have to be thinking of an answer instead of just sitting like a blob and listening. But Jenny is a rare guest speaker. Most of our speakers prefer to get through their whole presentation and then allow for Q & A, and I do ask all of them to end no later than 9pm to leave ten minutes for Q & A before we have to depart from the library.

The PAS member who shared this info with me was referring to how some of our more knowledgeable members tend to answer questions for the speaker. I'd like to

request that we do not do that. Let the speaker tell the questioner the answer to the question, rather than having one of our members interrupt with their ideas of the answer.

The other thing I wish to ask of the attendees is: if you are going to request two minutes to say something at the beginning of our meeting, please keep your limited time to only the two minutes you asked for. If you need ten minutes, tell me that. The reason is, I want the speakers to start their presentation no later than 7:45. We open the meeting at 7:30, and that gives us 15 minutes for quick announcements. Please, if you are going to be over five minutes, let me know. Because, if there isn't time for your mini presentation that month, I'd rather the speaker starts on time, finishes on time, and possibly, you could do your announcement at the end, just before we close the meeting. The guest speaker is the one who needs the floor. Mini presentations, such as Jerry provides, can wait until the end of the meeting, if they exceed five minutes. We only have 15 minutes at the beginning of the meeting to get all the announcements out. So, here's my proposal to solve this situation: when we open the meeting, I do my brief announcements, usually in under two minutes. I then offer each person, who said they have something to share, two minutes. The last person to present before the guest speaker needs to watch the clock, and when

it says 7:44, turn it back over to me, or Rod, to introduce the guest speaker. I really believe we need to stick to this plan. The only exception is if we need to do elections and they aren't already decided before I open the meeting. The last few elections were easy. "Current Officers: Do you take your position again for this next year?" And the answer was "YES" so the elections took under five minutes.

So, I'm asking everyone who attends the meetings, please consider that the guest speaker needs the floor. Announcements can be held to the end of the meeting. And if we, as a group, are rude to our speakers, I will not be able to get more of them. We are just lucky that David, our September speaker, didn't get so upset with us for the way our group acted at the September meeting, and it will not prevent him from doing another presentation for us. Please, be considerate. Give the speaker the floor, stay quiet, no chattering during the presentation, and let's enjoy what the speakers are sharing with us. We are there to learn. If you must talk during the presentation, take it outside. The rest of us want to hear what the speaker has to say. I appreciate everyone who will be courteous at all future PAS meetings. By the way, if anyone doesn't like the format of the PAS meetings, feel free to run for office next year, and make a change. Then, you can be up front, running the meeting and doing the announcements.***



Close Encounters with Jupiter

by Dr. Tony Phillips

Jupiter and Earth just had a close encounter—and it was a good one. In late September 2010, the two worlds were 31 million km (about 19 million miles) closer than at any time in the past 11 years. Soaring high in the midnight sky, Jupiter shone six times brighter than Sirius and looked absolutely dynamite through a backyard telescope.

Planetary scientist Scott Bolton of the Southwest Research Institute isn't satisfied. "I'd like to get even closer," he says.

Bolton will get his wish in July 2016. That's when a NASA spacecraft named "Juno" arrives at Jupiter for a truly close-up look at the giant planet. Swooping as low as 5,000 km (about 3,000 miles) above the cloud tops, Juno will spend a full year orbiting nearer to Jupiter than any previous spacecraft.

The goal of the mission is to learn what lies inside the planet.

Astronomers have been studying Jupiter since the invention of the telescope 400 years ago, but in all that time the planet's vast interior has remained hidden from view. Even the Galileo probe, which dived into the clouds in 1995, penetrated no more than about 0.1% of Jupiter's radius.

"Our knowledge of Jupiter is truly skin deep," says Bolton, Juno's principal investigator. "There are many basic things we just don't know—like how far down does the Great Red Spot go? And does Jupiter have a heavy core?"

Juno will improve the situation without actually diving into the clouds. Bolton explains how. "Juno will spend a full year in close po-

lar orbit around Jupiter, flying over all latitudes and longitudes. We will thus be able to fully map Jupiter's gravitational field and figure out how the interior is structured."

But that's not all. Researchers have good reason to believe that much of Jupiter's interior is filled with liquid metallic hydrogen, an exotic metal that could form only in the high-pressure, hydrogen-rich core of a giant planet. Jupiter's powerful magnetic field almost certainly springs from dynamo action inside this vast realm of electrically conducting metal.

"Juno's magnetometers will precisely map Jupiter's magnetic field," says Bolton. "This map will tell us a great deal about planet's inner magnetic dynamo—what it's made of and how it works."

Finally, Juno will probe Jupiter's atmosphere using a set of microwave radiometers. "Our sensors can measure the temperature 50 times deeper than ever be-

fore," says Bolton. Researchers will use that information to figure out how much water is underneath Jupiter's clouds. "Microwave measurements of Jupiter's water content are particularly exciting because they will help discriminate among competing theories of the planet's origin."

Now *that's* a close encounter. Stay tuned for Juno.

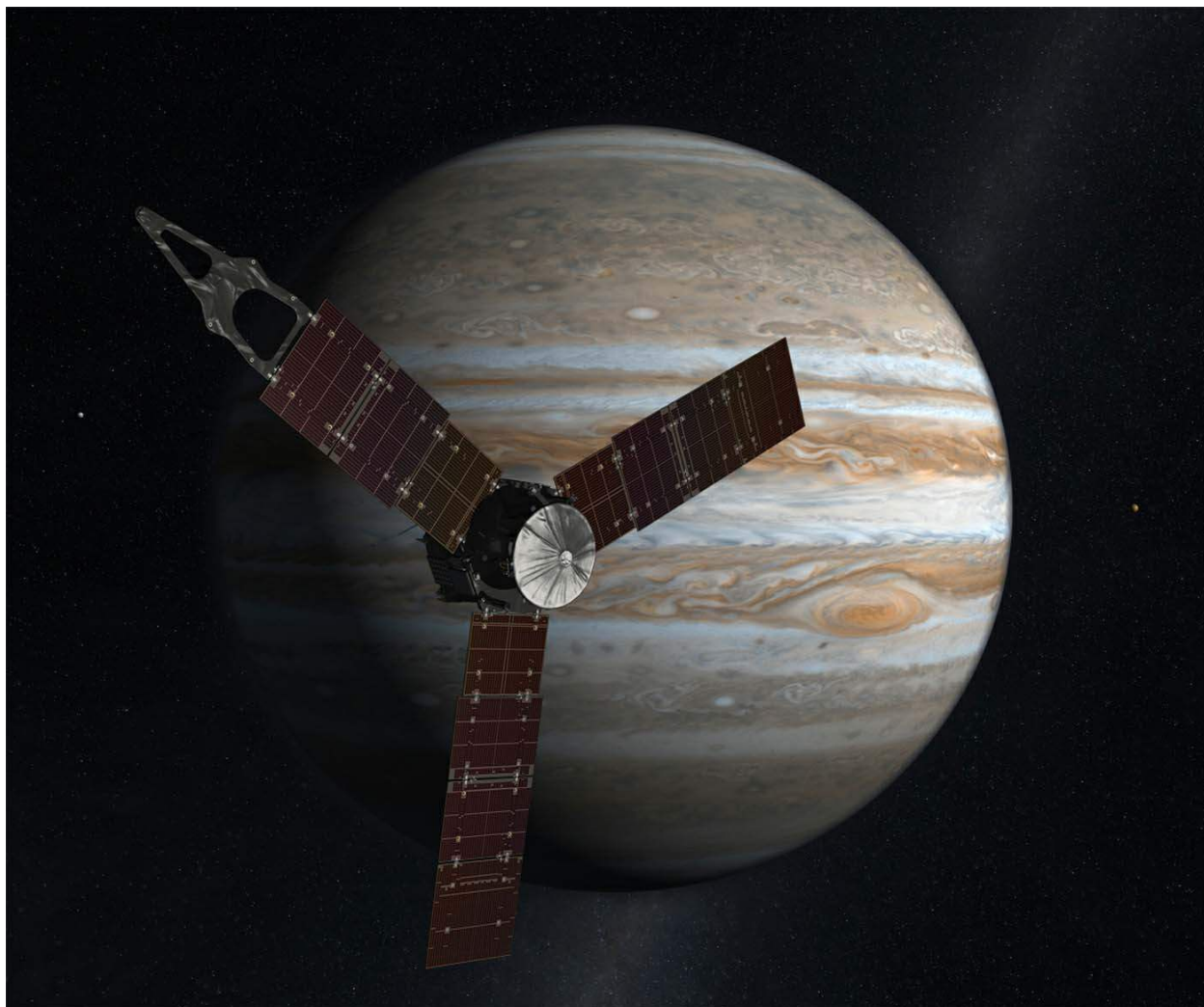
Find out more about the Juno mission at

http://www.nasa.gov/mission_pages/juno.

Play the new Solar System Explorer super game, which includes the Juno Recall mini-game

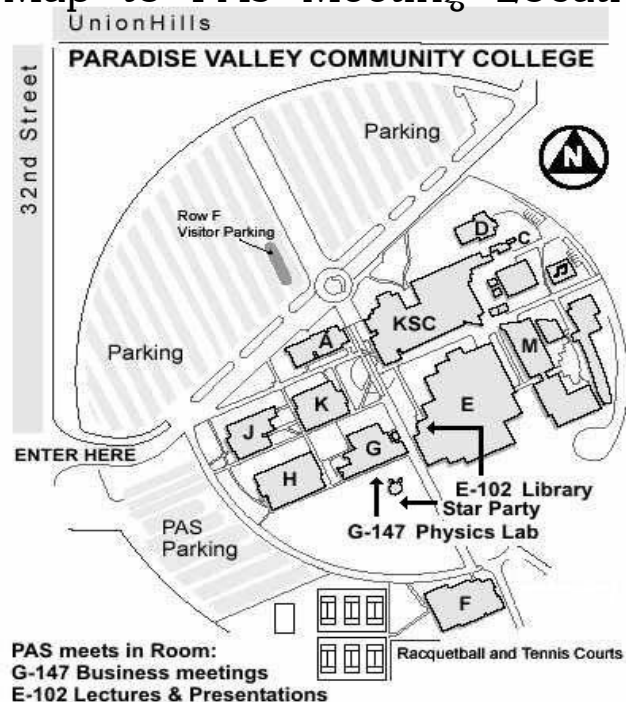
at <http://spaceplace.nasa.gov/en/kids/solar-system>. **It's not just for kids!**

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



Map to PAS Meeting Location

Meeting Of The Minds Review 9/30



From Page 9

star party at Cuttin' Edge Observatory on Saturday Oct 9th. Since this issue won't get out in time for people to have read this and be able to attend, an email was sent out the day after the MOM's so that the PAS membership could consider attending. CEO is in Mayer AZ. The skies are awesomely dark and Chris is opening it up to ALL PAS MEMBERS. Please do not bring children. RSVP is required with Chris. A discussion about this event has been started in this forum entry: <http://www.pasaz.org/forums/showthread.php?t=471>

BOYCE THOMPSON ARBORETUM: Steve then brought up the idea of taking an opportunity to do star parties at a darker sky location than downtown Phoenix, over at the Arboretum, alternating dates with EVAC. He is doing some research and sending me the data I need to be able to set these events up. They'd be paid events.

LENGTH OF FREE STAR PARTIES: Chris and Steve both wanted to express their opinion on how public or school or scout star parties shouldn't start before dark. Their reason was that their scopes require lining up with Polaris. And until the scope is aligned that way, they can't show anything through it. So, we had a discussion about the start time of star parties based on twilight. It was agreed that all star parties that we are doing for FREE, will start at or after dark. This allows for those who have to set up their scopes using the North Star to align.

THANKS: I wish to thank all who attended. This was an awesome and productive meeting. Photos for this event can be found in the PAS Photo Album on line at this link: http://www.pasaz.org/forums/gallery.php?g2_itemId=7262. Be sure to attend future Meeting of the Minds and help with the decisions that make PAS a productive, fun club. ***

Please see page 2 for more information

November

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2 CTCA Star Party	3	4 PAS meeting	5 DBG Star Party/ Phoenix Art Museum	6 (CEO) Star Party/ DBG Star Party
7	8	9	10	11	12 Back up date for Nov 5: DBG star party.	13 Star Party @ Heimhenge
14 FREE PAS Tele- scope Workshop at Bookmans	15	16 Back up date for Nov 2 CTCA star party	17 Park Ridge Elemen- tary School Star Party/ Aerospace Star Party	18 MOM	19	20
21	22	23	24	25	26	27 VSP
28	29	30				

Ads in PAStimes

Ads in PAStimes run for a month and may be renewed on a month-by-month basis, if submitted by deadline, space permitting. Ads in PAStimes are FREE to members. All others are asked to make a small donation. Donations are to be sent to the Vice Prez who will forward them to the Treasurer.

Don Boyd
PAStimes Editor
701 W. Del Rio St.
Chandler AZ 85225

To:

Heimhenge Star Party Nov 13 - Contact Dan for details & RSVP 623-465-7307.

PAS Speaker Line-up for 2010/2011

By Terri, Event Coordinator

Dec 2, 2010: Richard Greenberg - Topic: Unmasking Europa

Jan 6, 2011: Veronica Zabala - Topic: Astronauts for Hire

Feb 3, 2011: Dan Heim - Topic: CVEMS: The newest threat to our dark skies.

If you have a topic to share, or know of someone who would make a great PAS Guest Speaker, please drop Terri an email with the contact info at Events@pasaz.org. ***

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What's Up For November?

By Rod Sutter, PAS President

Name	Date	Rise	Set
Mercury	11-1-10	07:31	18:400
Venus	11-1-10	06:25	16:51
Mars	11-1-10	08:39	18:49
Jupiter	11-1-10	15:28	03:11
Saturn	11-1-10	04:31	16:23
Uranus	11-1-10	1536	03:31
Neptune	11-1-10	14:04	21:06
Pluto	11-1-10	10:42	23:06

All Times Arizona Time

November 15 2010

Sunrise: 06:54

Sunset: 17:22



Q3: November 30



New: November 6



Q1: November 13



Full: November 21