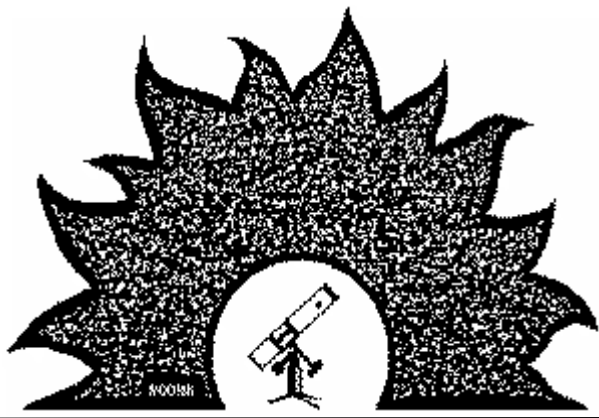




PAStimes

Phoenix Astronomical Society
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PHOENIX ASTRONOMICAL SOCIETY — ESTABLISHED 1948

Chet Schuler To Be December Seven Meeting Speaker

PAS is very pleased to announce that Chet Schuler is to be our speaker this month. Schuler is an accomplished astro photographer and he will be giving a talk entitled "CCD Imaging Techniques".

Some of his work is on our website and we are also proud that he has graced us in this way.

I for one am very much looking forward to this as I have just bought a new scope and one of my goals is to be able to take some good astro photos .

As always the meeting starts at 7:00 pm with a half hour of socializing followed by announcements and then Schuler will give his talk followed by a short question and answer period.

Don't forget that we are also having our annual swap meet...so dust off those old astro items and bring them with you. And come prepared to buy something LOL.

See you at the meeting.

Also remember that there is no meeting in January because of the Social.



Swap Meet At P.A.S.

By Terri, Prez

Bring your astronomical items to buy, sell, trade to the PAS December Meeting Swap Meet. In the past, we have had plenty of good sales. PAS Members and non-PAS members are welcome to be involved.

Bring with you a piece of paper with a brief description of the item at the top. We will set up prior to the speaker, in which you can place your bids on the paper. Then, after the speaker has finished, we will have 15 minutes to complete the sales. You place

your name on the page with your bidding price. If you are out bid, you must bid again to win the bid. First name and last initial is all that is needed to win the bid. We will see you there! ***

PAS Views The Mercury Transit

By Terri Finch, President

Oh, did you ever miss something awesome if you didn't make it to this event, or one like it. At our event at PVCC, we had at least 250 people attend. The kids seemed to enjoy it, and several adults were just ecstatic! The handouts were very popular, and we gave out the MERCURY TRANSIT CERTIFICATES to anyone who viewed the event. I have extra copies of the Certificate for those volunteers who wish to have one for their collection. The event started with Sam, Rod and myself arriving around 11 am. We didn't know where we were going to set up because Ed had said that we might not want to be by the domes. Well, we ended up there anyway so that we could

have electricity and it was a good spot to be. Some of us stayed in to the evening and didn't leave until 10:30 that night. It was a long, 90 degree day, and cooler evening event. But I believe it was a great success and we got a lot of good feedback from it. PAS sold six T shirt, six bouncy balls, and took in \$2 in tips.

TRANSIT REVIEW: The Transit itself was very exciting. Jerry was telling us we don't want to miss the Tear Drop effect. When Mercury touches the edge of the sun, it looks like a tear drop. Some of the scopes were set up and ready for that to happen. I thank Sam for letting me look at that effect. Very exciting. The day went on and the Sunspot was awesome. They were saying

that the sunspot was 11 times (I may have that number wrong) the size of the Earth. And when you compared it to the size of Mercury, that was a big difference. The sunspot was visible all day. Then that solar Flare showed up (see Jerry, below). Now, we were told, by who ever was tracking this event and predicting the way the event would go, such as websites, that we would not see the end of the transit. The sun was supposed to set before the end. It didn't. We were so pleased to see the whole event from beginning to end. It was awesome! And we watched as Mercury drifted off the surface of the Sun. What an awesome event!

I wish to thank the PAS Telescope TEAM:

Leah Sapir brought her solar filter & stayed for the star party in the evening hours. She also did printing of fliers for this event. We sure had a lot of info to hand out and she did an awesome job getting it all organized for me to pick up just before the event.

Rod Sutter had his Coronado set up to show everyone the Transit on a TV. That was a neat effect. I wish to thank Rod also for bringing his Canopy. He stayed for the star party and tried to get some stars on the TV as well. As the sun was setting, Rod announced "Come see the rings of Saturn on the Sun." I think we were all tired by then because some of us had a really good laugh. The Sun had positioned itself such that it silhouetted two power lines across the campus. It was a sight! Rod took some photos of the event. Sue was an awesome addition to the TV Tent as she helped Rod get Mercury centered throughout the day.

Barbara Hartman brought a Canopy and her Solar Filtered Binoculars. She also set up to show and tell about the Kepler mission. Awesome handouts! She also stayed for the star party.

Don Boyd brought his scope and did Solar viewing & the star party. He also helped by running around in the cart that Maintenance lent us to be able to bring our stuff from the parking lot to the Telescope Domes on campus. Because of construction, we couldn't drive in to drop off our supplies, so we had to use a cart. Thank you, Don for making the runs and helping everyone. Also, Don was able to do color printing for this event. So, he brought the brand new PAS BOOKMARKS with him to be cut up and given to the public. I handed out a bunch of them, one per person, and told them they could go to the website and download the complete set of 16 bookmarks if they wished to. Don and Barbara did a fantastic job on those bookmarks. Very professional looking on shiny paper and they will be a nice addition to all future events. Plus Don did the printing of the MT Certificate which came out beautiful. He also took some photos of this event.

Ed Rosenthal & Dave Hellman (PVCC) Thank you for all the help they gave us as well. Ed checked on us several times throughout the day. Dave was running Bubba, the 11" scope in the big dome on campus. Ed & Dave also brought their class out in the evening around 6 pm and informed us that ISS would be crossing over the sky at that time. So, we got an added bonus of the Space Station flying overhead.

Mike Marron brought his meteorites and posters. He was the hit of the party and had the biggest crowd for most of the day. That sounds like Mike, the center of attention and he did an awesome job. I bet he had a sore through the next day.

Sam Insana stayed for the solar viewing with his scope and I got the most positive responses from his scope, when I asked the public which view they liked the best. Sam, you did an awesome job, you impressed everyone!

John Pulis came to help out, stayed into part of the night and did a great job getting handouts to people. He has the personality and knowledge to really make PAS a success! I appreciated his help.

Steve Snyder brought his solar scope and talked about how you can buy that scope for around \$200 at Fry's Electronics with everything you need to do night time viewing. This seemed to impress people. Steve had an umbrella set up by his scope, probably for his own use, but he saw that I was cooking in the sun and lent it to me to stay shaded. Thank you so much Steve. That really helped me make it through the sunny, hot day!

Bob Holmes brought his meteorites and a Canopy. His set up was really cute. It was kind of a tent like you'd see a bunch of belly dancers coming out of in Egypt. I thought it was very interesting. His set up looked more professional than the rest of us.

Matt Kohl came to help me with my handouts and set up. We had brought the Jeep full of stuff. I really need to thank Matt for all his help because not only did he help me, he also helped anyone else who asked for help lifting and moving things. Thank you Matt.

Greg Coons brought two solar scopes, stayed all day and then left part way through the evening hours.

Jerry Belcher brought a canopy, hid from the sun, but had his Coronado set up for everyone to view through. He got the most interesting view! During the latter part of the day, one huge solar flare set off from the sun, and became a detached solar flare. That was so interesting to see. Awesome!

Kevin Harcey came for a few hours and then disappeared part way through the day. He arrived just in time for the school group of 60 kids. I asked him to help direct traffic while the kids went from scope to scope in an organized fashion to start with, and then later wandered wherever they wanted to. The kids seemed to like the bookmarks, candy tin, and meteorites the best. Thanks to

Kathleen Riley, their teacher, for bringing them out to this ONCE IN A LIFE TIME event.

William Finch showed up with pizza for the group. We split the pizza at \$1/slice between us and everyone was glad to have food. We had gotten the pizza from Hungry Howies. Yummy and well needed by the time it got there.

Terri Finch - I brought three tables of handouts, gave out the certificates and bookmarks during the day, and then set up my scope in the evening for the Treasure Hunt. About ten kids came for the treasure hunt. I was hoping for more as I had with me three boxes of prizes to give away. But we will use the prizes at the next several events. The treasure hunt didn't work out as planned. The sky was too bright with pollution and lights to catch some of the items on the SUMMER TRIANGLE TREASURE HUNT list. But we awarded prizes if they saw most of the items. For future Summer Triangle Treasure Hunts, we may want a darker location.

Some of us stayed till Moon rise. Rod wanted to see how the moon looked on his TV, so we hung around waiting for that to happen and talking. We had two people from the public still with us clear up till we started packing up around 10 pm.

I'd like to thank the rest of our Telescope Team.

Chet Schuler and Sonny Schug were at Chet's house doing imaging of the event. We hope to see some of those images soon.

Jeff Hopkins was at the Desert West Senior Center doing the event there. I hope everything turned out great for that event.

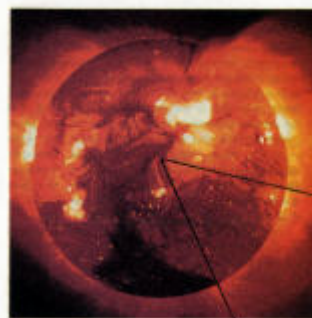
I believe that other than past Astronomy Day events at the Arizona Science Center, this has been a most complete collection of our TEAM being involved in an event that's we've had. Thank you all for your assistance and involvement.

I'd also like to thank those extra folk who showed up to join in the fun. Bob's wife, Beth Ellickson, and his mom, Barbara were there. Sam's son, Frank was there. There may have been more that I missed seeing. It was a busy day.

We also had some friends show up at the event. Myriam, Alejandro, & Juliana Vega along with David Farca attended. Steve, Zoie, & Jordan Dilly were there. These are music students of mine!

A good friend & business partner of the Finches, LaDien Steelman was there. We had an awesome Party!

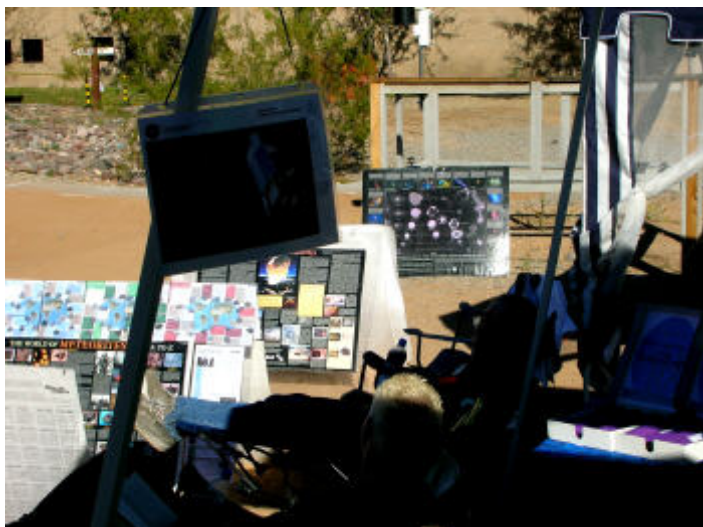
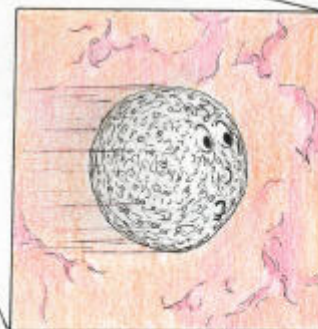
Photos on This Page by Rod



Ouch, Ouch, Hot, Hot

KCH

KCH is copyright Kevin Harcey and may not be reproduced without expressed written permission of the artist



Photos on This Page By Leah



Some friends of Barbara's also attended: Stephenie and John Happ with Wyantt, Ethan, Nellie and Travis. Also Andy Traylor was there.

In trade for doing the PAS Survey, I gave away Night Sky Magazines. We collected six surveys. Below are the results of the surveys. The questions and answers are below in brief.

Everyone said that the activities we provided were great.

For their Favorite activity, we had a variety of answers: the TV display, Huge Telescopes, Mercury, and the info we provided.

For improvements to this event, someone suggested we "get further out – lake pleasant, maybe – too light here" and another one said "advertise it more."

For Prize suggestions "Anything to do with astronomy."

I'd like to thank those who did the surveys by mentioning their names: Wyatt Happ, J.Carol Fling (awesome & very interesting lady), Toni Kern, Marcello Tiutli, Patricia Adams, & Pablo Bazon. We appreciate your input and hope to see you again at another PAS event! If you provided a complete address, you now have a copy of the December newsletter in hand and are reading this. Enjoy! ***

Rod Sutter

The morning started out a little cool, Sam was already setup by the time most of us arrived at 11:30. Sue and I, and Terri and William showed up about 11:30. By the time we got setup and things working, the transit had just started. Three of us setup our awnings so the we had a wall of shade. I setup

my PST behind the awning and hooked up a TV so we could have more people viewing without having to stand in line.

Barb had her binoculars setup and was also showing people different things with one of our Night Sky Network kits. She also had the tube that showed kids what you could see in telescopes. She had he models of the kepler solar scope set up in her area.

Bob Holmes was setup next to her, he had many meteorites that the kids were very interested in. And many adults also were amazed with some of them. Mike Marion was setup with his posters and meteorites and kept the kids and adults interested with his information about his meteorites and talks about the universe.

Jerry had his PST on the west end of the awning and a good view through out the day of the sun. Terri had the hand-out table setup

in front of my awning and handed out a lot of different information about the transit and other Astronomy related papers.

Don was setup beside Jerry and had his scope filtered for the kids to get a good view of the transit also.

The transit was about 1/3 of the way in progress when the group from All Saints Academy showed up. There were around 60 kids with six teacher. While the Transit was in progress there were many things to see on the Sun. There was a large sunspot on the East side of the Sun, this sunspot covered about 32,000 miles, or almost four times the size of Earth. Mercury passed just below the sunspot and continued west. While we were watching the transit there were quite a few large prominences visible in the sun scopes. One such flare was estimated to be about 16,000 miles high. While viewing a flare on the sun most of them remain in view for hours, even though they jump out and back, the distance is so massive that for a flare to leave the sun and return it could take hours for what we see. That's why most prominences stay in view almost all day long.

The transit ended around 5:20 and there was many people watching as Mercury left the field of view. After then ending we tore down all daytime items and scopes and started setting up for night time viewing. Terri started getting her papers ready for the Treasure Hunt, and everyone else setup their scopes. The evening went on with some clouds and moist air moving in about two hours after sunset which affected us seeing many deep sky objects. We pretty much had to look at bright object only. Then finally the day ended around 9:45 with us packing up and leaving. A good day done. A great day for the Mercury Transit of 2006. Hope everyone had a good time and I'm ready for the next star party, hope to see you there.

Sonny Schug

Just a few words about the Mercury transit. I was with Chet at his home the day of the event. Chet was well-prepared, having set up two complete telescopes with matching computers. One scope was used digitally to photograph the disc every five minutes with 100\ exposures per unit. He will then combine them into some sort of

progression sequence as Mercury progressed across the face of the sun.

His other telescope was used for highly magnified images of the planet, again taking several exposures which he will later "stack" and combine into composite images.

I also photographed the event using my 5" f/5 refractor and Pentax digital camera, taking several single exposures as the planet moved across the sun.

James DeSantis

I was a bit disappointed with the Mercury Transit. I set my scope up in the hospital parking lot at lunch. The sun spot was more interesting than the tiny dot we call Mercury. I also had security watching me for about five minutes until they decided I was no threat to anyone. This was my first time I could see the transit. Last time I was in Pennsylvania and it rained constantly the whole transit; the only time I ever drove to a star party in the rain. I was the only one to show up but the site was only about three miles from my house. ***

PAS Nov. 2 Meeting Review

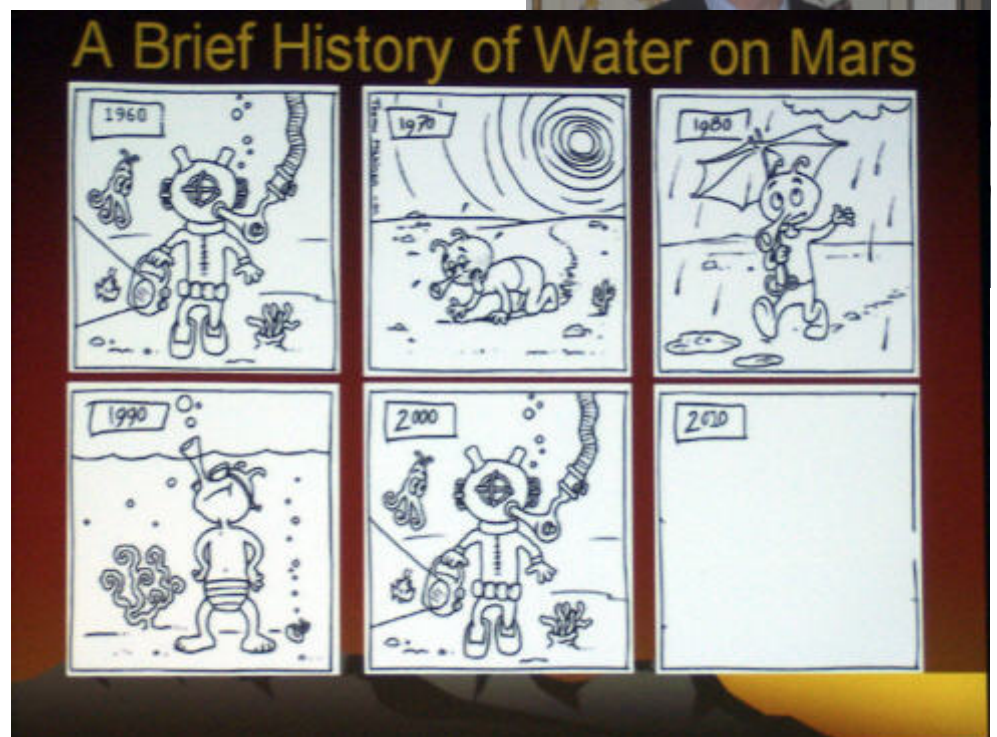
By Terri, Prez

Wow! What a speaker! We had great attendance this night.

We began the meeting with some quick announcements. Mike announced his upcoming star party Nov 18th. Jerry reviewed the last rocket Launch and was telling us that no PAS Members were seen there. He had some funny stories to share about the rocket launch. Don announced an apology to the new member who joined last month and didn't get the newsletter because of a mishap. I announced that PAS is now a member of the IDA. I also collected the money needed to order the Year in Space Calendars.

And then we gave the meeting over to Tim. Wow, if you missed this meeting, you missed something awesome. Tim has so much excitement about his topic! He was talking about the Polar caps on Mars. This was very informative and interesting. He said his talk was like a POLAR POT-POURRI and he was right. I asked Tim to come do another presentation for us in the near future. We heard all about some upcoming missions to Mars, and all the past ones. We hope to have Tim come tell us

more about Mars or something else he loves to talk about very soon. Thank you so much Tim! Fantastic! ***



Solar Saturday December 10

SOUTHWEST REGIONAL LIBRARY
16089 N BULLARD AVE.
SURPRISE, AZ 85374
MAKE RESERVATIONS AT
(602) 652-3000

For Southwest Branch enter 211 after answer

DEMONSTRATIONS OF SPECIALLY
DESIGNED SOLAR-FILTERED TELE-
SCOPE on the Library lawn. White Light
and Hydrogen-Alpha filters allow safe and
ever increasing detailed viewing of the Sun.

"DISCOVERING THE EXCITEMENT
IN OUR CLOSEST STAR" a multimedia
presentation by Gary Palmer in the Surprise
City Room at 10:00 AM, 12:00 PM, and
2:00 PM. Mr. Palmer is an avid solar astron-
omer and one of the leading solar photogra-
phers. Mr. Palmer brings 32 years of
professional experience as a Lighting De-
signer and Cinematographer with Para-
mount Pictures to his passion of solar
imaging. He has shared his enthusiasm in

numerous lectures and especially enjoys in-
troducing people to their closest star—the
Sun. SEATING AT EACH PERFOR-
MANCE IS LIMITED TO 150 PERSONS;
RESERVATIONS ARE REQUIRED.

FREE public event being held at the
Southwest Regional Library in Surprise,
AZ. There will be a number of CORO-
NADO filtered scopes set up for demonstra-
tion throughout the day starting at 9:00 AM.
You are most welcome.

Meeting Of The Minds Oct. 26 th Review

By Terri, Prez

The meeting went well. We tried a new
format and I must thank my TEAM for
trying and succeeding for the majority of the
night. The format goes as follows, and we
will try to maintain this meeting format for
all future meetings: If you have something
to say, raise your hand. Then stand up to
talk. He/she who stands, has the floor. It is
important that everyone hears what every-
one is saying, and if we are all talking at the
same time, that will not work. So, we have
implemented a little idea so that everyone
can be heard equally.

We discussed such things as the Anthem
Star Party. I later emailed my contact and
asked for 2 pm but he still won't give it to us,
so we are scheduled from 5 - 10 pm in
Anthem on April 21st. RSVP soon to let me
know you can assist.

We also needed a location for the Mar 3,
2007 and Dec 1, 2007 star parties, and so
Dec 1 will be at Spur Cross Ranch. Mar 3 is
still being decided as it is a full moon. We

need a place to do it that has room for many
scopes and can see the moon all night for a
Treasure Hunt. Then we need to make a
flyer for the event and invite everyone to
attend. If you have an idea for a location, let
me know.

Special Interest Groups: What brought
this idea up was that Don, William and I
were talking about starting up a group on the
topic of Astronomical Equipment. So, right
now this is in the planning stages. Barbara
already has an observing group for the pur-
pose of receiving your Messier pin, or NGC
Pin, or other cool things from the Astronom-
ical League. If you are interested in discuss-
ing, maybe every other month, meeting at
maybe Bookman's for 2 hours, the topic of
Astronomical Equipment, then let me know
so we can start up this group.

We discussed the Kits for Nov 8th, but
didn't get very far, I borrowed them and
returned them at the PAS meeting the fol-
lowing week.

We voted unanimously to have PAS be-
come a member of the IDA. So, the check
was drawn, the announcement was made at
the PAS Meeting, and PAS is an official
member of the International Dark Sky Asso-
ciation.

We had a very good discussion on the
survey's we took in from Arrowhead Ele-
mentary School Star Party. This generated
some ideas on how to improve our public
star gazing events.

And we also discussed how I will be
unable to be the meeting hostess for the Feb
1st PAS meeting because I will be out of
town that weekend. Mike said he'd fill in for
me. Matt would if he can find a ride to the
meeting. Maybe John, or Kevin might offer
him one. I thank Mike for offering. I hope
you all enjoy the meeting, as Dennis is an
awesome speaker!

The meeting was good, very productive,
and we are looking forward to a some good
things in the future of PAS. We hope to see
you at the next MOM on Nov 16th! ***

All Saints Star Party Review 10/27

By Terri, Prez

This was an interesting star party. I was
expecting more students to be involved.
But the location was nice. Dark skies,
plenty of room for scopes. You just have to
watch out for the sprinklers at 9 pm. We
started the evening by not being able to find
the school. It is well hidden, an awesome
location, but eventually we got there. Jeff,

and Rod were already there and set up. So,
We arrived, set up our scopes and had a
blast! i want to thank Kathleen for inviting
us to the star party. We had Jeff's, Rod's,
and my scope, plus 2 8" scopes the school
owned. The 2 from the school were on the
Moon most of the night. the rest of us
showed things like Andromeda, Ring, and a
few other really nice objects. The sky was

marshy but dark. The ground was really
cold on the feet and legs, as we are in grass.
And the grass must have been wet because
my boxes were soaked by the time we left.
This was a great star party. We hope to do
it again in the near future. We can use a few
more volunteers at the next star party so be
sure to let me know you can help out.
Thanks. ***

WOW Star Party Review

10/27 James writes: All went well Friday
night at the WOW event. I must say I am
getting very good at finding things in light

polluted skies. Friday was the first time I
was able to show the seven sisters at a

WOW event. It was a very educational
night. ***

Front Porch Star Party Review

By Terri, Prez
Photos by Rod

This was an interesting star party. It was a paid star party out in Buckeye. Rod, Don and myself took our scopes out there. We were totally clouded out. Even the almost full Moon looked really bad that night. The clouds stuck around for many hours after our 7:30 start time. Finally we got some clearing. We found as many objects as we could in the couple hours we had till 11 pm. The night, then became a success. Before leaving around 12:30, we had totally clear skies. Who would have thought it would go from completely cloudy to completely clear? Luckily the crowd was patient with us. We had a good time, good food, and the people were awesome, too. We hope to do this event again, sometime. Please see photos of required dress code for this star party. You have never seen your PAS Telescope Team look so good at a star party. I'd say we were impressive looking! ***

New Article by Dr Dee

We have received another wonderful article by Dr. Laurice Dee. This one is about the various robotic missions in space at the moment. Space precludes us including the whole article. We are however including the first paragraphs. As always the full text of the article may be found on our website, www.pasaz.org on the downloads page.

The Special Gathering in Surprise, AZ

I attended a birthday bash almost two weeks ago. It was held at a large park, where numerous visitors got to enjoy the sunny, mild weather. Seven family members (that my family and I have been friends with for many years) celebrated their "age milestones". The oldest turned 75 this year, and the youngest, 10 years. The food and fellowship turned out to be quite fabulous. We spent the day talking and visiting that the time flew by so fast!

Before we knew it, it was getting a little dark outside. The Sun had already set, and our Moon, in her full-moon phase, rose over the east horizon. The shining reflection cast on the large pond from our Moon's beautiful glow was quite awesome!

While I was gazing at the colorful hues from the sunset and the rising of our Moon,



Sue and Rod Sutter

I thought about some of the robotic solar system missions that are currently in space. Like the folks that just celebrated their age milestones, these missions were able to achieve their own milestones. I could not help but marveled at what the missions have accomplished since their beginnings here on Earth. I would say that each one of them has come a long way during its time in space!

Mission Milestones

I will discuss briefly the milestones for each of the following missions that I had thought about during that evening at the park. Some of their milestones were quite simple and straightforward, and others were so "out of the world".

In other words, we'd never imagine that such milestones would ever occur for some of the missions. .



Don Boyd



Terri and William Finch

PAS. Is Having A Party January 27th 5pm

This is a list of the plans for the PAS Social. Let me define this party. The Social is a gathering of everyone you see at PAS star parties who is a PAS Member, or Family or Friend of a member. If you aren't a PAS Member, you must be invited by a PAS Member to attend (ie: Ed Rosenthal). This is a fun party. We do not have alcohol (the location will not allow it). The idea is to socialize with those folks who you see at night under the stars and you wish you had more time to chat with, but during a public star party, you just do not have the time. Now is the time!

We will not have a Movie gathering this time. Matt wants to have movies available, so he is bringing a DVD player and his TV and will setup down one end of the room. If you wish to join in the Movie time, when we aren't doing darts or pool table, then bring a long a movie to share with the group.

To make the party more fun, we have a gift swap. This is not Christmas gifts. It is meant to be a game. Bring an astronomy related gift, one that you would love to receive yourself, wrapped and disguised, to the Social and play the White Dwarf Gift Exchange with us. You are not required to play, but if you wish to play, a gift is required. Please choose something between \$10 & \$20 to be fair to others. If you purchase a gift under \$10 and feel it isn't enough, put several items in the box to make up the difference. One Gift, wrapped, per person playing the game. Upon arrival at the Social, please swap your gift for a raffle ticket, to play the game. Disguise the gifts. No one needs to know you brought it or how much it cost, or what it is. Just bring it along, wrapped, ready for the game. It doesn't matter what you wrap it in, either. Some of us only have Christmas wrap in their house (me), so it can come in aluminum foil if you wish.

Food: Since we don't have the extra food & drink that was supplied by the Heim's at previous Socials, who usually host this party, we are asking that each person (kids excluded) bring a food and drink with them. Drinks can be a 2 liter bottle of pop, or a 6 pack, or a box of hot cocoa packets, a jug of water, any form of more than one person may drink while there. No Alcohol). No RSVP is needed for Drinks. Food: I'd like to have everyone give me an idea of what they will bring so we don't have duplicates. For instance, if one person is getting chicken from KFC, then we don't need that same

kind of chicken being brought. I'm collecting RSVP's on items being brought today. Call me right away when you know what you wish to bring as your food. It can be a meat, a main dish, a dessert, chips and dip as one item, chips and salsa as one item, a veggie dish, a candy dish. Just bring one dish worth of what every you wish to bring, but RSVP with me so we do not have duplicates. I know that Jerry always bring chicken to the social. I don't know where he gets it from so maybe we will have Jerry's chicken and KFC Chicken. Both would be different and welcome.

Please, no smoking inside the building.

Table Decorations. We are not looking for Christmas decorations for this party. However, if that is the only Table Decoration you can find, bring it. Bring something really awesome, cute, funny, pretty, what ever. It may be worth your while. Upon entering the Social, name your decoration, put a sticky note on it with the name, and sign up on the page that is supplied. If the name you choose for your decoration is taken already on the list, please choose another.

Music, we haven't had anyone supply CD's to William to make a musical Montage of stuff to listen to. Like I keep repeating, this isn't really a Christmas party so we are looking for the type of music everyone wants to hear in the background while the party is happening, and while we are eating. Choose kid appropriate songs, such as songs without cuss words, and preferably songs others might want to listen to. I have a slew of David Bowie we can listen to all night if I don't start getting some CD's coming this way. So, bring your CD's to the next meeting, lend them to us for a bit, pick them up at a following meeting. Originally I thought we could load them on the computer right then, but William says he needs an Internet connection to do that. So, we will borrow them and return them to you shortly after. Bring your favorite music. We want to have it set on random, so everyone can enjoy everyone else's music. If every family attending would supply 1 CD we could probably fill the night with music. The idea is not to have to keep putting in another CD here and there, but instead have it running in the background all night long, without anyone having to operate it. I wish I had my brother's juke box. That would be awesome!

Clean up: We are all adults. We can be responsible for our own mess. Choose your

location to sit and enjoy your dinner, and then clean up what you are done with before leaving. If everyone takes the effort to do this, we can have the place cleaned up quickly that night. Sue and Terri will probably be the ones setting up the Social and taking it back down. If you can assist, let me know.

Below is the short version of this list. If you can donate any of the items requested below, that would be awesome. Let me know today I have them coming to me for use at the social (like the dart board, and the door prizes).

*Bring one Table Decoration per family to decorate your dining table – Not necessary to be Holiday related – any theme welcome, keep it kid appropriate.

* Door Prizes needed: Door, Dart, Pool, Mystery (if you can donate one extra astronomy related wrapped door prize, let me know.

*Sign up page on Piano by door: Dart, Pool, Movie, Name your Decoration

*Bring 1 Food, 1 Drink per Person attending (no alcohol please), Children do not need to bring drink and food.

*Bring 1 Astronomy related White Dwarf Gift. Gift is requirement to play the game. One gift per person.

*Bring Movies on DVD you wish to watch with others

*Bring Family, Friends, but remind them the rules pertain to them as well

*Rules: Clean up after yourself for the enjoyment of everyone

*Coffee – no RSVP's received as of yet. Decided to do large hot water container, bring instant coffee, tea bags, hot chocolate packets to share. A box of one of these items may take the place of one drink for a person attending.

*RSVP for attendance - today

*RSVP with food item you plan to bring. For example: Costco Potato Salad – be specific, first to RSVP food gets to bring it. Others will be informed they have to choose something else. Variety is the spice of life.

*We still need a Dart Board – please let me know you can bring one. We wish to thank the Wurst's for supplying 4 sets of brand new darts. Please use them with care during the game.

RSVP today if you'd like to help set up for the Social. Social starts at 5pm. I'd suggest we get there around 2pm to get everything organized and laid out for that night. We need a place to hang the dart board, chairs set up around where the tv will be, and more.

We'd like to see you at this awesome party! Come join us. And if you invite a friend, they must RSVP their attendance too. Make sure they bring the appropriate items. Everyone attending must bring food, & drink. See you there!

Dear Friends of Dark Skies,

As you may know, I've been very involved in dark sky efforts for the past twelve years. I've dedicated most of my efforts to dreaming up the best tools that help bring light pollution awareness/action into mainstream society.

Here's some news on one of those tools...

After selling out of a short paperback run, my children's book 'There Once Was a Sky Full of Stars' (Sky Publ.), has been re-introduced as a beautiful, large format hardcover. This book is the first, lyrical children's book that teaches kids about the stars AND fixing light pollution. The story's environmental message is simple, educational and unforgettable for young readers (listeners and parents, too!)

This hardcover release now has expanded distribution, which means that *There Once Was a Sky Full of Stars* is available to Barnes & Noble, Borders, and any other national book chain or local book store. However, because Sky is a smaller publisher, many stores have not heard of the book. This book can't deliver it's important message if it is sitting in boxes in a warehouse.

YOU CAN HELP GREATLY to get this book on the store shelves, into libraries, into schools, etc. Please encourage your club members, friends and family members to ask for it at your local book stores, libraries (the more places that stock it, the more LP awareness gets spread!) Consider it as a gift to children, nieces, nephews, grandchildren, great grandchildren, etc. for the holidays.

We might just change the world!

Sincerely,
Bob Crelin, author
bob@bobcrelin.com
<http://bobcrelin.com/author.html>

Toolkit Education And Assembly Party

By Terri, Prez

RSVP is required. The date isn't set yet. We are looking for those of you who have an interest in learning more about the Night Sky Network Toolkits. We want to make a training/assembly party of this. We have 5 kits that need to be assembled. We also have training CD's and DVD's to watch. And we need a location to do it that all of us can meet at and attend. It was suggested we could to it where we are holding the Social. I suggest Bookman's. Although some of the kits require hot water, and others will require

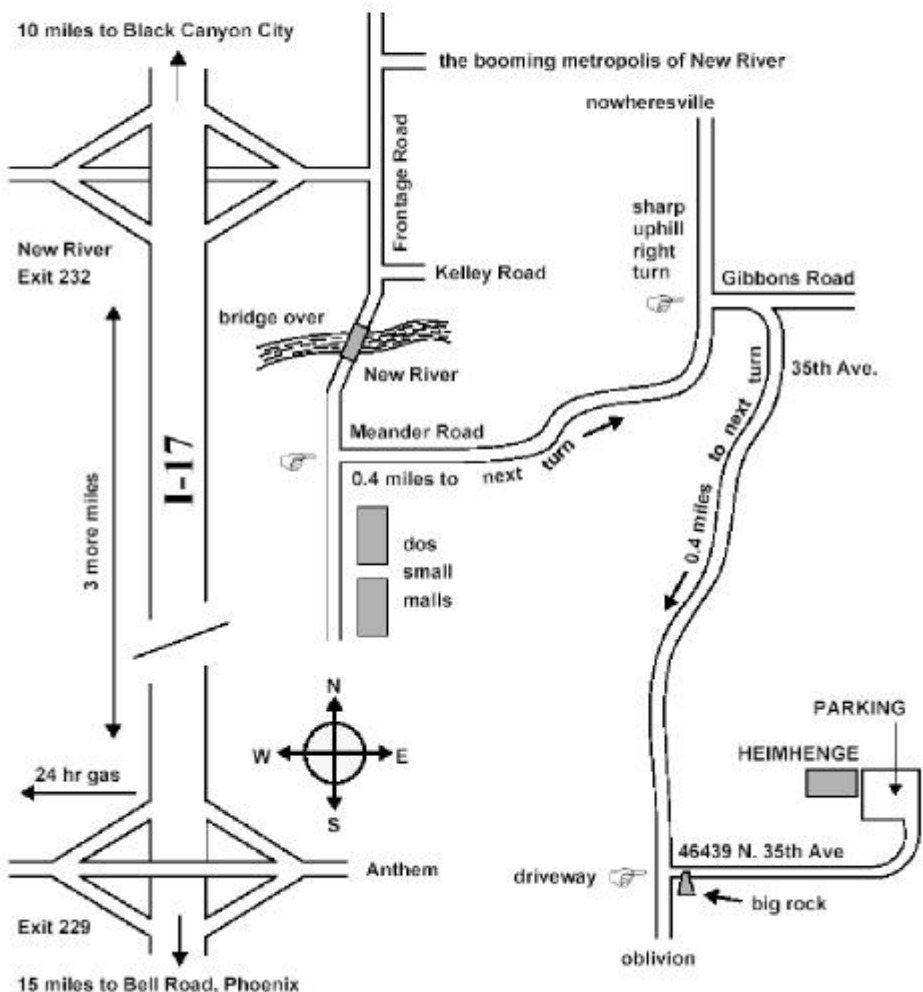
washing your hands along the way.

Let me know if you are interested in being involved in a great way, without a telescope, to help PAS show the public about the night sky and how things work. WE NEED YOU. If you wish to be involved, RSVP with Terri today so she can have you on the list. 5 Kits with plenty to assemble, plus watching the DVD's all the way through will probably take about 5 hours. We don't have to do this all in one night/afternoon. ***

OPEN HOUSE AT HEIMHENG

Join us this holiday season for a celebration of the Winter Solstice (two weeks early) on Sunday, December 10th, 2-6 pm. Bring only yourselves. Refreshments will be provided. Please RSVP by November 30th to: sam@heimhenge.com, or leave a message at 623-463-7307. Happy holidays, and we hope to see you here.

Dan & Sam Heim



Please car pool if at all possible as Dan has very limited parking.

Dust Devils: Their Not Just For Arizona Anymore

by Dr. Tony Phillips

Admit it. Whenever you see a new picture of Mars beamed back by Spirit or Opportunity, you scan the rocks to check for things peeking out of the shadows. A pair of quivering green antennas, perhaps, or a little furry creature crouched on five legs...? Looking for Martians is such a guilty pleasure.

Well, you can imagine the thrill in 2004 when scientists were checking some of those pictures and they *did* see something leap out. It skittered across the rocky floor of Gusev Crater and quickly disappeared. But it wasn't a Martian; Spirit had photographed a dust devil!

Dust devils are tornadoes of dust. On a planet like Mars which is literally covered with dust, and where it never rains, dust devils are an important form of weather. Some Martian dust devils grow almost as tall as Mt. Everest, and researchers suspect they're crackling with static electricity—a form of “Martian lightning.”

NASA is keen to learn more. How strong are the winds? Do dust devils carry a charge? When does “devil season” begin—

and end? Astronauts are going to want to know the answers before they set foot on the red planet.

The problem is, these dusty twisters can be devilishly difficult to catch. Most images of Martian dust devils have been taken by accident, while the rovers were looking for other things. This catch-as-catch-can approach limits what researchers can learn.

No more! The two rovers have just gotten a boost of artificial intelligence to help them recognize and photograph dust devils. It comes in the form of new software, uploaded in July and activated in September 2006.

“This software is based on techniques developed and tested as part of the NASA New Millennium Program’s Space Technology 6 project. Testing was done in Earth orbit onboard the EO-1 (Earth Observing-1) satellite,” says Steve Chien, supervisor of JPL’s Artificial Intelligence Group. Scientists using EO-1 data were especially interested in dynamic events such as volcanoes erupting or sea ice breaking apart. So Chien and colleagues programmed the satellite to notice change. It worked beautifully: “We

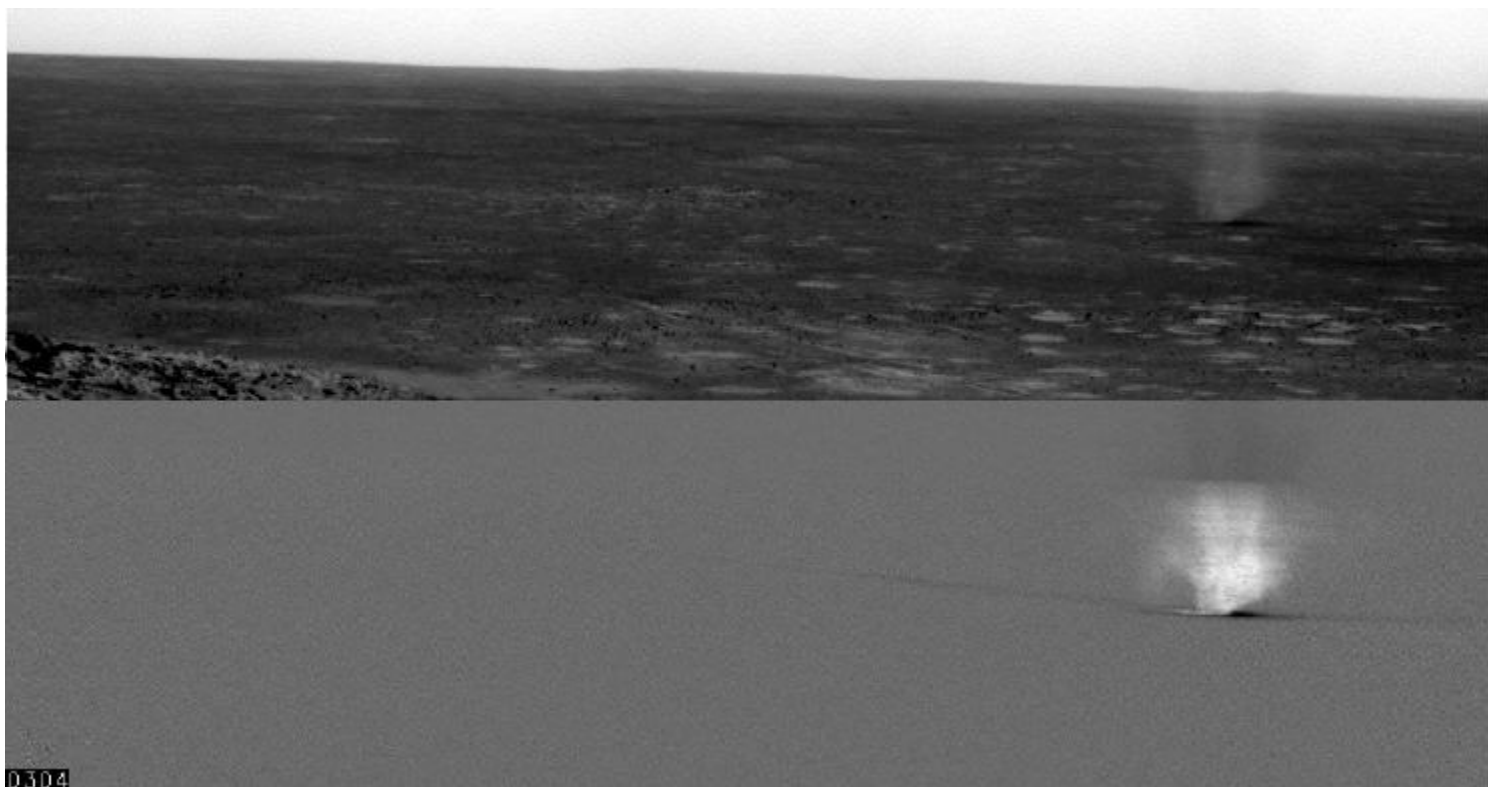
measured a 100-fold increase in science results for transient events.”

Now that the techniques have been tested in Earth orbit, they are ready to help Spirit and Opportunity catch dust devils—or anything else that moves—on Mars.

“If we saw Martians, that would be great,” laughs Chien. Even scientists have their guilty pleasures.

Find out more about the Space Technology 6 “Autonomous Sciencecraft” technology experiment at nmp.nasa.gov/st6/TECHNOLOGY/sciencecraft_tech.html, and the use of the technology on the Mars Rovers at nmp.nasa.gov/TECHNOLOGY/infusion.html. Kids can visit spaceplace.nasa.gov/en/kids/nmp_action.shtml and do a New Millennium Program-like test at home to see if a familiar material would work well in space.

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

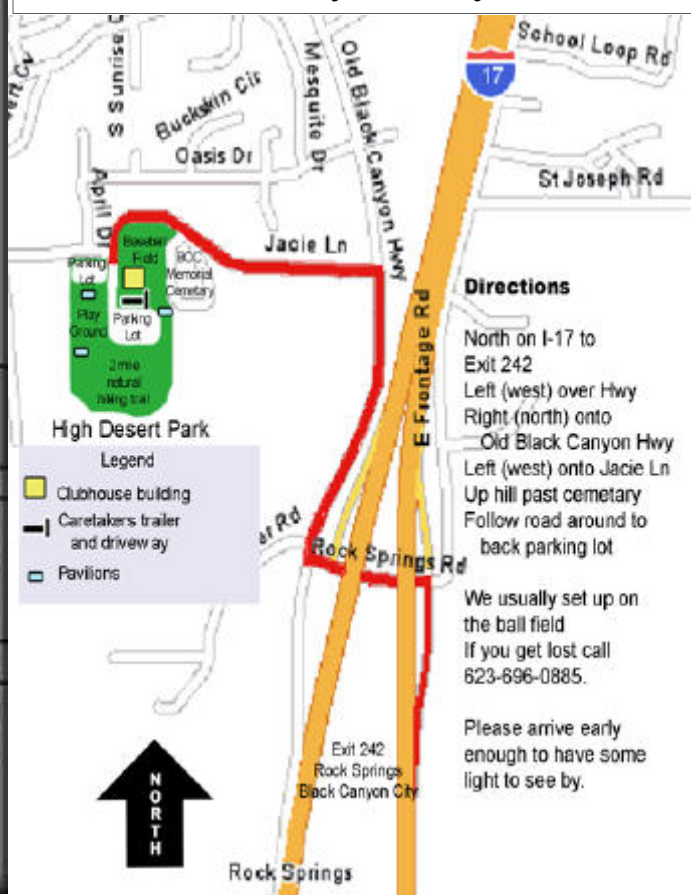


Caption:

The top half of this image is part of a series of images of a passing dust devil on Mars caught by Spirit. In the bottom half, the image has been filtered to remove everything that did not change from one image to the other. Notice the faint track left by the dust devil. Credit NASA/JPL/Mark T. Lemmon, Univ. of Arizona Lunar and Planetary Laboratory.



Black Canyon City Site



Nov. 30 Thursday	6 pm to 10 pm	Paradise Valley Comm. College	PAS/PVCC Public Star Party!*** Volunteers Needed *** RSVP with Terri Finch to attend or to help out.
Dec. 1 Friday	6 pm to 9pm	Arizona Science Center Heritage Square 600 E. Washington St. Phoenix, AZ 85004	ASC FAMILY NIGHT OUT*** Volunteers Needed *** RSVP with Terri Finch to attend or to help out. * Weather Permitting *
Dec. 7 Thursday	7 pm	Paradise Valley Comm. College	PAS General Meeting Chet Schuler, Phoenix Astronomical Society "CCD Imaging Techniques" Swap Meet - Bring your astronomical items to buy, sell or trade.
Dec. 14 Thursday	7:30 pm	Paradise Valley Comm. College	PAS Meeting of the Minds No children please (business meeting)
Dec. 16 Saturday	Sundown to Moonrise	Star Party at Mike's Cow Track Ranch Carefree	PAS 3rd Quarter Moon Star Party ***Members Only*** RSVP with Mike Marron for a map. Geminid meteor shower. * Weather Permitting *
Dec. 23 Saturday	Sundown till ?	High Desert Park Jacie Lane Black Canyon City, AZ 85324	PAS Deep Sky Star Party All are Welcome! \$2 per car donation request. It will be chilly so dress warmly. RSVP with Barbara Hartman to attend. Sunset is at 5:23 and sunrise is at 7:31.* Weather Permitting *

For more details and the latest information please visit the events page of our website

www.pasaz.org

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 Editor who will forward them to the Treasurer.

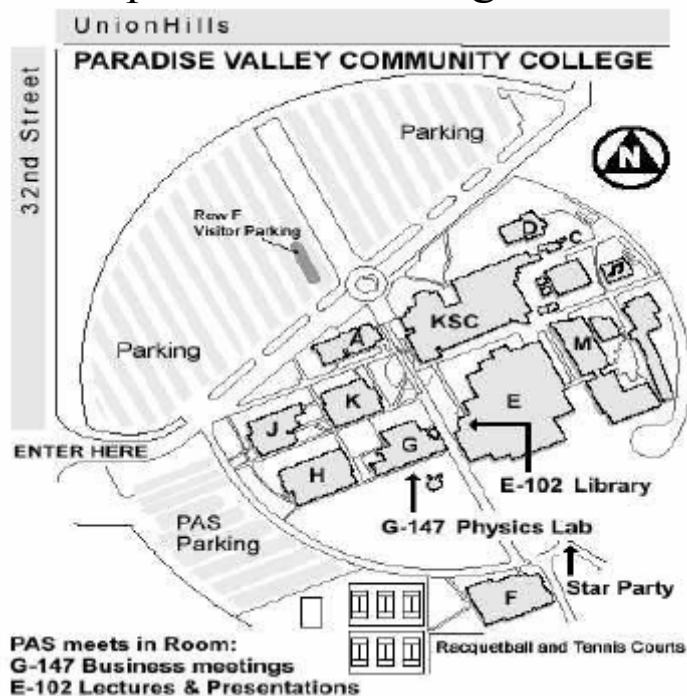
Don Boyd PAStimes Editor
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To:

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Upcoming PAS Meetings

Map To PAS Meeting Location



March 1 st:

Don Garnett "A Close Up Look at Our Neighbor Galaxy M33 With the Hubble Space Telescope"

April 5

Larry Wasserman, U.S. Geological Survey "Kuiper Belt Asteroids"

December 15, 2006

Sunrise: 7:23

Sunset: 5:22



Q1: November 28



Full: December 5



Q3: December 12



New: December 20

Phoenix Astronomical Society Contact Info

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Rocketry Liaison	Jerry Belcher	623-328-9290	http://ahpra.org/launches.html

Astro Events

December 3: Full Moon skims the north edge of the Pleiades.

December 10: Jupiter, Mercury and Mars very close together in the dawn sky (will need binoculars to see Mars).

December 21: Winter Solstice (first day of winter), shortest day of year.

December 31: The Moon occults the Pleiades.