

Desert Skies

Tucson Amateur Astronomy Association

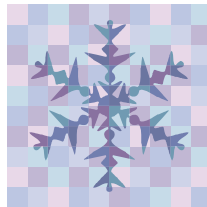
Volume LV, Number 12

December, 2009



Milky Way on Kitt Peak

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Cover Photo: 8 mm fisheye and Canon 20Da (with Nikon to Canon EOS adaptor) from Kitt Peak during the Orionid Meteor Mania! event. It is an uncropped 4 minute exposure at F/4. Perhaps not in this reproduction, but in the original the Genshein and Zodiacal Band was visible. Imaged by Dean Ketelsen

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Membership in the TAAA

Annual Fees

- Individual membership \$25.00
- Family (includes two adults plus minor children) \$30.00
- Youth under 18 years must join as a family upon parental or guardian acknowledgement of participation in TAAA events. Ask the Treasurer for the required form.

Discounts (one discount allowed, subtract from above rates)

- Seniors (over 60 years) \$2.00
- College Students, Teachers (K - 12) \$8.00
- Youth under 18 yrs (form required, contact the treasurer)..... \$13.00

Options (add to above membership rates)

- Tucson society of the Astronomical League (TAL) fees..... \$ 7.50
- Sky & Telescope Magazine 1 year (12 issues) \$32.95
- Astronomy Magazine 1 year (12 issues) \$34.00
- 2 years (24 issues) \$60.00
- Postage for New Member Pack \$ 4.80

Donations are accepted for the following funds: SA-IDA/Light Pollution, TIMPA, Education, TAAA Astronomy Complex, and General/Undesignated.

Renewal Information

- Your membership expires as indicated on your mailing label.
- TAAA members may join the Tucson society of the Astronomical League (TAL) at the time they join or renew.
- Discounted Sky & Telescope or Astronomy magazine subscriptions are available to members and can be started or renewed at anytime. Rates are given above. Allow 3 months for processing. Subscriptions must be sent through the TAAA. *Do not send money directly to the*

magazines. To change an individual subscription to the group rate, pay the subscription amount to the TAAA treasurer. Include your magazine renewal notice.

- Please include a note explaining what you are paying for. Credit cards are not accepted. Write one check or money order for fees plus any options or donations. Make it payable to TAAA and send to:

Tucson Amateur Astronomy Association
PO BOX 41254 Tucson, AZ 85717

Mailing Address or Email Changes - Send to address above or email the treasurer.

TAAA Mission Statement - The mission of the Tucson Amateur Astronomy Association is to provide opportunities for members and the public to share the joy and excitement of astronomy through observing, education and fun.

Desert Skies Publishing Guidelines - All articles, announcements, news, etc. must be submitted by the newsletter deadline. Materials received after that date will appear in the next issue. The editor retains all submissions unless prior arrangements are made. Submissions should be submitted in Word compatible files via e-mail or on a recordable media.. All material copyright Tucson Amateur Astronomy Association or specific author. No reproduction without permission, all rights reserved. We will not publish slanderous or libelous material! Send submissions to:

George Barber
TAAA/Desert Skies Editor
15940 W Ridgemoor Ave
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Join our Email Lists on YahooGroups

Announcements: <http://tinyurl.com/e7o3y> (TAAA news, no posting allowed, 15/month)
TAAA Forum: <http://tinyurl.com/hwoau> (general astronomy discussion, posting allowed, 75/month)
TAAA Dark Site: <http://tinyurl.com/3d8ts9> (discussion of dark site issues, posting allowed)

President's Message

First, let me wish everyone a very Happy Holidays. I hope to see you all at this year's holiday party on Dec 5th. I would also like to thank the Lofquists for opening their home once again for this year's get together.

We are very close to the completion of Phase 1 of the Dark Site construction. Once the work is completed we will be able to apply for our occupancy permit with Cochise County. I know everyone is excited about the upcoming opening of the facility and we hope to announce a grand opening event very soon. We are also very deep into the planning of Phase 2 and beyond. In concert with this planning we also have several fund raising activities in the works.

One fund raising project currently being conducted is the Raffle for a 10" Meade LX200 Classic. This scope comes complete with several add on accessories. Please help out TAAA and maybe in February you can go home with a very nice astronomy instrument. Tickets are \$5 each or 5 for \$20. See a Board member or SIG leader for your opportunity to win.

At last summer's Red Lamp Workshop Michael Turner suggested that we could save money and expand the program by purchasing the materials to build the lamps in bulk. It was also thought that with the popularity of the lamps among astronomers we could possibly use the Lamps as a fund raising activity. Part of this idea was incorporating the circuit onto a Printed Circuit Board to make it easier to build and improve reliability. A quote was requested from a local PCB manufacturer, Prototron Circuits, and they have responded with a kind offer to provide TAAA with circuit boards free of charge. We would like to give a big thank you to Prototron Circuits for their generosity. Look for the full story of this project inside this newsletter.

Again, have a safe and Happy Holidays and as always, Dark Skies,

Ken Shaver
TAAA President

Meeting Information and Calendar of Events

TAAA MEETING DATE: Friday, Dec. 4, at the Steward Observatory Auditorium – Room N210

ASTRONOMY ESSENTIALS: 6:30 pm

Title: Adaptive Optics for Beginners
Speaker: Claude Plymate

The revolutionary technology of adaptive optics is quietly reinventing ground-based astronomy. Claude Plymate will attempt to give an overview of adaptive optics for the beginner; what it is, what it isn't, how it works, what it can do and what it can't.

GENERAL MEETING: 7:30 pm

Title: Search for Hazardous Asteroids
Speaker: Ed Beshore, Catalina Sky Survey, UA LPL



Ed Beshore

On October 5, 2008, the University of Arizona's Catalina Sky Survey discovered 2008 TC3, the first asteroid with a 100% certainty of colliding with the Earth. Just 17 hours after its discovery, it fell harmlessly in the desert of northern Sudan after being observed over 570 times by amateurs and professionals around the world. A few months later, fragments were collected in the Sudanese desert. 2008 TC3 was discovered during the NASA-sponsored routine search for Near-Earth Objects (NEOs). We will discuss this search, the discovery of 2008

TC3, and spin-off science from the Catalina Sky Survey. We will also talk about the valuable role played by amateurs in the search for NEOs.

Ed Beshore is a Senior Staff Scientist at the University of Arizona's Lunar and Planetary Lab. He is the principal investigator for the Catalina Sky Survey. His research area of interest is in characterizing asteroids, scientific software development, and robotic telescopes. He has his own observatory in Colorado.

For more information about the Catalina Sky Survey, visit <http://www.lpl.arizona.edu/css/>.

BOARD OF DIRECTORS MEETING: Wednesday, Dec. 9, 6:30 pm. The meeting is held at Steward Observatory Conference Room N305.

STAR PARTIES AND EVENTS:

03 Dec - Lifelong Learning Academy Party
07 Dec - Astro-Imaging SIG at China Rose
10 Dec - Astronomy Fundamentals SIG at USGS Bldg
10 Dec - Desert View HS Star Party
12 Dec - TAAA Star Party at Las Cienegas
12 Dec - Dusenberry-River Library Astronomy Event
18 Dec - QUEST Science Club Star Party
19 Dec - TAAA and AF-SIG Star Party at TIMPA
07 Jan - Picture Rocks Intermediate School Star Party
08 Jan - Desert Skies United Methodist Church Star Party

NEWSLETTER SCHEDULE: Deadline for articles: Sat, Dec. 19. The newsletter is published at least one week prior to the following month's General Meeting.

Club News

Member News

We welcome these members who have recently joined the TAAA: [Howard Bower, Ken Matesich, Tara Rayan, Lauren Marlatt, Janet Collins, Robert Hobbins, Michel Guaveia, Shane Parker, and Matthew Whitehouse. Glad to have all of you join! New members can pick up a members pack at a meeting if they didn't request it by mail. Hope you'll make it to our star parties or meetings so we can all get to know you. (Updated membership lists are available at our website after logging in as a member. You can also pick one up at most meetings.)

Holiday Party

If you haven't made plans to come to the TAAA Holiday Party on Saturday, December 5, it is not too late. In addition to eating great food it is a great time to socialize with fellow TAAA members. Again this year, we will have a Super Raffle. Members are asked to bring something for the raffle to go along with the contributions that our local stores might provide for us. Each of the past two years we have made the raffle a special part of the event. The party will begin at 5:00, so come early and begin to socialize.

The food will be a potluck and each year we have had an ample amount of great food. So bring some of your favorite dishes. We will need hors d'oeuvres, salads, vegetables, entrees, breads and deserts. We will have coffee, hot chocolate, tea and water, so you might want to bring some sodas to share. For those who would like to cook some meat, we will have a grill ready.

For the raffle, we will have some excitement if you have a good astronomy book you can spare, an extra telescope or accessory, or some kind of surprise that you think members might enjoy.

The Party will be held again this year at the home of Bill and Mary Lofquist. They live at 1935 West Harran Circle, which is in the northwest near the Foothills Mall. To get to their house from the intersection of Ina Road and La Cholla Boulevard from the north, or from Orange Grove and La Cholla from the south: Go to the traffic light at the corner of Omar and La Cholla (Donaldson School is on the northeast corner) and turn to the east. Go a very short block to Amahl and turn right. Go one half mile to Harran Drive and turn left. (You will see a sign that indicates that Amahl changes its name to Sesame.) Go about 200 yards on Harran Drive and turn left on Harran Circle. The house is on the turn-around of the cul-de-sac, the first house on the left. There is one red light (that is our Christmas decoration) in the front of the house. Park in the drive, on the turnaround circle or on the street. PLEASE DO NOT BLOCK THE NEIGHBORS' DRIVEWAYS.

If you have any questions or get lost in the neighborhood, call Bill at 297-6653. You can also contact him by email with any questions at wlofquist@comcast.net.

Astro-Imaging SIG Meeting

Monday, Dec. 7, 7pm
China Rose, NE corner Speedway/Rosemont

Our presentations feature CCD images, planetary webcams, and film. Come see some of the state of the imaging art over some Chinese food. Just show up and enjoy the show! For more information, contact Steve Peterson.

Astronomy Fundamentals Special Interest Group

The Astronomy Fundamentals Special Interest Group (AFSIG) will meet on Thursday, Dec. 10, at 6:30 pm in room 253 of the Environmental and Natural Resources Building (USGS and Weather Service) on the northeast corner of Sixth Street and Park Avenue on the campus of the University of Arizona.

All members of TAAA and new members particularly are welcome to AFSIG meetings!

TAAA Apparel

Looking for a special gift or a way to make that fashion statement? How about a unique holiday gift? Try on something from our fine line of club apparel. We have hats, T-shirts, denim shirts, and patches. We take cash and checks.

January 2010 Meeting

The TAAA Monthly meeting for January of 2010 has been moved to January 8. This will allow everyone to enjoy the New Year's holiday.

AFSIG Holds Potluck Star Party at TIMPA

At the successful conclusion of their mini course "Introduction to Fundamentals of Astronomy" the Astronomy Fundamentals Special Interest Group held a potluck star party at TIMPA for all participants. It was a great night with good seeing conditions. We had hors d'oeuvres, soup, several main dishes, deserts and soft drinks - mmm mmm good. After a delightful meal, we turned our attention to the darkening sky. We located the summer triangle in the western sky and identified their associated constellations. We were able to locate many of the constellations and their bright stars... we even saw some deep sky objects with our naked eyes - those faint fuzzies (double cluster in Perseus, Andromeda). There were binoculars set up on parallelograms and several telescopes so we were able to see the difference between naked eye, binoculars and telescopes on such visible objects as the double cluster in Perseus, Andromeda galaxy, and the Pleiades. We also got to see some deep sky objects visible only with a telescope - the double-double (Epsilon Lyrae) M57, plus many others. What a

Club News (cont.)

great way to end our 3 day course on basic astronomy – with camaraderie and stargazing.

Upcoming Lectures

The March 2010 meeting will be devoted to amateur backyard observatories. If you built an observatory and want to show it off, speak to or email Vice President Keith Schlottman (vice-president[at]tucsonastronomy.org) to be considered as a presenter. Tours of the observatories will also be scheduled.

Jan 8	<i>Astronomy Essentials</i>	Mary Turner Seasonal Objects
	<i>Invited Lecture</i>	Shane Byrne Mars HiRise
Feb 5	<i>Astronomy Essentials</i>	GLOBE at Night Connie Walker, NOAO
	<i>Invited Lecture</i>	Astro-Imaging SIG
Mar 5	<i>Astronomy Essentials</i>	<i>OPEN</i>
	<i>Invited Lecture</i>	Amateur Backyard Observatories

either during the early evening hours or after dark. They are also great options for those questionable, cloudy nights. With each use of a toolkit we are closer to qualifying for the next toolkit which has been rumored to be about comets.

- PlanetQuest:** explains planet detection techniques
- Our Galaxy, Our Universe:** scale model of the Milky Way galaxy and the Universe
- Black Hole Survival Kit:** what is a black hole and how does it affect objects nearby
- Telescopes – Eyes on the Universe:** explains basic principles of optics, the human eye, and observing
- Shadows and Silhouettes:** covers lunar phases, eclipses, and transits
- Exploring the Solar System:** scale model of solar system and NASA exploration of planets
- Supernova!** life cycle of massive stars, touches on life cycle of sun-like stars
- Mirrors and Glass – An inside look at telescopes:** how telescopes work

Other Resources

- SolarScope:** provides a white light image of the sun suitable for small group viewing.
- GLOBE at Night:** light pollution principles
- Comet Chef:** an apron (with a comet on it) and chef’s hat to wear when mixing up comets

Each toolkit contains several projects. You pick and choose which part you want to use. They contain all essential materials. Each toolkit includes a Resources CD and a training DVD, which you get to keep. Individual training in their use is available.

Please make arrangements with Terri Lappin to borrow any toolkit.



Night Sky Network Toolkits

Below is a list of our Night Sky Network Outreach Toolkits. The Night Sky Network program recognizes the essential role that amateur astronomers play in public astronomical education. The toolkits, developed by the Astronomical Society of the Pacific under contract with NASA, are meant for use at star parties,

WIN ME!

Get your raffle tickets from any board member

\$5 each, 5 for \$20



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Club News (cont.)



The mission of the Starry Messenger SIG is defined by our slogan, "Opening Minds to the Universe". We support outreach activities of the TAAA by encouraging members to participate in our community events. TAAA members build their confidence and astronomical knowledge by attending SMSIG workshops or other SMSIG projects. We are planning our 2010 activities now. Watch future issues of Desert Skies for announcement of SMSIG activities.

There are several ways for you to take part in the SMSIG. One measureable goal of the SIG is to increase the number of volunteers in the TAAA community star party group. There are currently about twenty TAAA members who regularly volunteer a few hours at a time to show kids and adults the night sky. Join this group of dedicated individuals by signing up for at least one star party this month. Better yet, set a New Year's resolution to sign up for one star party each month. If you aren't comfortable bringing a telescope to a star party, sign up anyway and then email smsig[at]tucsonastronomy.org (replace [at] with @) and we'll pair you with someone else going with a telescope. If you aren't going to bring a scope to an event, please make that clear on the sign up sheet so the volunteer coordinator will know.

Another way to become involved is to head up one of our special projects next year. Maybe you can guide others telling constellation and sky lore stories. If you enjoy writing, maybe you can assist in creating seasonal or monthly crib sheets containing descriptions of popular astronomical objects. Maybe there's another way that only you have thought of that will support outreach in the TAAA. Share your ideas with the Starry Messenger SIG by emailing us at the address mentioned above. We're open to your suggestion.

The goal of the Starry Messenger Special Interest Group is to provide an environment in which TAAA members can enhance their knowledge and understanding of astronomy and related concepts and to provide the tools and techniques for explaining astronomy to people of all ages. By virtue of involvement in the TAAA's astronomy outreach programs, you are considered a member of the Starry Messenger SIG. The Starry Messenger SIG is currently lead by myself (Terri Lappin) and Loretta McKibben. Let either of us know if you want to assist us in a leadership or project related role within the Starry Messenger SIG.

TAAA Web Team Recruiting Members with Web Experience

Terri Lappin was recently appointed as the TAAA Webmaster. She is forming a new TAAA Web Team that will meet regularly and be responsible for the TAAA

website. If you have web experience and want to serve on this team, please email taaa-webmaster[at]tucsonastronomy.org. If you have no web experience but have an interest in the TAAA website, there are a few openings on the team to provide non-technical/non-programming input. Email Terri at the above address about joining in this role. All team members will be expected to attend regular (monthly for now) meetings.

Member's Website Password Due to Change

The password used to gain access to the Member's Page on the TAAA website will change effective with the release of the January 2010 newsletter.

The new password will be provided only to current TAAA members. Please be sure your membership dues are paid up. Your renewal date depends on when you joined. If unsure what month you are supposed to renew, contact the treasurer, Teresa Plymate, at treasurer[at]tucsonastronomy.org.

The email message you receive announcing when the January newsletter is available online will include the new password. If you don't receive this email by January 1st, contact the treasurer to confirm that we have a valid email address for you. You may also need to set your email program to allow mail from tucsonastronomy.org to pass through spam filters. Should you have trouble accessing the website with the new password, contact the webmaster at taaa-webmaster[at]tucsonastronomy.org.

Red Lamp Workshop Expands

Last summer the AFSIG planned and once again held our very popular Red Lamp Workshop. We have been conducting the Red LED Lamp Workshop for several years. Andrew Cooper with his original lamp design started this workshop. When Andy moved to Hawaii he gave permission for TAAA to continue to use his design and keep conducting the event. This year's workshop was once again a huge success thanks to the efforts and dedication of Michael Turner and to Bill Lofquist for hosting the event.

During the workshop Michael brought up that the lamp we have traditionally used from Target has become more difficult to obtain and more expensive. He inquired with them about being able to have them order a large quantity for us and the possibility of getting a price break. They have indicated that we might be able to get a substantial break if we were to order as many as 200 lamps. Michael Turner is following up with Target and other suppliers to get a written quote for the lamps.

This spurred an idea for not only obtaining lamps in quantity, but also ordering all items necessary to build 200 lamps. So we will also be getting quantity pricing on the other parts needed to build the lamps. I also suggested that if we were to try to build 200 lamps we

Club News (cont.)

would benefit in designing a printed circuit board for the lamp rather than hand wiring them on a perf board. We could then build the lamps in quantity and sell them as a fund raiser for the club and/or have them available for future club workshops as an unassembled kit for a very reduced price.

After completing the cad design layout I requested a quote from a local PCB manufacturer, Prototron Circuits. I talked with them about our non-profit clubs mission and educational outreach activities. I explained that we were looking for a very low priced board that we could use in a Lamp Project to help us raise funds for future club activities and projects such as our dark site development. We discussed options for being able to get a very good price including adding their company logo on our sponsors area of our web site and/or providing a star party for their company employees. The company representative I worked with, Keith Pizzuto, said that he would talk with his management about our project.

Prototron has notified TAAA that they are very excited to help us out and would be willing to provide the 200 circuit boards of our design free of charge. This is a very generous offer and I would like to extend our heartfelt gratitude to Prototron for their donation to the club. We will be following up soon with Prototron to provide their employees and their families with a star party. As part of this event they have offered to open their manufacturing facility for tours to the TAAA participants. This is a unique and exciting opportunity for our two sciences to share our technologies and expertise.

Stay tuned for more updates in the newsletter on the progress of this project. We hope to be able to have lamps available for fund raising at events such as ALCon2010 and for future workshops.

AFSIG's Introduction to Fundamentals of Astronomy Class: Another Success

Story submitted by BoB Gilroy and Pictures by John Croft
 On November 7, 14 and 21 AFSIG Committee members Steve Marten, Dennis McMacken, Dr. Mary Turner, John Croft and BoB Gilroy held the second TAAA Beginners' Education Class entitled "introduction to Fundamentals of Astronomy". They were aided by instructors Lou Faix, Brian O'Connell, George Barber, J.D. Metzger, Paul Anderson and Kathy Anderson.



Each day of the class was devoted to a different aspect of Amateur Astronomy: Day 1, "Basic Astronomy", included presentations on the Celestial Sphere, and



discussions of the various types of celestial objects; on Day 2, "Equipment Basics", topics included telescopes, eyepieces, filters, mounts, and accessories; Day 3, "Observing Basics", was all about observing tips and techniques, and getting started.



Twenty three TAAA members attended one or more days of the class, which began at 9:00 AM and concluded at about 3:00 PM each Saturday. Despite parking problems on two of the 3 days, very little disruption of the classes developed. The class was held in



room 253 at the USGS Building on the UA campus. On the last day, November 21, the class enjoyed a pot-luck dinner and a star party at TIMPA.

Feedback from the attendees has been very positive. Here are a few comments taken from the class survey:

- "Excellent program... I think this is great!" - L.S.*
- "Enthusiastic presenters, generous with their time and knowledge.
 Good workbook, easy to follow.
 Time just enough, I think.
 I am very grateful to have had this opportunity." - K.L.*
- "Very well presented. Please consider doing more of these... if held more often, more people would attend. Thanks." - J.K.*

Club News (cont.)

"Classes very informative. Just what I needed as a beginner." - K.Y.



"All subjects were covered very well. The class notebook is very well prepared for the beginner." - H.S.

"In addition to educating newbies, this should be a fundraiser for the club. 'Graduation' should include participating in a school star party. I very much appreciate AFSIG's time, effort and commitment." - J.H.



*"- Three days [time allotted] was good and amount of time spent on each subject was good.
-Having different speakers kept things interesting.
-Handouts were great and even a CD - super!
-Everyone was very nice and so accessible.
-I liked being able to see the books, charts, etc. that were brought into class.
Great job! I really enjoyed the 3 days. Thank you so much for offering these workshops. I really learned a lot."* - N.P.



These were just some of the comments submitted. All the comments are appreciated and will be utilized to tweak the program to present meaningful and timely

presentations. I want to thank the students for their time and effort and participation on our program.

Also, I want to thank our presenters: Brian O'Connell, George Barber, John Croft, Mary Turner, Steve Marten, J.D. Metzger, Lou Faix, Paul and Cathy Anderson. Great job!

...And special thanks to Dennis McMacken who not only participated in planning and executing the program but also procured the classroom for us and acted as moderator for the entire three days.

Plans are to offer the class again sometime within the next six months. Details will be published in a later newsletter.



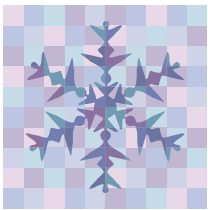
Member's Events

TAAA Star Party at Las Cienegas (Empire Ranch)
Saturday, 12 December

Las Cienegas (formerly Empire Ranch) has been our normal dark-sky observing site for quite a number of years. Please try to arrive before sunset. Stay as long as you like, but let everyone know when you are ready to leave; someone may be taking astro-images. Bring a telescope if you have one, but you don't need one to attend. Any member would be glad to let you look through their telescope. And, there are now restroom facilities at the site. Las Cienegas is at 4000 feet so be prepared for cold temperatures. Attendees should park their vehicles either perpendicular to the airstrip facing toward the center of the strip, or parallel to the airstrip along either side facing west. That way, when you are ready to leave, you will not have to back up and turn on your bright white backup lights. See the directions to Las Cienegas on the outside flap of this newsletter.

TAAA and AF-SIG Star Party at TIMPA
Saturday, 19 December

Come on out and enjoy the winter skies! TIMPA star parties are great for both beginners and experienced observers. Our novice members can get help with observing issues or equipment problems, as there are many experienced members there who would be happy to help. If you don't own a telescope, come anyway, because there are lots of telescopes set up and everyone is invited to look through them. This is a great way to check out different telescope designs before you make that all-important decision to buy. There is no scheduled talk for this activity, just come out and enjoy. We'll do our best to get you the answers you need. If you have friends or relatives who are curious about amateur astronomy, feel free to bring them along. The TIMPA site features a large parking area, and full restroom facilities. Be prepared for cold temperatures. Directions to the TIMPA site are located on the outside flap of this newsletter. The new observatory at TIMPA, featuring a 14-inch telescope, should also be open for use.



Dec. 5 Holiday Party



The TAAA Monthly meeting for January of 2010 has been moved to January 8. This will allow everyone to enjoy the New Year's holiday.

Dark Skies for December 2009

DARK SKIES (no twilight, no moonlight) for Tucson in 24-hour MST: 18=6pm, 20=8pm, 22=10pm, 0=12am
RISE, SET, VISIBILITY for sun and bright planets: rise for morning object, set for evening object

Mo/Tu	30/01	-	-	-	Fr/Sa	11/12	18:47	-	3:42	Mo/Tu	21/22	22:15	-	5:54
Tu/We	01/02	Full moon	-	-	Sa/Su	12/13	18:48	-	4:45	Tu/We	22/23	23:09	-	5:54
We/Th	02/03	-	-	-						We/Th	23/24	0:04	-	5:55
Th/Fr	03/04	18:46	-	18:52	Su/Mo	13/14	18:48	-	5:45	Th/Fr	24/25	1:01	-	5:55
Fr/Sa	04/05	18:46	-	20:03	Mo/Tu	14/15	18:48	-	5:50	Fr/Sa	25/26	2:00	-	5:56
Sa/Su	05/06	18:46	-	21:14	Tu/We	15/16	18:49	-	5:51	Sa/Su	26/27	3:02	-	5:56
We/Th	16/17	18:49	-	5:51										
Su/Mo	06/07	18:46	-	22:24	Th/Fr	17/18	18:49	-	5:52	Su/Mo	27/28	4:08	-	5:56
Mo/Tu	07/08	18:46	-	23:30	Fr/Sa	18/19	19:29	-	5:52	Mo/Tu	28/29	5:15	-	5:57
Tu/We	08/09	18:46	-	0:35	Sa/Su	19/20	20:26	-	5:53	Tu/We	29/30	-	-	-

Weekend	Sun	Sun	Mercury	Venus	Mars	Jupiter	Saturn						
Sa/Su	Set	Rise	Set	Vi	Rise	Vi	Rise	Vi	Set	Vi	Set	Vi	Vi=Visibility
05/06	17:17	7:09	18:16	6	6:29	5	21:59	0	22:23	-2	1:32	1	-3 brilliant
12/13	17:18	7:14	18:34	4	6:43	7	21:36	0	22:00	-2	1:07	1	0 conspicuous
19/20	17:20	7:18	18:46	4	6:56	8	21:09	0	21:39	-2	0:41	1	3 moderate
26/27	17:24	7:22	18:38	6	7:08	-	20:40	-1	21:18	-2	0:15	1	6 naked eye limit
02/03	17:29	7:23	17:52	-	7:19	-	20:07	-1	20:57	-2	23:48	1	9 binoculars limit

By Erich Karkoschka

Items of Interest

Websites: Trips On The Internet Super-Skyway

By Rik Hill

Chilly Season is Upon Us

I don't know about where you live, but we already had a frosty night at my home and observatory. And, of course, we've had a few of them on the mountain where I work. So it's clear the chilly season is here. Are you prepared?

There are a number of websites with good suggestions on keeping warm at the telescope. We in the desert southwest don't have it as bad as people in the north, but if you are out for hours, or at altitude, it can get to you pretty quick. Even 40F after a couple hours can be a pretty chilling experience.

Our friends in Phoenix at the Saguaro Astronomy Club have a website that is well suited to the desert dwelling amateur astronomer observing in our version of cold:

<http://www.saguaroastro.org/content/keepwarm.htm>

One thing that was not mentioned is that half the battle is keeping wind off of you with some sort of wind block (see below).

Some good tips from the Amateur Astronomer's Notebook can be found on Joe Roberts' website at:

<http://www.rocketroberts.com/astro/warm.htm>

Some more good tips are found at the Northern Virginia Astronomy Club where Tom "Ironman" Dietz has a concise list of things to think about:

<http://novac.com/resources/winter.php>

A lot of other cold weather tips can be found on ice fishing and hunting websites. These people are faced with much the same problem. The big secret to ice fishing is to keep the wind off of you. That's why the little huts are built on the lakes. Jeff Webb solved the wind problem for his observing with commercially available portable walls:

http://www.cloudynights.com/item.php?item_id=45

(You may need to join Cloudy Nights to read this but you should do that anyway. There's a lot of information there.) I've constructed walls using foam-core boards in stands and it works well. Back when I lived in Midland, Michigan, where it frequently stayed below zero for weeks at a time, I made an "observatory" using igloo technology with 6' walls and no roof. It just kept the wind off while observing and worked well. But you're not likely to need details on that in Tucson!

You might also consider your telescope system in cold weather, especially in the mountains. I have been reading emails about unreliability of some go-to systems in cold weather (especially the LCD screens) but as yet no one has culled the information into a comprehensive website on the subject. A discussion on this specifically concerning the CPC 800 can be found at:

<http://www.cloudynights.com/ubbthreads/showthreaded.php/Cat/1,2,3,4,8/Number/3287858/>

[page/0/view/collapsed/sb/5/o/all](http://www.cloudynights.com/page/0/view/collapsed/sb/5/o/all)

It's Cloudy Nights again and a long thread with lots of tips and information from people that deal with colder weather than we will ever see.

Stay warm, eat lots of Turkey and enjoy the wonderful sights of our winter sky!

As always, if you know of a particularly good website or can add to the ones above, drop me a line at rhill@ipl.arizona.edu

Fisheye Lens Available for Loan

A few years back, Steward Observatory provided an 8mm Nikon F/2.8 fisheye lens to TAAA for long-term loan. Originally bought to search for aircraft near it's laser guide stars, it images 180 degrees of sky on a 24mm circular field on 35mm film format. If you have a digital camera that doesn't have a full 35mm sensor, the circle nearly fills the field. It is, of course, fully manual, and likes being stopped down a little to give better star images, but provides an interesting field, for night time meteor showers, views of the entire sky in a single shot, or bee's view flower shots. It fits Nikon bayonet mounts, but fits my Canon digital with an inexpensive adaptor (not supplied).

Let me know you would like to borrow it and it is yours for a month at a time.

E-mail at ketelsen@email.arizona.edu and have fun!

Advanced programs on Kitt Peak

Please make special note of the three Advanced Special Programs: Beginning Astrophotography, Exoplanet Exploration, and Asteroid Quest. These are being nationally advertised and the first Astrophotography date (in March 2010) is nearly sold out already. These three programs in particular should be of interest to the club members.

The Kitt Peak web site has a page devoted to these particular programs: <http://www.noao.edu/outreach/kpvc/classes.html>

SUN-DAY ON THE SOLSTICE

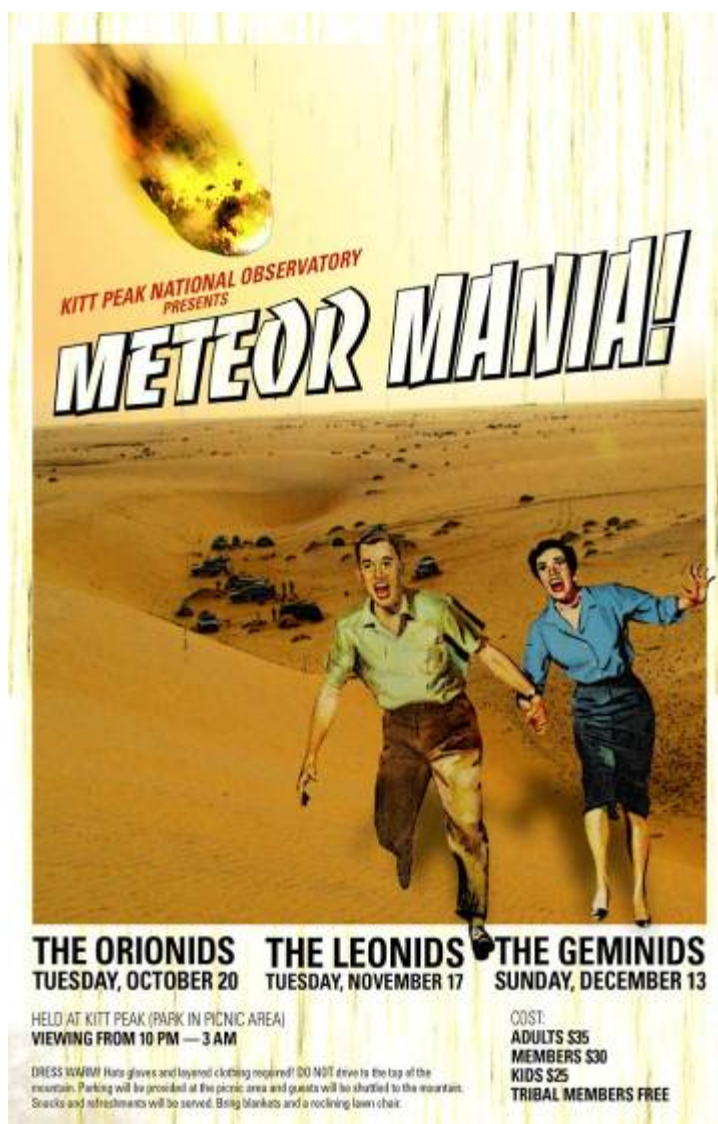
Sunday, December 20th

To be held at Kitt Peak 11 AM – 3 PM

Visit beautiful, historic Kitt Peak (your National Observatory) to discover more about the star that is most important to everyone's lives, THE SUN! Adults, families, and school groups will learn what it is, how it works, and how to safely observe it in action. Tours of the world's largest solar telescope and direct observation of the Sun itself will highlight the program. Hands-on activities will also be featured. Sponsored in part by the National Solar Observatory. Reservations required.

Items of Interest (cont.)

METEOR MANIA!



Amateur astronomers with an interest in flying space rocks are encouraged to sign up for this unique program! Travel to Kitt Peak (your National Observatory) beneath the dark southern Arizona skies and take part in a hunt for asteroids. Learn to use CCD cameras, astrometry software, and the data reduction techniques needed to track known asteroids and possibly discover new ones. Meals and lodging provided. Reservations required.

EXOPLANET EXPLORATION -
 Saturday-Sunday, April 24th - 25th, 2010 (overnight stay)
 Saturday-Sunday, October 23rd - 24th, 2010 (overnight stay)
 To be held at Kitt Peak 4 PM (April) 2 PM (October)

Travel to Kitt Peak (your National Observatory) beneath the dark southern Arizona skies and take part in an exciting 2-day workshop that covers one of the hottest topics in professional astronomy today! Amateur astronomers or those with general science backgrounds are encouraged to join us as we measure the light curve from a nearby star in an effort to detect an extra-solar planet! Instruction in CCD imaging and data collection & reduction techniques will be featured. Meals and lodging provided. Reservations required.

INTRODUCTORY ASTROPHOTOGRAPHY -
 Friday-Sunday, March 19th - 21st, 2010
 Friday-Sunday, November 12th - 14th, 2010
 To be held at Kitt Peak 4 PM

This exciting 3-day workshop is intended for amateur astronomers ready to take the next step and plunge into the world of astrophotography and image processing. We will cover everything from the history of photography itself to modern cameras, webcams, and CCD image processing. Avoid years of false-starts and costly mistakes as you learn how the pros create those stunning astrophotos seen in books and magazines. Instruction will cover imaging techniques for a wide range of budgets and equipment. Meals and lodging provided. Reservations required.

METEOR MANIA! -
 Monday, December 13th, 2010
 To be held at Kitt Peak (park in picnic area) 10 PM - 3 AM

Travel far away from those annoying city lights to view a spectacular meteor shower under the pristine dark skies of Kitt Peak, your National Observatory! Festivities begin late and stretch into the wee hours of the morning as we observe one of Nature's most spectacular cosmic shows. Learn about meteors, comets, meteor showers, and touch an actual piece of an asteroid! Adults and families with children 8 years or above are encouraged to attend. Three dates available. Reservations required.

THE SUN, THE MOON, AND THE MONSTER IN SPACE!
 Tuesday, December 21st, 2010

To be held at Kitt Peak (park in picnic area) 10 PM - 3 AM

Tuesday, October 20th
 Tuesday, November 17th
 Sunday, December 13th
 To be held at Kitt Peak (park in picnic area) 10 PM - Wee hours of the morning!

Travel far away from those annoying city lights to view a spectacular meteor shower under the pristine dark skies of Kitt Peak, your National Observatory! Festivities begin late and stretch into the wee hours of the morning as we observe one of Nature's most spectacular cosmic shows. Learn about meteors, comets, meteor showers, and touch an actual piece of an asteroid! Adults and families with children 8 years or above are encouraged to attend. Three dates available. Reservations required.

ASTEROID QUEST
 Saturday-Sunday, May 8th - 9th, 2010
 Saturday-Sunday, September 11th - 12th, 2010
 To be held at Kitt Peak 4 PM

Items of Interest (cont.)

It's the Winter Solstice! It's a full Moon! There's a total Lunar Eclipse! (How much cooler can it get, anyway?) Learn all about the seasons, solstices, equinoxes, and eclipses. Watch the Moon turn blood red as a monster eats it! (OK, there might not actually be a monster involved.) There won't be another eclipse like this one for 19 years, so come and check it out! This program starts late and ends even later. Reservations required.

For questions, email martino@noao.edu Call (voice mail line) (520) 318-8771 Or to schedule: (520) 318-8726

Advanced Imaging Conference

This was taken on November 1 at the Advanced Imaging Conference in San Jose, CA. Photo shows several TAAA members and local astronomers at the event. We spent 3 days learning the latest astro-imaging techniques and drooling over high-tech imaging gear.



Public Star Parties and Community Events

All members are asked to support the TAAA School Star Party program and other community events listed below. TAAA either sponsors or co-sponsors these events. These are great opportunities for beginners as you may only need to know a few objects in the sky. Even without a telescope, you can be valuable in other capacities. Sign up sheets for many events can be found at the meeting or contact a TAAA officer.

Lifelong Learning Academy Star Party Northwest
Thursday, 12/3/2009 No. of Scopes: 4

Lifelong Learning Academy will be hosting An Evening Under the Stars for an estimated attendance of 100 students and parents at 3295 W. Orange Grove Rd. 3925 W. Orange Grove Rd. Go north on Oracle, turn west on Orange Grove. We are past Shannon but right before Camino de la Tierra. We are on the South side of the street between Sonic and Circle K. We have a purple awning with our name on it. Viewing will be on our playground, in the back of our school. There is only dirt, there are no sprinklers! Contact person Heather Hilliard can be reached at (520) 219-4383 or email hrmhilliard@yahoo.com. Set-Up Time: 6:00pm. Observing will be from 6:30 pm to 8:30 pm. Sunset: 5:22pm, Dark Sky: 6:20pm Moon Phase: Full Moon.

Desert View HS Star Party **South**
Thursday, 12/10/2009 No. of Scopes: 5

Desert View HS will be preparing Starry Night for an estimated attendance of 150 students and parents at Summit E.S. 1900 Summit St. From Speedway, head south on Alvernon Way. Take Alvernon until it turns into Palo Verde south of 29th St. Follow Palo Verde to Valencia Rd. Turn right on Valencia, and follow to Nogales Highway. Turn left on Nogales Hwy. Follow Nogales Hwy past Desert Diamond Casino until you see signs for Old Nogales Hwy. Turn left onto Old Nogales Hwy (across the railroad tracks). Follow Old Nogales Hwy to Summit St. Turn left. Ahead on the right will be Summit View Elementary School. Turn right on the road just past the elementary school. Follow the road just past the school and turn in the last opening in the gate (just in front of

Want better observing?
Join the group that's keeping the sky dark
International Dark Sky Association
Southern Arizona section

We get people to use better lighting, so we'll have a dark sky

Some of the things we do:

- Talks to schools and organizations
- Demonstrations at Desert Museum
- PowerPoint presentations on CD
- Work with government agencies

- Identify non-compliant lighting in So AZ

Monthly meetings
2nd Wednesday, 5:30 - 7 pm.
3225 N. First Ave

Contact: Joe Frannea
sky@sa-ida.org
www.sa-ida.org

To preserve and protect the nighttime environment and our heritage of dark skies through quality outdoor lighting

Public Star Parties and Community Events (cont.)

the silo). Park and head into the back of the school. Viewing will be on the basketball court. Contact person Layne Trinkley can be reached at 545-5100 or email laynet@susd12.org. Alt. Contact Name: Thomas Fish, Cell Phone: 250-0896, E-mail Address: thomasf@susd12.org. Set-Up Time: 6:00pm. Observing will be from 6:30 pm to 8:30 pm. Sunset: 5:23pm Dark Sky: 6:21pm Moon Phase: (no moon during viewing).

Mesquite Elementary Star Party **Southeast**
 Friday, 12/11/2009 No. of Scopes: 4

Mesquite Elementary will be celebrating The Universe is Yours to Discover Star Party for an estimated attendance of 100 students and parents at 9455 E. Rita Road. Go south on Kolb to Valencia and turn left (east). At Nexus turn right (south) for 3 mi. At Rita Rd. turn left and go east for .5 mi. At the stop sign pull a U turn and backtrack about 50 yards to Mesquite Elementary School. Viewing will be on the Basketball Court on the back playground. Contact person Janet Collins can be reached at 879-2188 or email collinsj@vail.k12.az.us. Alt. Contact Name: Katie Dabney (Principal), E-mail: dabneyk@vail.k12.az.us. Set-Up Time: 6:00pm. Observing will be from 6:30 pm to 8:30 pm. Sunset: 5:23pm Dark Sky: 6:21pm Moon Phase: (no moon during viewing).

Dusenberry-River Library Astronomy Event **East**
 Saturday, 12/12/2009 No. of Solar Scopes: 2

Dusenberry-River Library will be hosting Science Saturdays for an estimated attendance of 25 parents and children at 5605 E. River Road, suite #105. Speedway East to Swan. North on Swan to River Rd. Turn right on River to Craycroft. Turn left into the shopping center just after the Walgreens (Northeast corner of Craycroft & River). The library is in the very middle of the shopping center. Astronomy activities will be in the meeting room. Contact person Meg Beer can be reached at 594-5345 or email Meg.beer@pima.gov. **Set-Up Time: 10:30am.** Activities will be from 11:00am to noon.

QUEST Science Club Star Party **Northwest**
 Friday, 12/18/2009 No. of Scopes: 5

QUEST Science Club will be planning Family Astronomy Night for an estimated attendance of 125 students and parents at 9755 N. La Cholla Blvd. Take Oracle north to River and turn left (west), Take River to La Cholla and turn right (north), Take La Cholla north to Overton. The church is on the left hand (west) side of the road just north of the light on Overton. It is almost directly across from Alive Church (which is easier to see) that is on the east side of

the road Viewing will be directly behind the church in the dirt lot. Contact person Casey Clarke can be reached at 520-591-1647 or email barclarke@comcast.net. Alt. Contact Person: Becky Feil, Cell Phone: 661-4546, E-mail Address: barclarke@comcast.net. Set-Up Time: 6:00pm. Observing will be from 6:30 pm to 8:30 pm. Sunset: 5:26pm Dark Sky: 6:24pm Moon Phase: Crescent.

Picture Rocks Intermediate School **West**
 Thursday, 1/7/2010 No. of Scopes: 5

Picture Rocks Intermediate School will be celebrating Under the Stars- Science and Technology Family Fun for an estimated attendance of 200 students and parents at 5875 N Sanders Rd. Speedway west over Gates Pass Road. When you reach Kinney Road, turn right and follow road past the Desert Museum. Road will turn into Mile Wide Road. Continue west until you reach stop sign (Sandario Road). Turn right (north) and continue approximately 5 miles until you reach Rudasill Road (just as you are exiting Saguaro National Park) On Rudasill, turn left (west) and go to stop sign. Turn left here Sanders Road, and go to the bus turn around gate. Viewing will be on the bus loop turnaround. Contact person J.C.Schembri can be reached at 616-3700 or email J.C.Schembri@maranausd.org. Alt. Contact Name: Michael Hall, Cell Phone: 269-1095, E-mail Address: m.d.hall@maranausd.org. Set-Up Time: 6:00pm. Observing will be from 6:30 pm to 8:00pm. Sunset: 5:39pm Dark Sky: 6:36pm Moon Phase: (no moon during viewing).

Desert Skies United Methodist Church **East**
 Friday, 1/8/2010 No. of Scopes: 2

Desert Skies United Methodist Church will be celebrating Epiphany Star Party for an estimated attendance of 50 children and parents at 3255 N. Houghton Rd. Take Tanque Verde East to Houghton Rd. Drive North to Ft. Lowell Rd. Church is on N.W. corner. Enter Parking Lot from Ft. Lowell, 2nd entrance. Viewing will be in the North Parking Lot. Contact person Duane Johnsen can be reached at (520) 303-6920 or email dr.johnsen@comcast.net. Alt. Contact: Lyle Johnsen, Cell (815) 238-2178, E-mail: lylej66@gmail.com. Set-Up Time: 6:00pm. Observing will be from 6:30 pm to 8:30 pm. Sunset: 5:40pm Dark Sky: 6:37pm Moon Phase: (no moon during viewing).

TAAA Astronomy Complex



Panoramic view taken from atop the water storage tank at the well house.

Phase 1 Construction Update

John Kalas – Construction Coordinator

Progress during November slowed down a bit. Since last month's report, the following tasks have been completed: Randy Maddox's crew continued work on the bathroom:

- Delivered and spread about 10 tons of fill dirt around the bathroom facility
- Completed the roof carpentry work by installing the soffit paneling
- Installed and hooked up the electrical panel in the utility room
- Installed the exterior and interior lighting fixtures
- Installed the three interior exhaust fans (both bathrooms and the shower room)
- Installed the interior electrical switch and receptacle boxes
- Installed the doors
- Painted the exterior roof soffits, fascia and porch posts
- TAAA (R. Crawford, K. Schlottman and J. Kalas) painted the roof soffit on the well house in preparation of the installation of the steel roof.
- TAAA (R. Crawford, K. Schlottman and J. Kalas) installed the handicapped parking posts and signs.
- TAAA (J. Kalas) purchased storage shelves for the well house.



Bathroom Facility – Doors installed

- Peter Ammon is fabricating insulation enclosures for all water pipes external to the well house.
- TAAA (G. Gardner) is fabricating the steel sign frame for the club sign.



Bathroom Facility – Exhaust vent & interior lighting fixture

The following tasks will be performed next:

- Randy Maddox will continue working on the bathroom facility to paint the interior walls, seal the concrete floors, install the hot water heater and freeze protection system, install the roof exhaust fan, install the bathroom fixtures (sinks and toilets), make the final hookups of water, electrical and septic and install the copper-colored steel roof and fascia cover.
- Randy Maddox will bring in an additional 10 tons of fill dirt to finish grade around the bathroom facility.
- TAAA (J. Kalas) will assemble the storage shelves for the well house.
- TAAA (J. Kalas) will purchase and install ground lighting inside the parking area (for public events only).
- TAAA Members will paint the well house.
- TAAA Members will place the two remaining parking space bumpers on the handicapped parking spaces.
- TAAA (J. Kalas) will install the club sign on the side of the entry road outside of the gates.
- TAAA Members will paint the parking space bumpers

TAAA Astronomy Complex (cont.)



Bathroom Facility – Soffit paneling & light box installed

white.

- TAAA Members will collect and place large rocks to delineate the central septic leach field from the parking lot.
- TAAA (J. Kalas) will purchase and install a brass fire hose connection fitting on the well house fire port.



Handicapped parking sign with Keith Schlottman

Based on the slower bathroom facility construction progress since last month's update report, I am now anticipating completion of Phase 1 construction to be in early December due to the delayed delivery of the steel roof material. After the completion of construction and final county inspections, we will request approval to use the site. We found out from Cochise County Planning & Zoning Dept. that a special review will be required before we are allowed to use the site to ensure that the TAAA has met all of the commitments specified under the Special Use Permit. The occupancy permit will probably not be issued until mid-December, at the earliest. As soon as we receive authorization from the county to use the site, we will make the announcement to the club and invite members to start using it.

**TAAA MEMBERS ARE RESPONDING:
PHASE 2 FUNDRAISING DRIVE:
BUILDING THE DARK SITE**

Since the fund drive for Phase 2 of the TAAA Astronomy Complex was announced in October a total of about \$5,000 has been added to our resources. More specific information will be provided at the December general meeting about the progress of the fundraising effort. Phase 2 will require about \$70,000 in all.

At the November general meeting, as a step toward building Phase 2, a goal for the first \$30,000 was proposed to specifically build three observing features. These include ten observing pads, the large amphitheater and a small roll-off roof observatory to house a 14" scope. Since December, 2008 we had raised a total of \$13,267 that can be applied to this goal.

At the November meeting Teresa and Claude Plymate made a challenge to those present that they would contribute \$1,000 if someone else would match that before the end of the meeting. Two other members responded to the challenge, and since the meeting additional contributions have been made giving a total of about \$5,000 more. This means that we now have about \$18,000 toward this end-of-the-year goal of \$30,000. Others have indicated they will be making a contribution by the end of the year.

This very generous show of support for the Astronomy Complex is greatly appreciated. The early addition of these observing facilities will add significantly to the infrastructure that has been built during Phase 1. These are major steps toward putting our dark site into operation.

We will continue to give updates for both the building progress and the efforts to raise funds toward the completion of the master plan for the Astronomy Complex.

LET'S SELECT A NAME FOR THE TAAA ASTRONOMY COMPLEX!

A number of possible names have been nominated for the new TAAA Astronomy Complex. In fact, a total of 23 names were suggested.

In order to select one of them, each TAAA member is asked to rank your top three choices. In the ranking your top choice will get three points, the second will get two points and the third will get one point. This is called Borda Voting and is designed to show the preference of the group.

Every TAAA member will be able participate. If your membership is a Family Membership, each member of the family can vote.

Send your votes to Bill Lofquist by email or by tele-

TAAA Astronomy Complex (cont.)

phone. Email is preferred, though if you don't have a computer, telephone is fine. Please identify yourself when you vote. (No ballot box stuffing please!) Also identify your email messages by putting "Naming the Complex" in the subject line of your message. If you use the phone and we are not available, please leave a voice mail message identifying yourself and your three preferences.

Bill's email address is wlofquist@comcast.net, and his phone number is 297-6653.

The voting begins with the delivery of the December issue of Desert Skies. It ends on December 31, 2009.

The results of the voting will be announced at the January General Meeting of TAAA on January 8, 2010.

Here are the nominations:

Andromeda Astronomy Complex
 Apache Stargazer
 Arizona Skies Amateur Astronomy Complex
 Ash Creek Astronomy Complex

Bumble Bee Astronomy Complex
 The Chiricahua Astronomy Complex
 Chiricahua Mountain Skies Astronomy Complex
 Cochise Astronomy Site
 Cochise Dark Sky Site
 Cochise Desert Skies Astronomy Complex
 Cochise Lookout Arizona Astronomy Complex
 Cochise Skies Astronomy Complex
 Cochise Star Site
 Cochise Starlight
 Gateway to the Stars
 Kle Ya Astronomy Complex (Apache word for 'Dark Sky')
 Perseus Observatory
 Squaretop Astronomy Complex
 Stargate 2010
 Starsites
 Star West Observatory
 T Triple A Site
 Turkey Creek Astronomy Complex

We look forward to receiving your preferences for the name of our Astronomy Complex.

TAAA Board of Directors Meeting - 11 November 2009

Attending: Board members present (7): Ken Shaver (presiding), Keith Schlottman, Luke Scott, Teresa Bippert-Plymate, John Croft (by telephone), George Barber, John Kalas. Members present (5): Terri Lappin, Claude Plymate, Bob Gilroy, Liz Kalas, Bill Lofquist

The President called the meeting to order at 6:30 pm.
 Minutes from the October Board meeting were approved unanimously.

Announcements for Record

- Paid Star Party activity is increasing. Three were completed this month, and two more are planned for November 16 and 17.
- The club received a thank-you letter from artists attending Meteor Mania Night at Kitt Peak.

Member Feedback

- The November general meeting announcement was not in the Arizona Daily Star paper edition.

Upcoming Meetings

- The March Astronomy Essentials meeting will be an introduction to types of backyard observatories.
- The planned member observatory tours for March will be organized by the Vice President.
- All Astronomy Essentials and main lecture slots are filled through March.

Treasurer's Report

- At the November meeting, the club received donations in the amount of \$3006.55 for the Dark Site.
- There were 8 new paid and 17 renewal memberships during the month of November.
- To date, \$195.00 in raffle ticket sales have been received.

Telescope Loan Coordinator

- The Board decided that, due to the absence of a coordinator, the telescope loan program will be suspended and the telescopes placed into storage at TIMPA. The program will be restarted when a new coordinator is found.

Web Site

- Terri Lappin presented to the Board a document establishing a web design team and its responsibilities and accountability. The team will be comprised of approximately 4 members, with the chairperson designated as the

TAAA Board of Directors Meeting - 11 November 2009 (cont.)

TAAA Web Coordinator. The team will be responsible for development and maintenance of the TAAA web site.

- A motion was entered to approve Loretta McKibben to commit 25 hours to web site source code clean-up and development, with Terri Lappin to determine that the time requirement has been fulfilled. The motion was approved unanimously.

Red Lamp Project

- Ken Shaver and Michael Turner are preparing a proposal for the Board for the bulk purchase of red LED lamp kits. A written quote has been requested from Target for the bulk purchase of lamps suitable for conversion from halogen to red LEDs. Ken Shaver announced that Prototron Circuits, a local printed circuit board manufacturer, will donate 200 high quality printed circuit boards for the project. The Board approved addition of a link to Prototron Circuits to the TAAA web site.

Dark Site

- The strategic Planning Group will send a draft Dark Site policies and procedures document to the Board for review and comment.
- A motion was entered to establish the position of Dark Site director. The motion was approved unanimously.
- The President appointed John Kalas as Dark Site Director.
- A motion was entered to approve the proposed rules for naming the Dark Site. The motion was approved unanimously.

Special Interest Groups

- The Board received a 2010 budget request from the Astronomy Fundamentals SIG for 2010. The AFSIG budget request will be included in the annual club budget process.

Telescope Training

- The Board discussed the need for more telescope trainers. The President will request that Michael Turner develop a telescope training policy.

Other

- The club will provide business cards to the Kitt Peak Visitor Center.
- The club will provide 500 business cards for distribution at the Math Moves You event at the University of Arizona in January.
- Mary McMacken has resigned from the apparel sales program and will be replaced by Jeanne McLeery. Arrangements will be made to store key documents in the TAAA's safe deposit box by the next Board meeting. A motion was entered authorizing purchase of a new telescope cover for the TIMPA 14-inch scope. The motion was approved unanimously. Bill Lofquist reported that Wally Rogers has donated a 7-inch Maksutov telescope and Losmandy G-8 mount to the club.

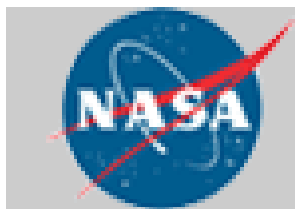
Meeting adjourned at 9:50 pm.

Respectfully submitted,
Luke Scott
Secretary

Desert Skies Classified

FOR SALE	ETX-80 beginners 80 mm go-to refractor used twice. Includes tripod, two eyepieces, erecting prism, two books, star chart, planisphere, and backpack. \$220. Byron 520-647-7836.
FOR SALE	Coulter 13.1 inch mirror blank in original box /w receipt. \$70. Sky and tel mag. 1979 to 1999 , complete \$50. obo contact scott henning,@326-7039

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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

A Cosmic Crash

by Patrick Barry and Dr. Tony Phillips

Two small planets hurtle toward each other at 22,000 miles per hour. They're on a collision course. With unimaginable force, they smash into each other in a flash of light, blasting streams of molten rock far out into space.

This cataclysmic scene has happened countless times in countless solar systems. In fact, scientists think that such collisions could have created Earth's moon, tilted Uranus on its side, set Venus spinning backward, and sheared the crust off Mercury.

But witnessing such a short-lived collision while pointing your telescope in just the right direction would be a tremendous stroke of luck. Well, astronomers using NASA's Spitzer space telescope recently got lucky.

"It's unusual to catch such a collision in the act, that's for sure," said Geoffrey Bryden, a cosmic Crashspitzer—an astronomer specializing in extrasolar planet formation at NASA's Jet Propulsion Laboratory and a member of the science team that made the discovery.

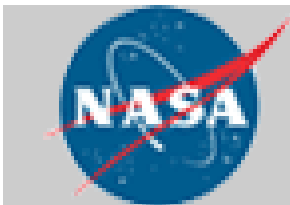
When Bryden and his colleagues pointed Spitzer at a star 100 light-years away called HD 172555, they noticed something strange. Patterns in the spectrum of light coming from nearby the star showed distinctive signs of silicon monoxide gas — huge amounts of it — as well as a kind of volcanic rock called tektite.

It was like discovering the wreckage from a cosmic car crash. The silicon monoxide was produced as the high-speed collision literally vaporized huge volumes of rock, which is made largely of silicon and oxygen. The impact also blasted molten lava far out into space, where it later cooled to form chunks of tektite.

Based on the amount of silicon monoxide and tektites, Bryden's team calculated that the colliding planetary bodies must have had a combined mass more than twice that of Earth's moon. The collision probably happened between 1,000 and 100,000 years ago — a blink of an eye in cosmic terms.



Artist's rendering of cosmic collision involving two objects whose combined mass was at least twice that of our Moon. Discovered using the Spitzer Space Telescope in the planetary system of a star called HD 172555 100 light-years away.



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

The scientists used the Spitzer space telescope because, unlike normal telescopes, Spitzer detects light at invisible, infrared wavelengths.

“Spitzer wavelengths are the best wavelengths to identify types of rock,” Bryden says. “You can pin down which type of rock, dust, or gas you’re looking at.”

Bryden says the discovery provides further evidence that planet-altering collisions are more common in other star systems than people once thought. The "crash-bang" processes at work in our own solar system may indeed be universal. If so, Spitzer has a front row seat on a truly smashing show.

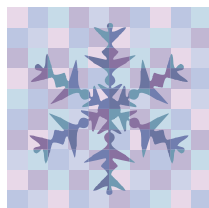
See Spitzer Space Telescope’s brand new Web site at <http://spitzer.caltech.edu/>. Kids can learn about infrared light and see beautiful Spitzer images by playing the new Spitzer Concentration game at <http://spaceplace.jpl.nasa.gov/en/kids/spitzer/concentration>.

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

WIN ME!

Get your raffle tickets from any board member

\$5 each, 5 for \$20



Dec. 5 Holiday Party



The TAAA Monthly meeting for January of 2010 has been moved to January 8. This will allow everyone to enjoy the New Year’s holiday.

Tucson Amateur Astronomy Association
P.O. Box 41254
Tucson, AZ 85717

Address Service Requested

Please consider renewing your membership on time. Renewal month and dollar amount appears on your address label. Magazine subscriptions are not included. TAL fee is included if participating in TAL. See details on page 2.

Directions to TIMPA and Las Cienegas

Directions to TIMPA Site

GPS coordinates: 32 deg 15.868' N, 111 deg 16.390' W

From the North:

1. Take Ina Rd. west about three miles past I-10.
2. Turn left (south) on Wade Rd.. Wade Rd. becomes Picture Rocks Rd. when the Rd. bends to the right (west).
3. Take Picture Rocks Rd. west to Sandario Rd..
4. Turn left (south) on Sandario Rd. to Manville Rd..
5. Turn right (west) on Manville Rd. to Reservation Rd..
6. Turn left (south) on Reservation Rd. (dirt Rd.) and go about two miles. The TIMPA entrance is on the left.

From the East:

1. Take Speedway Blvd. west and it turns into Gates Pass Rd..
2. Go over Gates Pass and continue west to Kinney Rd..
3. Turn right (north) on Kinney Rd. and continue past the Desert Museum.
4. Kinney Rd. bends left at the entrance to Saguaro National Park West and becomes Mile Wide Rd..
5. Take Mile Wide Rd. west about five miles to Reservation Rd.. Mile Wide Rd. ends at Reservation Rd. and you must turn right (north) onto Reservation Rd..
6. Take Reservation Rd. north about one mile. The entrance to TIMPA will be on the right.

NOTE

A gate card is required for TIMPA access. Please **DO NOT** ask the caretakers for entry to the TIMPA SITE. A list of TIMPA key keepers is available on the TAAA website, or by contacting a board member. For scheduled TIMPA star parties, a designated TAAA representative will provide access to the site.

Directions to Las Cienegas (Empire Ranch)

GPS coordinates: 31 deg 47.356' N, 110 deg 37.913' W

Take I-10 East from Tucson. Take Exit 281 (Route 83 Sonoita-Patagonia Highway South). Travel south on Route 83 for about 19 miles, watch for green and white milepost 40 sign on the right side of the road. Approximately ¼ mile past milepost 40, turn left into Las Cienegas. The road is dirt and is "washboarded" so go carefully. At about 2.9 miles, there is a fork in the road. Stay to the right. When the road ends in a "T", take a left. Cross over a concrete section of the road down in a wash. Just up the hill from the wash (about .2 mile), turn left. 0.1 mile ahead will be the end of an abandoned airstrip with a covered ramada. The club members have been setting up several tenths of a mile down the runway. If you arrive after dark, as a courtesy to other members, use only your parking lights to approach the set-up location.