



Desert Skies

Tucson Amateur Astronomy Association

Volume LI, Number 6

June, 2005



M27, the Dumbbell Nebula

Cover Photo: Early summer brings objects into view from one of our galaxy's spiral arms, like M27, the Dumbbell nebula. The total exposure was 69 minutes with an ST2000 and an 8-inch Maknewt. Imaged by John Johnson

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Membership in the TAAA

Annual Dues

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 (only one discount allowed)

Seniors (over 60 years)\$2.00
 College Student, Teachers (K - 12), and Youth under 18 yrs\$8.00

Options (add to above membership rates)

Tucson society of the Astronomical League (TAL) dues\$ 5.00
 Sky & Telescope Magazine 1 year (12 issues)\$ 32.95
 Astronomy Magazine 1 year (12 issues)\$ 29.00
 2 years (24 issues)\$55.00
 Postage for New Member Pack \$ 3.85

Donations are accepted for the following funds: SA-IDA/Light Pollution, TIMPA, Education, 30" Telescope & Land, 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 dues 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. Partial page submissions should be submitted in Word compatible files via e-mail or on a floppy disk. Full-page articles, artwork, and photos can be submitted camera ready. 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
 Tucson AZ 85736

President's Message

Thanks go to all involved with the nominations and election of the next Board of Directors. And congratulations to those elected. This should be a terrific year. And join me in thanking Michael Turner, Ray Toscano, and Ed Finney (and their spouses) for such a productive year on the Board. We do, however, have one more Member-at-Large to elect. We should do this at the beginning of the main lecture time of the June meeting. As of this writing, there are three candidates running for the final MAL spot. The current constitution states that we vote until the one candidate with the most votes, of over 50% of those present and voting, is the one elected. Each candidate will be allowed to have his say before voting begins.

Other business going on in the club pertains to the 30-inch telescope project, which could be really rolling very

soon; and the 16-foot dome project, which is accelerating rapidly. Mike Grindle, with the 30 inch project, and Steve Ratts and Shawn Hermann with the 16 foot dome project have been extremely busy and getting the necessary preliminary work going so we can proceed with real work soon. Thanks to them and all the club members who put forth ideas and opinions on these matters.

Heat is here and monsoon rains are not far behind. If we can't observe, we can repair, alter, upgrade, or whatever, our telescope systems. Maybe we could have a swap meet?

Here's hoping for clear skies, especially around July 4 when Deep Impact will occur.

Thom Peck

Meeting Information and Calendar of Events

TAAA MEETING DATE: Friday, June 3 at the Steward Observatory Auditorium - Room N210

ASTRONOMY ESSENTIALS: 6:30 pm

Title: Black Holes - An introduction

Speaker: Terri Lappin

The TAAA received the latest Outreach Toolkit, The Black Hole Survival Kit, from the Night Sky Network. By way of introducing the toolkit to the membership, Terri will explain what Black Holes are and how we might explain these bizarre objects to the general public. This toolkit is available for use by TAAA members for any outreach activity they are involved in, whether TAAA sponsored or not.

GENERAL MEETING: 7:30 pm

Title: Deep Impact Mission to Comet Tempel 1 and what you can do about it

Speaker: H. J. Melosh, Lunar and Planetary Lab, University of Arizona,

In the early hours of July 4, 2005, one of the two the Deep Impact spacecraft will splash down on the surface of Comet Tempel 1 at 10.2 km/sec, creating an impact crater up to 100 m in diameter and 30 m deep. The second spacecraft, passing by at the safe distance of 500 km, will send images of the event back to the Earth. The object of this interplanetary kamikaze mission is to dig deep beneath the surface dust deposits and expose the pristine ices that lie 1 to 10 m below the comet's surface. A secondary goal is to learn about the mechanical structure of a comet's exterior and test models of how comets evolve during their many tours around the Sun. The impact will also afford an opportunity for amateur astronomers to join with the professional observing campaign to detail the comet's response to this celestial assault.

H. J. Melosh is currently a Science Team Member on NASA's Deep Impact mission. He received an AB degree in Physics from Princeton University in 1969 and a PhD in

Physics and Geology from Caltech in 1973. He is currently a Regents Professor of Planetary Science at the University of Arizona. His principal research interests are impact cratering, planetary tectonics, and the physics of earthquakes and landslides. His recent research includes studies of the giant impact origin of the moon, the K/T impact that extinguished the dinosaurs, the ejection of rocks from their parent bodies and the origin and transfer of life between the planets.

Professor Melosh is Fellow of the Meteoritical Society, the Geological Society of America the American Geophysical Union and American Association for the Advancement of Science. He was awarded the Barringer Medal of the Meteoritical Society in 1999, the Gilbert prize of the Geological Society of America in 2001 and was a Guggenheim Fellow in 1996-1997. Asteroid #8216 was named "Melosh" in his honor. He was elected to the National Academy of Sciences in 2003. He has published approximately 150 technical papers, edited two books and is the author of a major monograph, Impact Cratering: A Geologic Process.

BOARD OF DIRECTORS MEETING: Wednesday, June 15, 6:30 pm, location to be decided. Note that this is a change from our normal meeting night.

STAR PARTIES AND EVENTS:

28 May - Beginners SIG at TIMPA

04 June - TAAA Star Party at Las Cienegas

04 - 11 June - Grand Canyon Star Party

09 June - AstroPhoto SIG

11 June - Fred Lawrence Whipple Observatory

14 June - Mason Audubon Center Astronomy Program Star Party

NEWSLETTER SCHEDULE: Deadline for articles: Sat, June 18. Printing: Mon, June 20. Folding Party: Tues, June 21. Mailing: Wed, June 22. The newsletter is mailed at least one week prior to the following month's General Meeting.

Club News

Member News

We welcome the most recent members to join the TAAA: Brent Asafaylo and Denise Novotny, Richard D. Grimaldi, Keith and Cosette Hutton, Eugene and Kiriaki Lauria, Dorothy (Dot) Roome, Mary Smith. Glad to have all of you join! New members should be sure to pick up a new members pack at a meeting. Hope you'll make it to our star parties or meetings so we can all get to know you. (Updated membership lists are available to any member at most meetings, so pick one up if you need it.)

TAAA Elections

The election process from the May meeting has left one Member-at-Large position yet to be determined. Jack Farmer has withdrawn (see June newsletter). Remaining are: Richard Dougall, Ken Shaver, and C. Michael Thompson. At the start of the Main meeting, we will have the runoff election. Voting will continue until one candidate receives a majority of the votes cast. Any candidate may withdraw his name from contention at any time.

Board of Directors Meeting Date

Due to the Grand Canyon Star Party and other activities, the board of directors meeting date has been delayed one week. The Board will meet on June 15 at the normal time, location to be decided.

May 28 Beginner's SIG

By Bill Lofquist

We have another TIMPA night coming up this coming Saturday, May 28, so that means the Beginner's Special Interest Group will be meeting again. We will have a lot of competition that night because the Kitt Peak event and Las Cienegas are both occurring. However, I know there are several people interested in going to TIMPA, so we will make that available as well. As long as we have two or three people interested, I think it is worthwhile.

I would suggest that we create an agenda for the evening when we get there. Along with that, I will come prepared with some things for those interested. I will have two DOBs there for some seek and find viewing. I will bring materials that will focus on using guide stars to find deep sky objects for those who don't have a go-to scope and want to learn their way around the sky. We might concentrate on M13, M3, and M81 and M82. Those are great objects this time of year. I will have sky charts for those objects for everyone to use, as well as a table with a red LCD lamp. I will also have some observation pages to make notes and drawings on. In other words, I suggest that we give some attention to basic observing skills. Of course, there are many other objects we can find as well, and many other topics to cover.

If there happen to be a lot of people there and you can't find our group, just yell out, "Where's the Beginners SIG?" I am sure we will connect with one another.

So let's hope for good skies and some good observing. If you have any questions or suggestions, please contact me at the email address or telephone number below. I plan to be out there to get set up a bit before dark.

Clear skies,
Bill Lofquist
wlofquist@comcast.net
1935 West Harran Circle
Tucson, AZ 85704
520-297-6653

TAAA Coordinators Wanted

The TAAA Board of Directors is looking for the following positions to be filled for the 2005-2006 year:

Star Party Coordinator
Star Party Volunteer Coordinator
Publicity Coordinator

If you or someone you know would like to help out your club by taking on these important posts, please let Thom Peck, or another board member, know by email or phone. Addresses and numbers are on the newsletter's second page.

Member at Large Nomination

My name is Richard Dougall a lot of you know me but a lot of you don't, and I am writing this email due to the fact that I won't be able to attend June meeting, as I will be out of town for specialized training that I teach, I ask that all members please consider me for the post of member at large. I have been involved with the TAAA for around 4 years now since becoming involved with the club I have learned a lot from everyone I have got involved as a docent on Kitt peak, I am involved in project ASTRO where I am working with 2 teachers officially and 3 teachers unofficially, I am also very active in the public star parties as well as private star parties and am always trying to bring in new members I feel that the club has been a major stepping stone for me and I feel that I would like to give back to the club from which I feel that I have taken so much from. I hope all you members will consider this if anyone has a question about me or as to why I want to do this please feel free to email me and I will be glad to answer any question's asked.

Thank you
Richard Dougall

Club News (cont.)

Member at Large Withdrawal

After my recent trip to Denver, due to family illness, I am regretfully withdrawing my name from the TAAA member-at-large election. I am currently uncertain how much time in the coming months I will be spending up in Denver, and feel like I may not be able to fulfill the responsibilities of the position. Please accept my nomination withdrawal at this time.

Thanks
Jack Farmer

Grand Canyon Star Party

4-11 June 2005
North and South Rims
By Dean Ketelsen

Another star party is upon us! Look for the report of the great time we had in the next newsletter, or come join us for yourself. The annual mailings for fee waivers and other latest info are going out as I write this. If you have not heard from me by Memorial Day, please remind me or let me know you have not gotten the required waiver. T-shirts have been ordered too for pickup on meeting day, and for those who have pre-ordered them and will not be attending, I'll try to have them at the June meeting, but can't promise - I'll be busy packing!

If you've told me you want one, more likely I'll have them at the July meeting, or will be contacting you via e-mail. For technical reasons I'm not completely aware of, we were limited to white shirts. The prices are the same as 2 years ago - \$11 for standard sizes, a little more for larger and long-sleeve shirts. So now you are all up to date - drop me an e-mail for last second questions or to ask where your fee waiver is!
ketelsen@as.arizona.edu

Upcoming Lecture Schedule

Below is our upcoming lecture schedule. Topics under consideration: Mars/Spirit & Opportunity and Solar Physics for General Lectures; The Color of Stars, Telescope Making and Lunar Observing for Astronomy Essentials Lectures. If you have a suggested topic or speaker in mind send an email to Terri at tklappin@earthlink.net or call her at 977-1290.

| TAAA Speaker Schedule | | |
|-----------------------|--|---|
| Jul 1 | Astro Essentials | Open |
| | General | Tom Evans, NWS Weather and Astronomy |
| Aug 5 | Astro Essentials | Open |
| | General | Open |
| Sep 2 | Astro Essentials | Steve Marten, TAAA TAAA Outreach |
| | General | Ken Graun Charles Messier |
| Oct 7 | Members Night No Astronomy Essentials Lecture | |
| Nov 4 | Astro Essentials | Open |
| | General | Bill Stoeger Cosmology |
| Dec 2 | Astro Essentials | Open |
| | General | Open |

Black Hole Outreach Kit Available

We received the latest toolkit from the Night Sky Network, which can be borrowed by any TAAA member for outreach or educational events. The event can be TAAA sponsored or not - it doesn't matter. This particular toolkit is about Black Holes. In addition to the materials for the demos about black holes, there is a CD with a PowerPoint presentation (including a script), a lot of animations showing artist conceptions of black holes, and the training manual for the materials. There is also a training DVD that shows the materials in use. If you want a copy of the CD, contact Terri at 520-579-0185 and leave a message. We need someone to make copies of the training DVD (copyright allows this) so we have loaner copies. (The CD is yours to keep if you request it). If you have DVD copying abilities, contact Terri at the number above.

The toolkit will be highlighted at this month's Astronomy Essentials lecture. CDs will be distributed during the June 3rd meeting to those who request them. (All recipients of the CD will become members of the Night Sky Network and will obtain log in information to access that website. Any use of the materials needs to be documented - use of this toolkit qualifies us for the next toolkit.)

STARIZONA
ADVENTURES IN ASTRONOMY AND NATURE

5201 N. Oracle Rd. www.starizona.com
Tucson, AZ 85704 292-5010



Club News (cont.)

Beginner's Eyepiece Evaluation Kit Available

The Beginner's SIG has put together a loaner kit consisting of several eyepieces, a barlow, and a star mirror diagonal. This kit is available for short-term loan to any member, but it is especially meant to assist beginners by providing a no-cost way to evaluate basic eyepiece alternatives for a new telescope.

If you are interested in borrowing this kit, contact J.D. Metzger by ending an email to: jayhawk68@cox.net.

Swap Meet, Anyone?

When monsoon rains begin, and the heat is on, why not have a Swap Meet among the TAAA members? If you have interest in such an event, let me, or a board member, know and we'll schedule something. If you have a place in mind, other than Steward or TIMPA, that would be helpful, too. Email me (Thom Peck) at president@tucsonastronomy.org.

Fred Lawrence Whipple Observatory Star Party Saturday, June 11

The Smithsonian Institution Visitors Center near Amado, Arizona is hosting 'See The Stars Through A Telescope'. Observing will begin after 7:45 p.m. with telescopes provided courtesy of the Tucson Amateur Astronomy Association (TAAA) and the Sonoran Astronomical Society (SAS).

6 p.m. Visitors Center opens
7:15 p.m. Informal lecture by Observatory staff
~7:45 p.m. Observing begins (next to Visitors Center)

On view: Jupiter, Saturn, a glimpse of Mercury and Venus, double stars, star clusters, and a crescent Moon.

Dress for cool evening temperatures. Small flashlights and binoculars are useful to bring. Lecture seating is limited, so you might want to bring a lawn chair.

Please cooperate with staff directing parking when you arrive. The parking spaces nearest the building are reserved for TAAA/SAS members and their telescopes. Visitors should park along the driveway or in the parking area outside the gate or along the road as directed.

(Please note: Visitors will be allowed to park cars next to the building in the space usually reserved for telescopes until 5:30 p.m. At that time, visitors will have to move their cars to other parking spaces so that telescopes may be set up.)

For more information call 670-5707. In case of threatening weather, call 670-5707 after 5 p.m. on the

11th for information about star party cancellation. Go to <http://cfa-www.harvard.edu/flwo/starparty.html> for more information.

T4T 2005, Thank-you for a job well done

By Wendee Levy

Towards the end of the evening at the UA Mall, Carter Smith came up to me and thanked me for all the work David and I have been doing for MDA. Before the words, "You're welcome," could come out of my mouth, I thanked Carter instead. Without the backing of the TAAA, we could not have raised so many thousands of dollars over the past 8 years for MDA. David and I really appreciate all the time, effort and enthusiasm the club lends us for a major weekend of star parties. Once you see this year's projected total, I would be very surprised to see another club beat us.

After the event I gave MDA \$2290 that we earned that weekend, alone. When all sponsor monies are in we should have \$6250!

SPONSORS:

| | |
|--------------------|----------------------------------|
| Big Bang [\$1000] | Walmart, Joe Cristiani |
| Super Nova [\$750] | Intuit |
| Galaxy [\$500] | UBS Financial Services |
| Star [\$250] | Tanque Verde Elementary School, |
| | China Rose Restaurant, Tucson |
| | Rolling Shuttles, Computers Etc. |

David and I hope to see all the volunteers at our thank-you star party. Thanks again, for giving us your all.

Wendee & David Levy

Desert Sunset Star Party

By George Barber

Photo by Pat and Arleen Heimann

I had the opportunity to be one of 40 attendees at the Desert Sunset Star Party. It was a great time! I arrived on Thursday evening, and stayed through Sunday. The weather gave us a good break. Thursday's skies were clear until at least 11:00 pm, and I was told they cleared again in the wee morning hours. Friday and Saturday were very windy, but in the evenings the wind died down. The seeing was great all three nights, but Saturday's was some of the best I've experienced recently. I took my 12" LX-200 and just enjoyed the views of some old favorites, as well as a few new objects. I did manage to find and observe a few Caldwell's. Saturday's seeing was so steady that I was able to view the "Ghost of Jupiter" through my 12" at a maximum of 440-power. It was the first time I saw so much detail in that particular object. Another of my most memorable views was M51 through Andrew's "Deep Violet" 18" - it looked just like a picture out of a textbook!

I enjoyed the chance to unwind and just be under the

Club News (cont.)



night sky with old and new friends. We had quite a few astronomers from out of town - they came from Wisconsin (1), Washington (1), Arkansas (1), Idaho (1), California (7), Texas (3), and New Mexico (3). I really want to thank Pat and Arleen from chartmarkers. They worked very hard to organize and run the party. I don't know how they did it, but everyone ended up with at least one door prize! Andrew, John Polacheck, and I gave evening presentations. On Friday, chartmarkers provided a hamburger and hot dog dinner with all of the trimmings, and on Saturday the residents of Caballo Loco provided a really nice breakfast of biscuits and gravy. On Saturday, Gwen Grace had some beautiful astronomy pillows for sale at a good price. I bought one for myself! She sold out within an hour.

Next year's DSSP is scheduled for April 26-30, 2006.

Tucson Amateur Astronomy Association Star Party Policy

The Tucson Amateur Astronomy Association (TAAA) schedules and conducts star party events in association with public and private organizations including schools, established community groups and businesses.

The Star Party Coordinator, the Board of Directors or the President must approve TAAA Star Party events. A request from interested organizations including date, time, address, estimated attendance, specific observing area, emergency phone number(s) and acknowledgement of star party safety notice(s) is required for all TAAA star party events.

Any public star party event without the approval described above will be considered an impromptu event. TAAA members volunteering or attending impromptu events may not indicate that such event is sponsored or associated with TAAA.

Approved Star Party events supported by TAAA members are scheduled appropriately to ensure that volunteers are not overburdened with monthly events, that adequate preparation for special events is considered and that community organizations can expect reasonably consistent TAAA volunteer support.

TAAA members participating in or conducting impromptu star party events and indicating these events are TAAA events shall be subject to loss of membership for a period of time determined by the TAAA Board of Directors. Organizations that represent impromptu star party events as TAAA events may be barred from future TAAA events for a period of time determined by the TAAA Board of Directors.

TAAA Apparel

Looking for a special gift, or a way to make that fashion statement? Try on something from our fine line of club apparel. We've got hats, T-shirts, denim shirts, and patches. We take cash and checks.

Items of Interest

NEWLY FORMED SUSTAINABLE LIGHTING COMMITTEE (SLC)

Article written by:
Joe Frannea and Dave Bilgray

Here is some excellent news. A new project has begun at the University of Arizona to study outdoor light pollution. It will be based in the school of architecture, but in addition will have the active participation of members from many diverse departments at the University.

Known as the Sustainable Lighting Committee (SLC), it is an outgrowth of an award presented last year to the president of the University, Peter Likins, by the Southern Section of the International Dark Sky Association (SA-IDA).

President Likins expressed that a university is a place to integrate diverse ideas and bring together persons with the highest level of research skills and firsthand knowledge of state-of-the-art technologies. The President also reminded us that a university campus, with the interaction between many skilled departments such as facilities, is a place where real changes can be made.

The University of Arizona Campus is a unique environment. As such, it will serve as a working "laboratory" for the SLC. The campus itself will be the actual site for study by the SLC and it will also be the place where the actual changes in outdoor lighting will then be made. The SLC will evaluate the effects of those changes.

The focus will be on improving outdoor lighting, not only

Items of Interest (cont.)

to reduce light pollution, but also to ensure that the campus is a safe place at night. Safer lighting is more uniform lighting with minimal glare.

In addition, the SLC plans to create a Light Pollution Research Institute for both graduate and undergraduate students.

The SLC is already off and running. A proposal booklet has been completed and the SLC is actively seeking partners and sponsors. The first stage is expected to occur soon. There will be a nighttime helicopter "flyover", a photographic mapping mission to analyze the present outdoor lighting on campus.

The next goal of the SLC will be to develop methodologies not only for assessing light pollution but also for evaluating other aspects of outdoor lighting such as energy consumption and public safety.

The SLC plans not only to make specific recommendations for improving the outdoor lighting on the campus but also expects to take an active role in making the actual physical changes which will be necessary.

Using the knowledge learned here in Tucson, the SLC then plans to develop and disseminate educational materials to the other college and university campuses in Arizona, (and possibly throughout the United States).

Later, the SLC plans to provide comprehensive educational materials and programs for the community as a whole. Better awareness of the issues by the public will lead to better solutions.

Finally, it is anticipated that as a result of its activities, the SLC will yield positive benefits to the Tucson economy.

THE SLC IS A PROJECT THAT SHOULD BE OF INTEREST TO ALL TAAA MEMBERS!!!

Submitted by John Polachek
President, SA-IDA

E-mail address: jpolach@dakotacom.net

More information is available on the SLC web site:
www.UASLC.org

Family ASTRO -Astronomy Fun for The Family

At the heart of Family ASTRO, a spin off from Project ASTRO, is a series of Leader Kits that allow people with an interest in science to lead fun and educational Astronomy Events for students, families, and for children participating in after-school programs and clubs, park and recreation programs, and other youth groups and programs (e.g., Girl and Boy Scouts). With titles that include *Night Sky Adventure*, *Race to the Planets*, *Moon Mission*, *Cosmic Decoders*, and *Stars-Planets-Life*, each Leader Kit focuses on a particular topic in astronomy and includes an optional Take-Home Activity (kit or game) that can be purchased either for or by your event participants for more exploration and fun at home.

NOAO conducts free (for teachers and astronomers) annual training workshops for Family ASTRO event leaders, and this year the sessions are scheduled for September and October. We are seeking astronomers who are willing to be paired with other event leaders at schools, local attractions, and other organizations. Events last about 2 hours. An initial supply of take-home activities is provided by NOAO. The schools, attractions, or other organizations may purchase additional activities.

Applications and information are available at www.noao.edu/education/astro/family/. Consider becoming a Family ASTRO event leader and making astronomy a fun family pastime. NOAO contact is Robert Wilson at 318-8440 or rwilson@noao.edu.



Star Parties & Events

TAAA Star Party at TIMPA Saturday, 5/28/2005

Come on out and enjoy the spring 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 cool temperatures. The TAAA Beginners SIG will meet at this activity. Directions to the TIMPA site are located on the outside flap of this newsletter.

Star Parties & Events (cont.)

TAAA Star Party at Las Cienegas (Empire Ranch)

Saturday, 6/4/2005

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 astrophotos. 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. There are no restroom facilities at the site, so be prepared. Las Cienegas is at 4000 feet so be prepared for cold temperatures after sunset. 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.

Mason Audubon Center Star Party

Tuesday, 6/14/2005

Northwest

No. of Scopes: 2

Mason Audubon Center Astronomy Program will be hosting their annual "Mason Audubon Star Party" at 8751 N. Thornydale Road. Travel north on Interstate 10 from Tucson, take the Orange Grove Road exit and then travel east on Orange Grove Road approximately 1/4 mile to Thornydale. Turn left (north) and travel approximately 3 miles to Hardy (just after Cortaro (Farms) Road). The Mason Audubon Center is on southwest corner (you'll notice a white banner on the fence and palm trees) and the entrance is on Hardy. Turn left onto Hardy and park along south side of road in the extra-wide shoulder (other cars should be there). There is a narrow entrance gate there (about 75 yards from Thornydale Road.) Proceed to the classroom area of first brick building (viewing area). Contact person Jamie Brown can be reached at or email asonoutreach@mindspring.com. Star Party Leader for this event is Jamie Brown. Set-Up Time: 7:30 pm. Observing will be from 8:00 pm to 9:30 pm. Sunset: 7:32pm Dark Sky: 8:35pm Moon Phase: First Quarter.

TAAA Board of Directors Meeting - May 11, 2005

Attending: TAAA Board members: Thom Peck, Michael Turner, Steve Marten, Terri Lappin, Ray Toscano, and Ed Finney.

TAAA Members: Steve Ratts, Shawn Hermann, Robert Crawford, Nora Toscano, Ellen Finney, Gary Rosenbaum, and Jerry Penegor. President's Call to Order: 6:32PM

Review of March Minutes. Accepted with the following revision: Donation Policy passed 6-1 and Paid Dues for Past Presidents passed 4-0 (with three abstentions.)

Announcements.

Terri received Black Hole kit from Night Sky Network; she would like to make a presentation regarding the kit at the next Members Night or as Astronomy Essentials presentation at a general meeting.

Thom reviewed the recent election results:

President - Thom Peck

Vice President - Bill Lofquist

Secretary - Steve Marten

Treasurer - Terri Lappin

Member at Large (1) - George Barber

Member at Large (2) - Tom Watson, and

Member at Large (3) undecided after several run-off ballots.

Michael suggested the need for run-off guidelines including a first ballot and successive run-off continue until one has plurality then vote again. For Member at Large (MAL), begin another round as necessary until all three have been elected. Robert proposed to drop person with least votes for each round. Ray: provide feedback to voting membership on each round reflecting changes. Thom: requires constitutional amendment; not enough time to affect changes for remaining MAL vote at June meeting. Also, drop any candidates with 0 votes.

Member Feedback. Ray: suggest Beginner SIG announcement at meetings. Ed: possible update of logo and club name; general Board consensus to drop "Amateur;" will be revisited at future Board meeting. Tucson Astronomy group site reminders: no announcement or reminders of non-TAAA functions. Steve will assess difference of one vs. two announcements per school star party next October.

Equipment Loan Program Report from Jerry Penegor. 8" Dobsonian is most popular but hard to point; a Telerad unit would be helpful. Thom approved Telerad purchase. LX-200 10" is loaned out regularly. Michael noted good feedback re: training and ability to use scope features. Ray suggested buying additional popular scopes. Discussion on selling or giving away (unpopular scopes as awards/prizes at meetings).

16' Dome Report from Steve Ratts. Much progress in last month. Inspected dome at Kitt Peak and found in very good condition. Some rust but no serious damage. Wood around base has disintegrated and will require replacement. Motors may not be serviceable. Access road has not been maintained (4-wheel drive only) and will require dome disassembly and move to parking lot, then transfer to flat bed; planning to get dome off mountain before monsoons. Kitt Peak personnel will require selected supervisor for move. Discussion on where to locate dome during monsoon; it is probably heavy

TAAA Board of Directors Meeting - May 11, 2005 (cont.)

enough not to be affected by wind. Discussion on obtaining permit when completed. Inspections required will be incorporated into Steve and Shawn's schedule. Cost without mount: \$15,676 (including cement and other materials and our labor) except estimated cost for mount. Go-to mount estimated at about \$10,000. Steve urges we order now. Labor: probably eight experienced members. Michael suggested, with general consensus for separate meeting on May 21 to review drawings and plans. Steve is targeting opening in fall '05. Mount in storage at TIMPA is not go-to and likely not be used but Steve and Shawn will evaluate further. Board thanked them for their work.

D&O Insurance. Steve suggested moving meeting with agent (arranged By Bill Lofquist). Meeting to be postponed, new meeting date to be decided at June Board meeting when Bill Lofquist can be present.

Star Party Policy was reviewed and approved 6-0. To be posted in Newsletter, Forum, TAAA website (Star Party section) and BOD files. Also, Michael suggested posting Star Party Etiquette in Star Party section of website.

Publicist. Deferred until MAL elections completed.

Web Site Re-Design. Ray reviewed development ideas including links, etc. that will appear only when user is logged in as member. Dean Salman is trying to make the site a little more interactive with less static appearance. However, while some changes are needed general Board consensus was that a drastic redesign is not necessary. Due to lack of sponsorship in the last few years or more, Kitt Peak, Stellar Vision and Chartmarker logos will be dropped from website and newsletter.

Public Announcement List Server. Terri described possible list server need in association with TAAA. Ray suggested having a dedicated page on our website for public events instead of a list server. Interested persons can email their input for review for suitability and posting. General Board consensus supported a Public Events page on our website vs. public announcements on a list server.

TAAA Rep for TIMPA Board Meetings. Board consensus for Terri to continue as our representative.

Dues Discounts. Discussion on multiple discount amounts for various groups. The General Board consensus was to simplify discounts by allowing only one discount of \$2 for seniors or \$8 for K-12 teachers or any student. Terri will post change in newsletter.

Swap Meet. Discussion of holding such an event during monsoons and possible indoors locations. General Board consensus to list on forum to determine interest and solicit suggestions.

TAAA Budget. Terri distributed Budget draft for further consideration at the June meeting.

Adjourn at 9:42pm.

Respectfully Submitted,
Steve Marten
Secretary

Dark Skies for June 2005

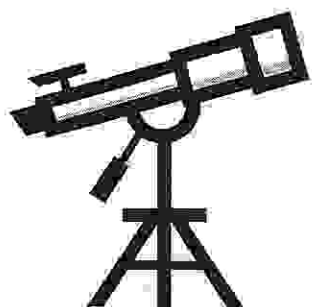
DARK SKIES (no twilight, no moonlight) for Tucson in 24-hour MST: 18=6pm, 20=8pm, 22=10pm, 0=12am
RISE, SET, VISIBILITY for sun and bright planets: rise for morning object, set for evening object

| | | | | | |
|-------------|--------------|-------------|--------------|-------------|---------------|
| Tu/We 31/ 1 | 21:04 - 2:04 | Sa/Su 11/12 | 23:28 - 3:37 | Tu/We 21/22 | Full Moon |
| We/Th 1/ 2 | 21:05 - 2:32 | | | We/Th 22/23 | - - - |
| Th/Fr 2/ 3 | 21:05 - 3:01 | Su/Mo 12/13 | 23:57 - 3:37 | Th/Fr 23/24 | 21:15 - 21:41 |
| Fr/Sa 3/ 4 | 21:06 - 3:33 | Mo/Tu 13/14 | 0:24 - 3:36 | Fr/Sa 24/25 | 21:15 - 22:27 |
| Sa/Su 4/ 5 | 21:07 - 3:38 | Tu/We 14/15 | 0:49 - 3:36 | Sa/Su 25/26 | 21:15 - 23:05 |
| | | We/Th 15/16 | 1:15 - 3:36 | | |
| Su/Mo 5/ 6 | 21:07 - 3:38 | Th/Fr 16/17 | 1:42 - 3:37 | Su/Mo 26/27 | 21:15 - 23:37 |
| Mo/Tu 6/ 7 | 21:08 - 3:38 | Fr/Sa 17/18 | 2:13 - 3:37 | Mo/Tu 27/28 | 21:15 - 0:07 |
| Tu/We 7/ 8 | 21:09 - 3:37 | Sa/Su 18/19 | 2:48 - 3:37 | Tu/We 28/29 | 21:15 - 0:35 |
| We/Th 8/ 9 | 21:33 - 3:37 | | | We/Th 29/30 | 21:15 - 1:04 |
| Th/Fr 9/10 | 22:17 - 3:37 | Su/Mo 19/20 | 3:31 - 3:37 | Th/Fr 30/ 1 | 21:15 - 1:35 |
| Fr/Sa 10/11 | 22:55 - 3:37 | Mo/Tu 20/21 | - - - | Fr/Sa 1/ 2 | 21:15 - 2:09 |

| Weekend | Sun | Sun | Mercury | Venus | Mars | Jupiter | Saturn | |
|---------|-------|------|---------|----------|---------|---------|---------|--------------------|
| Sa/Su | Set | Rise | Set Vi | Set Vi | Rise Vi | Set Vi | Set Vi | Vi=Visibility |
| 4/ 5 | 19:25 | 5:15 | 19:37 - | 20:45 1 | 1:20 1 | 1:59 -2 | 22:15 1 | -3 brilliant |
| 11/12 | 19:29 | 5:15 | 20:20 7 | 20:54 0 | 1:06 0 | 1:31 -2 | 21:50 2 | 0 conspicuous |
| 18/19 | 19:31 | 5:16 | 20:50 4 | 21:02 0 | 0:51 0 | 1:04 -2 | 21:26 3 | 3 moderate |
| 25/26 | 19:32 | 5:17 | 21:05 3 | 21:06 0 | 0:37 0 | 0:37 -2 | 21:01 4 | 6 naked eye limit |
| 2/ 3 | 19:32 | 5:20 | 21:08 3 | 21:09 -1 | 0:22 0 | 0:11 -2 | 20:37 6 | 9 binoculars limit |

By Erich Karkoschka

Telescopes for Borrowing



Don't own a telescope?
The TAAA Loaner Program is your answer!
There's no cost to you.
We have the following telescopes:

Sears 60mmf/15 on equatorial mount
Unitron 62mmf/14.5 on equatorial mount
Meade 90mm ETX
Coulter Odyssey8 8-inch f/4.5 Dobson
Meade 10-inch f/4.5 on equatorial mount
Meade 10" LX200 GPS (requires training session)

New members, here's your chance to begin learning and observing the sky before buying any equipment. Loaner Program is available to any current member after meeting requirements detailed in the TAAA Loan Policy. Contact the Equipment Loan Coordinator listed in the "Desert Skies" for details about the telescopes.

Desert Skies Classified

| | |
|----------|---|
| For Sale | Orion XT10 dob in xInt condition w/25, 17, and 9mm EPs. TelRad and 9x50 finder, Orion Cheshire collimating EP, and 2 vols. of TelRad finder charts for the Messier objects. Bargain for someone starting out or looking for a bit more aperture - \$425.00. Robert Wilson at 744-0263 or rasjwilson@aol.com. [09/05] |
| For Sale | Celestron Firstscope #114 4.5" Diameter Newtonian reflector telescope on a German equatorial mount with adjustable wooden tripod. Includes: three eyepieces (4mm .96" dia., 20mm .96" dia. and 25mm 1.25" dia.), a 2x .96" dia. Barlow lens and a .96" dia. moon filter. Asking price: \$100. Contact Matt at nowayout@earthcorp.com. [07/05] |
| For Sale | Meade 6" ED APO refractor (OTA), FL 1380mm. Essentially new and has seen little use. Comes with Meade mounting saddle with Losmandy mounting plate, and an Orion 60mm guide scope mounted on top of the saddle with three point adjustable rings. \$2400. Steve Aragon 909-792-0072 [06/05] |
| For Sale | SBIG STV deluxe camera/guider with FR-237 and E finder assembly. \$2000, Steve Aragon, 909-792-0072 [06/05] |
| For Sale | Cannon 10D digital camera, body only. 1yr old, 6.3 megaPixel, 2 batteries, batt grip, 640K memory card, EF mount, all cables, charger, manuals incl. \$1000, contact: Jerry Farrar at 520-731-1104 or 520-404-9858. e-mail jandkfarrar@earthlink.net [06/05] |

Your ad will run for 4 months unless specified. Month and year of last appearance is last item of ad. For additions or changes to this list, call George Barber at 822-2392 or e-mail at barbergj@flash.net.

Object of the Month by Alfredo Garcia Jr.

This month, the OTM is one of the most remote objects visible in amateur telescopes. In 1959, the object was published in the Third Cambridge Catalog of Radio Sources. This source of radio waves was identified and associated with what appeared to be a faint blue star. When astronomers looked at the spectra of this "star", it had a set of lines that could not be identified with any known substance. The key to unraveling this mystery came in 1963 when an astronomer by the name of Maarten Schmidt (Caltech's Palomar Observatory) was examining object's spectra. He red shifted the set of three Balmer lines typically found in a stellar spectra to see if they could be made to match the spectra of the object. Using this approach, he found that if the object's three lines had a red shift of 0.158 or 15.8%, they lined up with the three Balmer lines found in typical spectra. Since the lines fell into place, the mystery was solved. The shift in the lines was due to the object receding from the Earth at a very high speed.

This object belongs to the class of objects known as Quasi-Stellar Radio Sources or Quasars. Sometimes, they are also referred to as Quasi-Stellar Objects or QSOs. Quasars are very brilliant sources of energy that seem to lie very far away. Visually they do not appear very spectacular, but when studied in more detail, they turn out to be some of the most remarkable objects in the sky. Quasars give off enormous amounts of energy and can be over a trillion times brighter than the Sun! Current research has led astronomers to theorize that these objects are indeed the cores of very distant active galaxies.

They are believed to produce their energy from massive black holes in the center of the galaxies in which they are

Object of the Month by Alfredo Garcia Jr.

located. Since the quasars are so bright, they easily drown out the light from all the other stars in the same galaxy. Of the several hundred quasars observed in recent times, all their spectra have shown considerable redshifts indicating that they are moving away from us. They range from 0.06 to a recently observed maximum of 6.4. As such, all known quasars lie at great distances and are moving away from us at tremendous speeds. The closest quasar lies at a distance of 240 megaparsecs (one parsec equals 3.26 light-years) and the farthest is over 5,500 megaparsecs away. The majority of quasars lie at distances above 1,000 megaparsecs. As such, the quasar's light takes a very long time to cover these great distances and we are seeing them as they existed long ago. These tremendous distances allow astronomers to see the universe as it was in the very distant past.

Without any further introduction, I present to you the June 2005 OTM, the Quasar known as 3C273, located in the constellation of Virgo. This quasar is visible in amateur telescopes and represents one of the most distant objects you can visually observe in your telescope. Since there is no common name for this quasar, it is known by its designation of 3C273. The designation comes from the 1959 publication of the Third Cambridge Catalog of Radio Sources (3C) and the fact that it was the 273rd such object listed in the catalog, hence 3C273.

3C273's spectral red shift of 0.158 shows that it is located about 3 billion light-years from Earth and is moving away from us at a speed of over 15% the speed of light or some 45,000 kilometers per second. Despite the tremendous distance, 3C273 appears to us as a 12.9 magnitude star. This is about 300 times brighter than any galaxy would appear at that distance. As such, 3C273 must contain a highly energetic source. Current theories show that this tremendous energy originates from the gravitational collapse of a billion solar-mass gas cloud into a black hole!

3C273 is well placed for observation during the entire month of June 2005. At around 2100 MST from Tucson, AZ, is located from about 58 to 37 degrees (beginning to end of month) in altitude above the horizon in the constellation of Virgo. The map at Figure I shows 3C273's general location in Virgo. And the map at Figure II shows how to get to it using the object finding technique known as star hopping. 3C273 is best observed when it is highest above the horizon and also during periods when there is no bright moonlight. For those with setting circles and/or automated GO TO telescopes, 3C273 is located at Right Ascension 12h 29m 6.7s and Declination +02d 03m 8.6s.

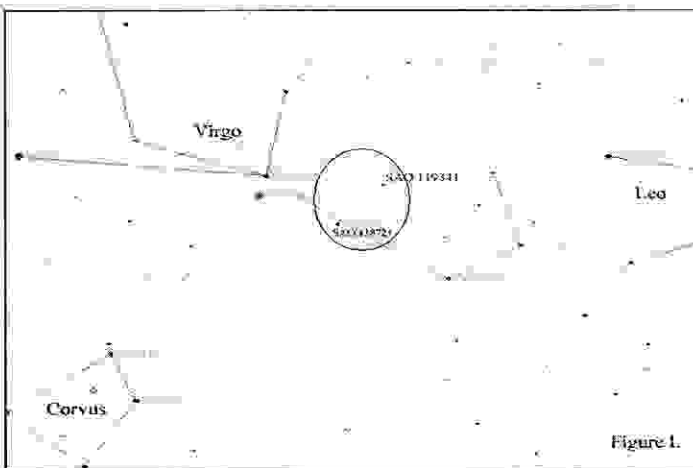


Figure I.

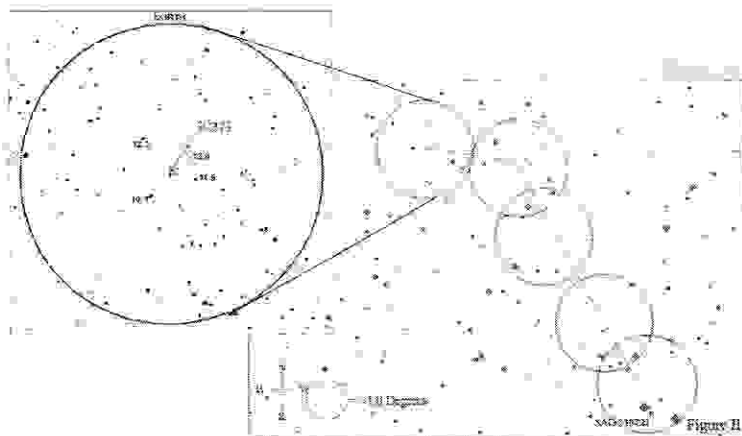


Figure II.

At magnitude 12.9, it should be readily visible in a 10" scope under dark skies. It is visible, however, only as a star-like object in the field of view. It may prove elusive to see visually, but it is easily captured in an astrophoto or CCD image. The image at Figure III is a 10-min composite image taken through a 10" f/6.3 LX200 SCT with a Starlight Xpress SXV-H9 CCD monochrome camera. The quasar has an interesting feature associated with it. That feature is a nebulous streak (jet) about 10 arc seconds in length on the southwest side. You cannot see the streak, but many large telescopes to include the Hubble Space Telescope have imaged it. Some of the images are at <http://www.sns.ias.edu/~jnb/HST/Quasars/3c273.html>.

So next time you are out at a dark sky location during the month, make sure you turn your attention to this remarkable object. Though it may appear only star like, just think of what you are really looking at...light that is over 3 billion years old!! You don't see that everyday!!

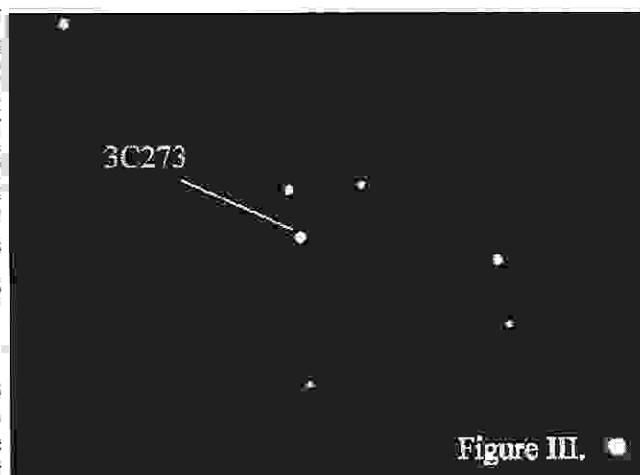


Figure III.

