



# *Desert Skies*

*Tucson Amateur Astronomy Association*

Volume LV, Number 6

June, 2009



## **NASA Reduced Gravity Mission**

### **Inside this issue**

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- ◆ TAAA Astronomy Complex Updates
- ◆ Public Star Parties

- ◆ Websites: Trips On The Internet Super-Skyway
- ◆ Constellation Report

**Cover Photo:** On board the NASA reduced gravity mission. Photos by David and Wendee Levy.

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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, 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 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  
Tucson AZ 85736

#### 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)

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### President's Message

I would like to begin with thanking Terri Lappin for her long service and contributions to the TAAA Board of Directors. This month ended her term as club Treasurer but I know it will not end her contributions to the club. I would like everyone to join me in thanking Terri for all of her dedication to the club.

I would like to also welcome John Croft as our newest member of the Board. Please join me in congratulating John on his election as well as the election of the entire board.

At this year's *Sharing the Sky* star party we did not enjoy the best weather conditions for astronomy. Despite the conditions we still had a nice turn out. All of the volunteers and viewer were very enthusiastic and generous. Thank you to all of the volunteers at this year's event.

June brings us the biggest Star Party event in Arizona and in most of the country for that matter. The Grand Canyon Star Party takes place this month from the 13th through the 20<sup>th</sup>. This Star party provides the most unique place

one could ever hope to view the wonders of the universe with exceptionally dark skies at night and a spectacular vista during the day.

Lastly, I am very excited about the Dark Site construction progress. At last we have the permits from Cochise County that allow us to begin the construction of Phase 1. This includes the well, electricity, roads, septic, and the restroom. Thank you to all who have helped to make this milestone a reality. A special thank you to the coordinator of the building project team, John Kalas.

Dark Skies,

Ken Shaver

### Meeting Information and Calendar of Events

**TAAA MEETING DATE:** Friday, June 5, at the Steward Observatory Auditorium – Room N210

**ASTRONOMY ESSENTIALS:** 6:30 pm

Title: Binoculars- An Indispensable Instrument in Your Astro Toolbox

Speaker: Steve Marten

For some time, I have been looking at the idea of having a good set of binoculars in addition to a scope. For some, a very good pair might *be* their scope. Our club is diverse and that's one of our great strengths. Many members delight in setting up larger apertures while others, particularly new arrivals, appreciate the convenience of binoculars or smaller apertures as they work their way through the many offerings. Further, binoculars are a huge help while working with a scope, large or small, for quickly finding distant objects. Finally, how about a good pair of binoculars to take outside *anytime, anywhere* without breaking out and setting up your scope?

Here are the basic questions you may want to know:

- What can you reasonably see (list of objects) with a 7x50 (most popular terrestrial binoculars), 15x70 (most popular astro binoculars) or 20x80?
- What are the binocular features I need?
- What is a good brand and aperture for a beginner? For an experienced observer?
- What is a minimally sturdy mount and parallelogram?

Join us at the June TAAA Monthly Meeting Astronomy Essentials presentation to answer these questions and learn much more about how binoculars and their many uses

under the night sky bring you closer to the stars and enhance your telescope observing.

**GENERAL MEETING:** 7:30 pm

Title: Some Thoughts on our Zero G mission experience

Speaker: David H. Levy

Three years ago, to help celebrate the World Year of Physics, my wife Wendee and I were given a unique opportunity to fly aboard NASA's C9 aircraft with a group of high school teachers. Prior to the flight we went through much the same training that astronauts do before their zero-g training missions.

Although this plane was similar to the KC-131 that was nicknamed the "vomit comet", neither Wendee nor I were ill at any time during the 42 weightless arcs we flew, 40 at 0g, one at simulated lunar gravity and the final one at Martian gravity. Our week in Houston was a thrilling reminder of the care with which NASA trains its people, and of the wonders of Physics that we were there to celebrate.

In this way, the World Year of Physics, designed to celebrate the anniversary of Einstein's *annus mirabilis* of 1905, is similar to this year's International Year of Astronomy, where we remember Galileo's accomplishments from 400 years ago. Both are intended to inspire people to get a greater insight into the physical sciences.

**BOARD OF DIRECTORS MEETING:** Wednesday, June 10, 6:30 pm. The meeting is held at Steward Observatory Conference Room N305.

## Meeting Information and Calendar of Events (cont.)

### STAR PARTIES AND EVENTS:

01 June – Astro-Imaging SIG at China Rose  
 11 June – Astronomy Fundamentals Workshop & Star Party  
 12 June – City of Benson Rec. Dept. Star Party  
 13 June – TAAA and AFSIG Star Party at TIMPA  
 13 – 20 June – Grand Canyon Star Party  
 19 June – Pima County Natural Resources Star Party

19 – 20 June - C-Row Star-B-Q Event  
 20 June - TAAA Star Party at Las Cienegas

**NEWSLETTER SCHEDULE:** Deadline for articles: Sat, June 20. The newsletter is published at least one week prior to the following month's General Meeting.

## Club News

### Member News

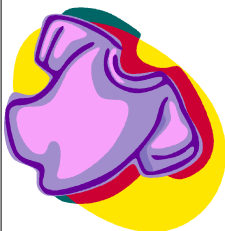
We welcome these members who have recently joined the TAAA: Ben Bailey, Klaus Beyer and Uta Gisela, Rene Cloutier, John M Collins, Lyle Kolze, Casey B Kulberg-Giles, S. K. Lesperance, Christopher Spears, John Stitzer, and T.J. Wolner. Glad to have all of you join! New members can pick up a members pack 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 on our website after logging in as a member. You can also pick one up at most meetings.)

### Astro-Imaging SIG Meeting

Monday, June 1, 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.

### 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 have hats, T-shirts, denim shirts, and patches. We take cash and checks.

### The Astronomy Fundamentals Special Interest Group presents

*A Walk around the Night Sky* Observing Workshop & Star Party

June 11 at Catalina State Park

Rather than a formal meeting this month, the AFSIG will conduct a special activity for June. On Thursday, June 11, at 8:00 pm, Steve Marten will present *A Walk around the Night Sky* at Catalina State Park. Steve's talk will be followed by a star party. Sign up at the June TAAA meeting, or email [novice@tucsonastronomy.org](mailto:novice@tucsonastronomy.org).

Knowing your way around the night sky, any time of night, any time of year, is a fundamental skill that greatly enhances the observing experience. Take an enjoyable and entertaining trip with us across the night sky and learn to recognize the season's major celestial signposts using associations, mnemonics and a little history. We will cover the planets and the ecliptic, major constellations, brightest and well-located stars, a few Messier objects and some tips on how to learn a little more each night while building confidence and having fun.

Sunset will be at approximately 7:30 pm. If you bring a scope, please plan to arrive in time to setup prior to Steve's talk. The talk and star party will be held at the west end of the Trailhead parking lot, which is about 2 miles east of the park entrance. The park entrance is approximately 9 miles north of River Road on Oracle. Park maps are available on the CSP web site:

[http://www.azparks.gov/Parks/CATA/downloads/CATA\\_Park\\_Map.pdf](http://www.azparks.gov/Parks/CATA/downloads/CATA_Park_Map.pdf)

Tell the ranger at the park entrance that you are there for the TAAA star party, and the \$6.00 entrance fee will be waived.

Hope to see you there!

The AFSIG Committee

### C-Row Star-B-Q Event

Friday & Saturday, June 19<sup>th</sup> & 20<sup>th</sup>

The Huachuca Astronomy Club in cooperation with Celestron and Starizona will be hosting a two-day star party in Palominas, AZ about 20 miles south of Sierra Vista on Friday, June 19<sup>th</sup> and Saturday, June 20<sup>th</sup>. Although this event is sponsored by Celestron, people are invited to bring any make of telescope. RV, camping and lodging are available. There will be many really nice door prizes available with a raffle for a new, Celestron CPC 800 telescope, as well. Featured speakers include; Bob Gent, Steve Coe, Kim Rogalski and special guest David Levy. Celestron will have technicians on-site for support. The event will be limited to 150 participants and pre-registration is required. The registration fee \$20 per person which includes 20 raffle tickets. There will be an optional catered rib dinner on Saturday evening for \$23 per person. This sounds like a fun event and is a great

## Club News (cont.)

way for the TAAA to support our friends in the Huachuca Astronomy Club. For more information and the registration form, visit [www.hacastronomy.com](http://www.hacastronomy.com) or call (520) 366-0049.

A number of TAAA Members are planning to attend this event. It's shaping up to be a fun activity, so why not join us?

### Help Wanted: Insurance Expert

As the TAAA develops its new astronomy complex, our insurance requirements are changing. The board of directors needs help in determining exactly what type of insurance the club should purchase. If anyone in the club is in the insurance business, we would appreciate some guidance. If you would like to offer that guidance, please contact John Kalas via phone at 620-6502 or by e-mail at [jkalas@cox.net](mailto:jkalas@cox.net).

### Upcoming Lectures

If you have a suggestion for either an Astronomy Essentials or Invited Lecture, or if you want to give one

Jun 5	<i>Astronomy Essentials</i>	Binoculars Steve Marten
	<i>Invited Lecture</i>	NASA Reduced Gravity Mission David Levy
Jul 3	<i>Astronomy Essentials</i>	Seasonal Objects Mary Turner
	<i>Invited Lecture</i>	400 Years of the Telescope
Aug 7	<i>Astronomy Essentials</i>	George Barber Comets
	<i>Invited Lecture</i>	SOFIA Eric Young
Sep 4	<i>Astronomy Essentials</i>	OPEN
	<i>Invited Lecture</i>	TAAA Status Report

yourself, let Terri Lappin know. See page 2 for contact information.

### ALCon 2010 to be Held in Tucson

The Tucson Amateur Astronomy Association, the International Dark-Sky Association, and the Astronomical League will be jointly hosting the annual convention of the League from June 24 until 26, 2010, at the Tucson Hilton East. We are planning for great speakers and exciting tours. The AL holds its annual awards banquet, and it presents major national awards during the conference. Among others, the National Young Astronomer Award will be presented. In addition, astronomy vendors from across the USA will display their latest products. We also expect leaders in IDA's dark sky movement to participate. Keith Schlottman, VP of TAAA, and Bob Gent, past president of the Astronomical League, are the event's co-chairs. Please mark your calendars and stay tuned for additional updates.



### Sharing the Sky Star Night – May 2, 2009

By Wendee Levy  
Photos by George Barber

For over 10 years, the TAAA has been so supportive of the fundraising activities David and I have been working for.

I'm glad we don't have to put a price tag on the umpteen thousand hours of help the club has given us. But, having been a volunteer for more years than I want to count, I know the value of these star nights – *priceless*.

The club worked as a well-oiled machine, but we'd like to give special thanks to those who provided some of the extras:



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## Club News (cont.)



- Ellen Finney for the calligraphy
- John & Liz Kalas for the advertising and telescope
- Twila & Thom Peck for door prize and keeping the



- George Barber for the background music
- Terri Lappin for the Kid's Corner and NASA door prizes



money count

- Starizona for so many door prizes
- Stellar-Vision for door prizes
- Flandrau Science Center for arranging the site



- Astronomy Magazine for gift subscriptions and a telescope
- Sky and Telescope for a gift subscription

In these economic times, all charitable organizations have had problems. But, thanks to some pre-event work, the *Friends of Sharing the Sky*, and the donations from the evening, we were still able to raise a total of \$2260. We truly appreciate your gifts and every bit of your time, effort and enthusiasm.

Thanks to all of you.  
Wendee & David Levy

## Club News (cont.)

**AFSIG Beginner's Class is Well Received**

Story and Pictures by J.D. Metzger

On April 4, 11, and 18, AFSIG Committee members Lou Faix, Steve Marten, Dennis McMacken, J.D. Metzger, and



*Some of the class poses for the camera*

Dr. Mary Turner conducted the first ever TAAA Beginners' Education Class. Approximately 19 TAAA members attended one or more days of the class, which began at



*J.D. Metzger introduces Day 2*

9:00 AM and concluded at about 3:00 PM each Saturday. The class was held in room 253 at the USGS Building on the UA campus. On the last day, April 18, the class enjoyed a pot-luck dinner and a star party at Catalina State Park.

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 binoculars, telescopes, eyepieces, filters, mounts, and accessories; Day 3, "Observing Basics", was all about observing tips and techniques, and getting started.

Feedback from the attendees has been very positive. Here



*Mary Turner explains how a refractor works*

are a few comments taken from the class survey:

*"The class exceeded my expectations. I appreciated the effort that went into the presentation materials, the presenter being prepared and the amount of thought and planning that was evident in the course creation."* – A.D.



*Steve Marten answers a question during a break*

*"The class was excellent! As a new TAAA member, this class was exactly what I needed to refresh my Astronomy fundamentals so I can get into observing."* – K.F.

## Club News (cont.)

*"Well Done! The class materials will serve well for future reference." – J.F.*

*"The pot luck was wonderful. It created a sense of*



***Beginner's Class Star Party***

*celebration and camaraderie. I enjoyed the evening very much." – M.M.*

*"This is what I originally started attending meetings for 5 years ago." – J.R.*

Plans are to offer the class again in the fall. Details will be



***Some Beginner's Class members setting up***

published in a later newsletter.



### Night Sky Network Toolkits

Below is a list of the Night Sky Network Outreach Toolkits developed by the Astronomical Society of the Pacific under contract with NASA. These toolkits are specifically developed for amateur astronomers and are perfect for those early hours at a star party before its dark enough to observe. Some projects are well suited for use after its dark. They are best when used in small groups as you might have around your telescope at a school star party. You could pair up with someone with a telescope and talk to people standing in line waiting to look through the telescope. Please make arrangements with Terri Lappin (see page 2) to borrow any toolkit.

**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

**GLOBE at Night:** light pollution principles

**Supernova!** life cycle of massive stars, touches on life cycle of sun-like stars

**SolarScope:** provides a white light image of the sun suitable for small group viewing.

**Mirrors and Glass – An inside look at telescopes:** how telescopes work

**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 demonstrate. They contain essentially all the materials needed. All NSN toolkits include a Resources CD and a training DVD. You can request a copy of the CD and DVD set from Terri Lappin. The CDs contain PowerPoint presentations, along with scripts and background information should you be presenting to a larger audience.

### TAAA Website – Login/Password Required

The TAAA website now has more resources for members viewing. Members must login using the user name and password that has been distributed by email. If you haven't received the email message, it may mean we do not have your latest email address in our records. Please contact the treasurer to update your information. This is also how to ensure that you receive the newsletter. We

### Club News (cont.)

currently have a common user and single password that everyone uses. You do not enter your email address or any other personal information to gain access to the member's pages. Should you not have email and want the user name\password, contact any board member.

#### Name Tag Order to Be Placed

We will take names for name tags at the May and June meetings. The list will be at the membership signup/renewal table at both meetings. Name tags are free, one for individual memberships, two for family memberships. Additional name tags can be purchased for \$5 each. You have your choice of pin or magnetic backs. You can also request name tags by emailing or phoning the treasurer, see page 2.

Name tags will be available at the July and subsequent meetings for pick up. You must pick them up, as we do not mail them out.

#### International Year of Astronomy 2009 Events

Anyone interested (TAAA member or not) in public events that the TAAA will hold during the year in recognition of the IYA 2009 should talk to Terri Lappin. She is

organizing a committee to plan our events for the remainder of the year.

Ideas so far:

- star party that begins with an afternoon telescope workshop where public can bring their telescopes and we'll show them how to set them up,
- small community star parties held at neighborhood parks (how best do we get the word out?),
- a series of public lectures by local professional or amateur astronomers held at a library,
- an astronomy workshop open to the public similar to the recent Astronomy Fundamentals class, but in a "Reader's Digest" version, completing in one afternoon.

These are just ideas as this point. Whether we do them depends on the interest level of the TAAA members and the talents of those who will serve on the committee. Even if you don't want to be on the committee, if these (or other ideas) are something you would support, let Terri know. Terri can be reached at 520-977-1290 or by email at [tklappin\[at\]comcast.net](mailto:tklappin[at]comcast.net) (place @ sign appropriately).

### TAAA ASTRONOMY COMPLEX

#### Phase 1 Construction Update

John Kalas – Construction Coordinator

At the May monthly meeting, I reviewed the status of the construction project and reported that the club had submitted its application for the Phase 1 building permit on April 29. Apparently, our application sailed through the various reviewing departments within Cochise County Planning and Zoning because we received the approved building permit on Saturday, 5/23. The astronomy complex now has an official address of 9315 E. Perseus Way, Pearce AZ 85625. Please do not send any letters until we get the mailbox installed (just a joke). This very important milestone allows for the start of construction. Our two contractors, Peter Ammon (road improvement, excavating and septic) and Randy Maddox (bathroom facility and handicapped parking spaces) are ready-to-go. Our next task is for Robert Crawford to lead us on a surveying trip to the complex on Saturday morning, 5/30, to stake out the extent of the clearing required for Phase 1 construction. Once this has been completed, we can commence construction.

Another important preliminary task is to bring electric power onto the site. The club is now fully committed to this project after the submission of a check of almost \$24,000 to Sulphur Springs Valley Electric Cooperative (SSVEC) to run overhead power lines about one-half mile

on seven brand-new power poles and then underground about 400 feet into the site to a point just south of the bathroom facility. I was contacted by the SSVEC Right-of-Way Dept. on 5/22 requesting additional documentation necessary for them to run the power, so they are getting close to starting that task.

Robert Crawford is coordinating the construction of the well site since four-fifths of the cost will be covered by Perseus Group Members. We have received an approved well permit from the state and the drilling of the well could start in early June.

As you can see, the pace of activity surrounding this project is picking up dramatically. As we proceed with Phase 1 construction, Bill Lofquist is leading the exciting prospect of planning for Phase 2 and beyond. The club needs members to step up and volunteer to work on the future development of this dream as well as support it through donations. Please help.

#### LOOKING AHEAD TO PHASE TWO AND BEYOND

By Bill Lofquist

Since we started the initiative in June 2007 to build a first-class Astronomy Complex for the club, we have given much time and attention to securing the property and

## TAAA ASTRONOMY COMPLEX (cont.)

creating a comprehensive strategic plan for its ultimate design. This has required great care in meeting the requirements of the Cochise County Planning Department. The first phase of development includes the basic infrastructure for the Complex: the roads, water system, electric services, septic system, restrooms and parking area. During this time we have been careful not to distract ourselves by looking too far ahead. In late April, 2009 we filed our application for the Phase 1 building permit. When this initial phase of work is completed we will begin using our new site for observing. If things go well, that will be sometime during the fall of this year.

With the filing for the Phase 1 building permit we are now ready to begin looking beyond Phase 1. For the next six to eight months we have two major tasks that are both exciting and challenging. During the month of May we held two special meetings in which members gathered to move ahead.

### The Challenge

On May 9 twenty TAAA members met for a seminar on fund raising. This is our challenge. In order to move ahead we will need to generate new funds. Actually this was begun in December 2008. At the December General Meeting an announcement was made that members could make tax-deductible gifts for the development of the Complex, and a total of \$9,800 was contributed. So we have a start toward Phase 2 and beyond.

At the seminar we heard a presentation by Claire Scheuren of the Pima Prevention Partnership. Claire manages a Technical Services Department which helps non-profit organizations raise funds for a variety of purposes. She indicated that we are in a very strong position to generate funds from outside sources, including foundations, corporations, governmental sources and individuals. Our strengths include our clear educational mission, our long history of outreach to schools and community groups, the active involvement and knowledge of our membership, our past and current success at generating funds within the membership, and the quality of our plan for the Astronomy Complex. She described the variety of ways that we can approach funding sources as we address each aspect of our strategic plan. We plan to undertake a vigorous approach to getting grants from outside sources.

In addition to outside resources, we will need to look to our membership to continue to help out. The Astronomy Services program will continue to make a significant contribution over time. Individual contributions can also be focused on specific needs.

The Master Plan for the Complex that has been approved by the Planning Department includes 45 Member Pads and 15 Member Observatories. It has been assumed from the beginning of our discussions that individual members will contribute to the construction of these amenities.

The combination of these resources has the potential of helping us, over time, to complete the Astronomy Complex. A vigorous effort to prepare proposals to submit to outside resources will be going on this summer. A

Fund Raising Working Group has been formed to start this process. Initial members of this group include John Croft, Cathy and Paul Anderson, and me. Other TAAA members are invited to join us.

### Planning for Phase 2 and Beyond

The second meeting was on May 16 and was attended by eighteen TAAA members. This productive meeting focused on setting priorities for Phase 2. The recommendations that were shaped will go through the Strategic Planning Group and on to the Board of Directors when they are further refined. We need to get more information about projected costs and the success of our efforts to raise more funds.

This is where the excitement comes in. The meeting began with a look at the overall Master Plan and all of the features that are built into it. This plan was shaped by TAAA members during our visioning process in 2007 and early 2008. These features were included in our application for the Special Use Permit that was granted to us by the Cochise County Planning and Zoning Commission. The plan has a "public area" around the parking lot and the restrooms.

The group believed that Phase 2 should emphasize the development of this public area. It will serve both TAAA members and our guests who come to the Complex for planned events. This includes ten observing pads, a small observatory to house the 14" telescope recently contributed by Wally Rogers, a Ramada for educational and social purposes, an amphitheater, the expansion of roads within the Complex and four camper sites. Additional secure storage was also a priority concern. The Master Plan calls for two storage units in addition to the MiniMo-bile we now have at TIMPA.

About 12 members among those present expressed an interest in contributing to the Member Pads. There are a number of other members who were not present who have also shown such an interest. As we determine the costs of the Member Pads, and as members show specific interest in these, Phase 2 may include constructing some of them.

There was also some discussion of long range plans that go beyond Phase 2. We will need to form Working Groups to refine these plans. The Master Plan includes a large roll-off roof observatory, the 16' dome observatory, an education center/clubhouse, three buildings for sleeping quarters and a residence for an on-site director/education coordinator/technical resource and security person.

As the building of Phase 1 gets under way soon, we will plan during the monsoon months to have another Special Meeting to further involve members in planning next steps. Please be on the lookout for announcements of these opportunities.

## Items of Interest

### Websites: Trips on the Internet Super-Skyway

By Rik Hill

What's up with the sun?!

A lot of people have purchased Coronado/Meade PSTs and Lunt Systems filters and telescopes to observe solar activity and guess what, there isn't any! I have read a lot of frustrated emails on several lists from these new owners and read announcements of "big prominences" that would not have even been noticed a few years ago. So what's going on with solar activity?

The problem is wonderfully summed up with the plot of geomagnetic field activity at: <http://www.solen.info/solar/>

This is the deepest solar minimum in the last 50 years, since we had satellite observations at wavelengths not accessible from the earth's surface. It is well discussed in a NASA article from April at: [http://science.nasa.gov/headlines/y2009/01apr\\_deepsolarminimum.htm](http://science.nasa.gov/headlines/y2009/01apr_deepsolarminimum.htm)

This dearth of activity is well displayed on the NOAA plots at: <http://www.n3kl.org/sun/noaa.html>

In fact, NOAA just came out with a statement and prediction on the next solar cycle:

[http://www.spacedaily.com/reports/NOAA\\_Predicts\\_Mild\\_Solar\\_Storm\\_Season\\_999.html](http://www.spacedaily.com/reports/NOAA_Predicts_Mild_Solar_Storm_Season_999.html)

And

<http://www.newscientist.com/article/dn17102-solar-cycle-will-be-weakest-since-1928-forecasters-say.html>

While it is difficult to compare this next cycle to cycles before 1958, so far this solar minimum has produced nearly 50% more spotless days than the average. Since the advent of the "space age" we have put a lot of devices for measuring solar activity in orbit, greatly extending the spectral regions in which we can observe this activity. In the 1920s there were spectroheliographs but they were capable of observing the sun only in wavelengths of the visible spectrum and some wavelengths in the infrared. It will be interesting to see what is observed this time as many amateurs are, for the first time thanks to companies like Coronado and Lunt Systems, well equipped to observe this activity.

{As always, if you have a topic you'd like explored or have some interesting URLs you've turned up, drop me a line at: [rhill@lpl.arizona.edu](mailto:rhill@lpl.arizona.edu)}

### Whipple Star Party

See the Stars through a Telescope  
Free and open to the public

Saturday, June 13

Smithsonian Institution,  
Fred Lawrence Whipple Observatory  
Visitors Center near Amado, Arizona.

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 presented by Observatory staff  
~7:45 p.m. Observing begins (next to Visitors Center)

On view: Saturn, 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 6:30 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 6 p.m. on the 13th for information about star party cancellation.

Map and directions:

<http://www.cfa.harvard.edu/facilities/flwo/directions.html>

More information:

<http://www.cfa.harvard.edu/flwo/starparty.html>

Dan Brocius  
Smithsonian Institution  
Whipple Observatory  
520-670-5706 Voicemail

## Member's Events

### TAAA and AFSIG Star Party at TIMPA

Saturday, June 13

Come on out and enjoy the night sky! 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. 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. Directions to the TIMPA site are located on the outside flap of this newsletter.

The AFSIG will have the 14" telescope available for supervised observing. The telescope is located about 100 yards south of the restrooms. Just look for the white "outhouse"!

### TAAA Star Party at Las Cienegas (Empire Ranch)

Saturday, June 20

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 cool temperatures after sunset. It's also a good idea to bring insect repellent. 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.

### Rattlesnake Alert!

Be alert for rattlesnakes! Rattlesnakes are generally aggressive only if disturbed. If you see one, keep a safe distance and DO NOT try to interact with it in any way. Snakes are much faster than our reflexes, and should be handled only by professionals. Wear boots and long jeans. For more information, go to <http://www.friendsofsaguaro.org/rattlesnakes.html>.

Along with rattlesnakes, other desert critters, such as gophers and ground squirrels, make their home wherever they want. These residents can leave holes and other potential tripping hazards, so be careful when walking.

## Dark Skies for June 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

Su/Mo 31/ 1 1:17 - 3:40	Th/Fr 11/12 21:11 - 22:35	Su/Mo 21/22 21:15 - 3:37
Mo/Tu 1/ 2 1:47 - 3:39	Fr/Sa 12/13 21:12 - 23:05	Mo/Tu 22/23 21:15 - 3:38
Tu/We 2/ 3 2:17 - 3:39	Sa/Su 13/14 21:12 - 23:33	Tu/We 23/24 21:15 - 3:38
We/Th 3/ 4 2:51 - 3:39		We/Th 24/25 21:34 - 3:38
Th/Fr 4/ 5 3:27 - 3:38	Su/Mo 14/15 21:12 - 0:00	Th/Fr 25/26 22:13 - 3:39
Fr/Sa 5/ 6 - - -	Mo/Tu 15/16 21:13 - 0:28	Fr/Sa 26/27 22:47 - 3:39
Sa/Su 6/ 7 Full Moon	Tu/We 16/17 21:13 - 0:57	Sa/Su 27/28 23:19 - 3:40
	We/Th 17/18 21:14 - 1:30	
Su/Mo 7/ 8 - - -	Th/Fr 18/19 21:14 - 2:08	Su/Mo 28/29 23:49 - 3:40
Mo/Tu 8/ 9 - - -	Fr/Sa 19/20 21:14 - 2:54	Mo/Tu 29/30 0:20 - 3:40
Tu/We 9/10 21:10 - 21:24	Sa/Su 20/21 21:14 - 3:37	Tu/We 30/ 1 0:52 - 3:41
We/Th 10/11 21:11 - 22:02	We/Th 1/ 2 1:28 - 3:42	

Weekend	Sun	Sun	Mercury		Venus		Mars		Jupiter		Saturn		
Sa/Su	Set	Rise	Rise	Vi	Rise	Vi	Rise	Vi	Rise	Vi	Set	Vi	Vi=Visibility
30/31	19:23	5:16	4:30	-	2:57	-3	3:08	3	0:15	-2	1:17	1	-3 brilliant
6/ 7	19:26	5:15	4:10	7	2:50	-3	2:56	2	23:48	-2	0:50	1	0 conspicuous
13/14	19:29	5:15	3:59	5	2:44	-3	2:43	2	23:21	-2	0:23	1	3 moderate
20/21	19:31	5:16	3:58	4	2:39	-3	2:31	2	22:53	-2	23:57	1	6 naked eye limit
27/28	19:32	5:18	4:10	5	2:35	-3	2:20	2	22:25	-3	23:30	1	9 binoculars limit

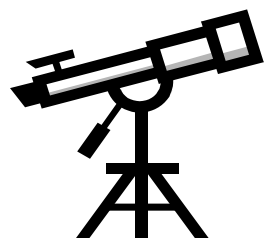
By Erich Karkoschka

### Desert Skies Classified

FOR SALE	Meade 2080 8 inch Schmidt Cassegrain with an installed declination motor and the original case (trunk). Excellent condition. \$800 OBO. Joe Grisillo, 2sonjoe@att.net [09/09]
FOR SALE	Winer Observatory has acquired through a donation from an estate hundreds of telescope parts and accessories. All items are for sale at clearance prices. Items include a complete 20-inch Newtonian telescope on a Software Bisque mount, several carbon fiber tube assemblies (some including optics, some empty), FLI CCD cameras, filter wheels, focusers, spiders, secondary mirror holders, large binoculars, instrument rotators, eyepieces, photo accessories, much more. Please see <a href="http://www.winer.org">http://www.winer.org</a> or call Mark Trueblood at 520-455-9263 for details. [09/09]
FOR RENT	The residence at the TIMPA site will be available for rent in April. The house is a 3 bedroom, 1 bath. The rent is \$450/mo. but will be discounted \$100 if the renter is willing to empty the trash cans for TIMPA. They may have additional credits for other duties at the site. Please contact TIMPA President Mike Cummins at 299-0593. e-mail michael@mcummins.com
FOR SALE	Celestron Ultima 11 with accessories. See <a href="http://sites.google.com/site/saleofatelescopenow/">http://sites.google.com/site/saleofatelescopenow/</a> for more information. [06/09]
SERVICE	Green laser pointer need repair or tune up? Contact Donald Arndt at (415) 215-2409 or donaldja@pacbell.net. Typical repairs cost \$25-50, including return shipping.

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 or e-mail the newsletter editor.

### Telescopes for Borrowing



Free service

Only for Members

Don't own a telescope?  
Our Loaner Program is your answer!

These telescopes are in the program

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)

Beginners, here's your chance to learn and observe the sky before buying any equipment. The Loaner Program is available to any current member after meeting requirements detailed in the TAAA Loan Policy. Contact the Equipment Loan Coordinator (see page 2) or any club officer for details about these telescopes.

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](mailto:sky@sa-ida.org)  
[www.sa-ida.org](http://www.sa-ida.org)

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

**TAAA Board of Directors Meeting - 13 May 2009**

**Attending:** Board members present (6): Ken Shaver (presiding), Terri Lappin, Luke Scott, Bill Lofquist, Teresa Bippert-Plymate, and John Kalas. Members Present (3): Claude Plymate, Liz Kalas, Bernard Bell.

The president called the meeting to order at 6:30 pm.

Minutes from the April Board meeting were approved subject to amendment to show that funds donated for telescope equipment for the Astronomy Complex are being deposited into the TAAA's investment account.

**Member Feedback**

Many members are looking for an e-mail reminder that the newsletter has been posted to the web site.

**Upcoming Meetings**

For the July main lecture, the PBS documentary "400 Years of the Telescope" will be shown.

The main and astronomy essential lectures are filled through September.

**Announcements for Record**

At the May general meeting, the following people were elected to serve as club officers for 1 year: Ken Shaver – President; Keith Schlottman – Vice President; Teresa Bippert-Plymate – Treasurer; Luke Scott – Secretary; George Barber – Member at Large; John Croft – Member at Large; John Kalas – Member at Large.

**Treasurer's Report**

Bills for TIMPA fees and Grand Canyon Star Party shirts were paid.

A check will be provided to Eridanus for the TAAA's portion of well drilling costs.

**Dark Site Development**

- John Kalas reviewed Phase 1 construction costs. All costs are firm except well construction, which depends on the well depth and casing. He also reported on a meeting with the general contractor (Randy Maddox) to review the restroom design. Some minor adjustments to the design are needed that may affect cost.
- A building permit request for Phase 1 has been submitted to Cochise County.
- The North Access Road leading from Price Ranch Road to the site has been officially renamed East Perseus Way.
- Bill Lofquist announced that a planning meeting for post-Phase 1 development will be held 16 May.

**Fundraising**

Bill Lofquist reported on the fund raising seminar held on 9 May. The president appointed Bill, John Croft, and Kathy and Paul Anderson to a fundraising committee. Additional members may also be appointed.

**ALCON**

- The Hilton East has been selected as the hotel for ALCON 2010, and a contract has been signed between ALCON, TAAA, and IDA.
- Members are encouraged to forward suggestions for ALCON speakers to Keith Schlottman.

**Outreach Special Interest Group**

Terri Lappin proposed creation of an Outreach SIG whose objective is to improve TAAA's public outreach efforts. As an example, Terri discussed training members to use Night Sky Network tool kits at star parties. The Board gave its support to creation of the SIG.

**Other**

- A motion was entered to release equipment purchased for the 30 inch telescope for use with the TIMPA observatory. The motion was approved unanimously.
- The secretary will assume responsibility for the [taaa-info@tucsonastronomy.org](mailto:taaa-info@tucsonastronomy.org) e-mail account.
- Terri Lappin will create a committee to organize IYA events. The board decided that some TIMPA star parties will be designated as IYA events.
- A Yahoo group called TAAAOfficers will be formed to facilitate communication between the board and members of TAAA committees.

Meeting adjourned at 9:55 pm.

Respectfully submitted,  
Luke Scott  
Secretary

## Constellation Report by Chris Lancaster

### Libra

The scales

Libra is unique among the constellations of the zodiac in that it is the only one that does not represent a living thing. Originally, the stars of Libra were included in the adjacent constellation of Scorpius, but the ancient Romans and Egyptians considered them to outline a separate object on their own. They saw them as a scale, or balance, since the sun was in Libra at the time of the autumnal equinox when the length of night and day were equal. We keep this identification with a scale today, but since then, precession of the Earth's axis has taken the location of the sun at the beginning of autumn to western Virgo. By the year 2440, the sun will be visiting Leo at this same time of the year.

•

You will see Libra in the space between Scorpius and Virgo where the ecliptic dips south. The constellation is on the meridian at 11pm at the start of the month of June, and 9pm around June 30th.

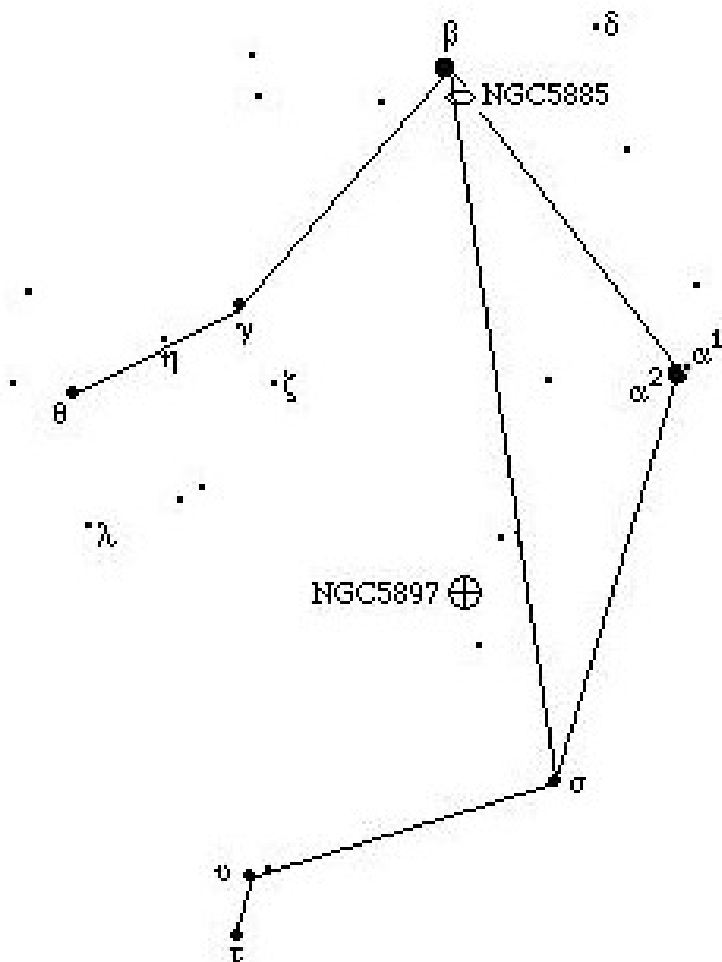
Libra's two brightest stars have the wonderful names of Zubenelgenubi, or "southern claw," and Zubeneshamali, or "northern claw." The translation from Arabic indicates this pair's former association with neighboring Scorpius. Zubenelgenubi, Alpha Librae, is an optical double star separated by a very wide 231", which makes it a suitable target for binoculars. The primary shines at magnitude 2.7, and its companion, 5.2. The spectral types are A3 and F5, respectively. The two stars show the same proper motion through space which implies that they are a true physical pair. If so, their optical separation as seen from 75 light-years away (as measured for the primary) makes for a true separation of about 4,800 AU (446.4 billion miles), or a speed of light trip of almost 4 weeks from one star to the other.

An Algol-type eclipsing binary star can be found in the form of Delta Librae. It has a period of just less than 2 days 8 hours and can be seen dimming from maximum to minimum in about 5.5 hours as the dimmer component, which is about 3 times brighter than the sun, passes in front of the brighter star, which shines with the light of 46 suns. There is a magnitude 6.5 star 19' to the northeast of Delta that you can use for comparison. Delta normally shines at magnitude 4.8, but dims to 5.9 while in eclipse.

The one deep sky object in Libra that most small to moderately sized telescopes can capture is the globular cluster NGC5897. Don't expect to see anything like an M13 or M15, however. This is a sparsely packed collection of stars spread out over an area of 12.6' and shining at magnitude 8.6. Its appearance is diminished by the 40,000 light-years that separate it from the observer, and by the fact that it is not too far from the thickest parts of the summer Milky Way, so we are required to peer through the

outskirts of our galaxy's obscuring dust clouds. At first, it may take you a moment to realize that you have actually found it. Its soft glow is barely apparent against the dark background, and at high magnification may look like a dense galactic cluster rather than a globular. NGC5897 can be found at RA 15h 17.4 m Dec -21d 01', or 1.7 degrees southeast of Iota Librae.

It's unfortunate that peering even deeper into space in this area doesn't get any easier. There are close to twenty galaxies in Libra on a detailed star chart, but they are all very dim and elusive. One of the more comparatively bright galaxies can be found very near Zubeneshamali, or Beta Librae. This is NGC5885, a faint spiral of magnitude 12 sitting 51' southwest of this star. Its coordinates are RA 15h 15.1', Dec -10d 5.2'. A dark sky and generous aperture are necessary to spy this distant galaxy. It shouldn't present anything more than a smudge with dimensions of 3.6'x 3.1', but there is some satisfaction in having found a galaxy in Libra.



## 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.

### City of Benson Rec. Dept. Star Party East

Friday, 6/12/2009 No. of Scopes: 4

City of Benson Rec. Dept. will be hosting Star "Spacetacular" for an estimated attendance of 100 people at 435 N Adams. I-10 East to Benson Exit 303 Left on N. Patagonia to W. Walker St. turn left. W. Walker St goes straight in to Lions Park. The soccer field is the first field on the right as you enter the park from W. Walker St. Viewing will be at 435 N. Adams Lions Park Soccer Field. It is the first field on the right as you enter the park from Flint St. Contact person Laura Laird can be reached at (520) 720-6044 or email [reneehey@gmail.com](mailto:reneehey@gmail.com). Alt. contact person Diana Faulkner can be reached at (520) 265-0156 or email [dfaulkner@cityofbenson.com](mailto:dfaulkner@cityofbenson.com). Set-Up Time: 8:00pm. Observing will be from 8:30 pm to 10:30 pm. Sunset: 7:35pm Dark Sky: 8:38pm Moon Phase: (no moon during viewing).

### Pima County Natural Resources Star Party West

Friday, 6/19/2009 No. of Scopes: 3

Pima County Natural Resources will be holding Star Gaz-ing for an estimated attendance of 35 people at 1548 S. Kinney Road. Take Speedway, which turns into Gates Pass Road. Continue on Gates Pass Road, until it dead ends at Kinney Rd. Go left on Kinney Rd, past Old Tucson, then take a right on Hal Gras Rd (keep an eye out for this turn - it's not well marked, but we'll have a sign up for the Star Party event). Follow the road about ¼ mile. We'll set up near the restrooms. Viewing will be near restrooms on left side of road. Contact person Sandy Reith can be reached at 520-615-7855 or email [Sandy.Reith@pima.gov](mailto:Sandy.Reith@pima.gov). Set-Up Time: 8:15pm. Observing will be from 8:45 pm to 10:45 pm. Sunset: 7:37pm Dark Sky: 8:40pm Moon Phase: (no moon during viewing).

## ASTRO-IMAGE By Rik Hill



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.