

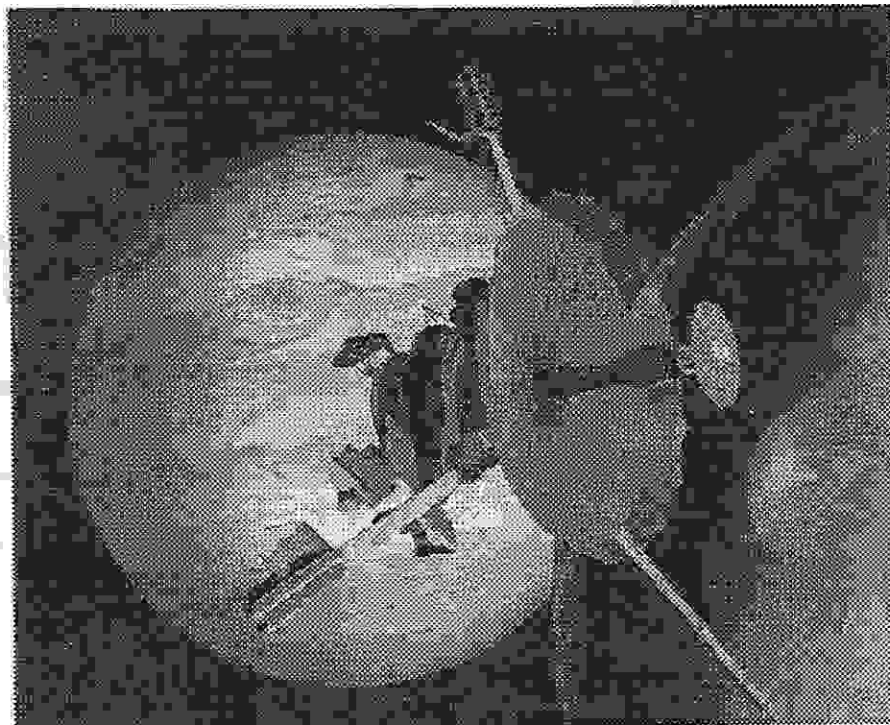
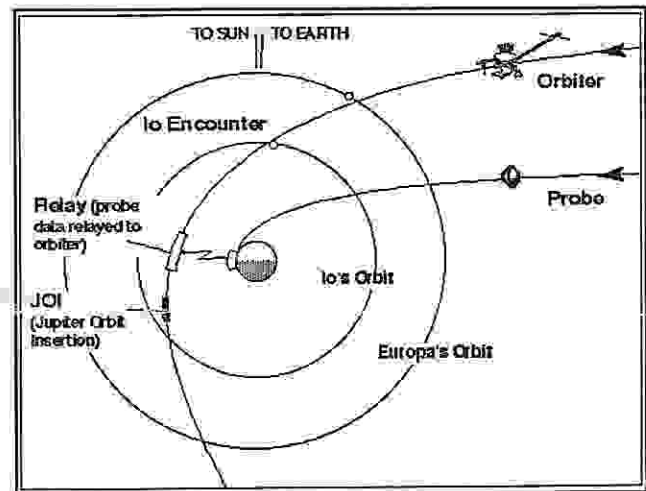
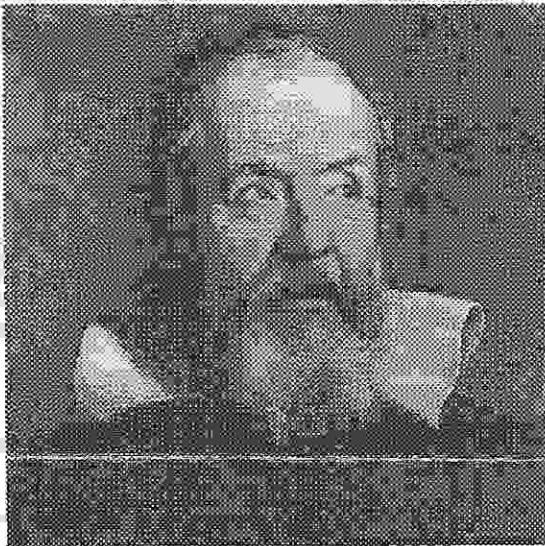
# *Desert Skies*

*Tucson Amateur Astronomy Association*

Volume XLII, Number 1

January, 1996

## *Galileo Arrives at Jupiter*



## Calendar of Events

**BEGINNERS LECTURE- Friday, January 5, 6:30 pm** at the Steward Observatory Auditorium - room N210. Topic is *Steward Observatory Astronomy Camp* by Don McCarthy. All are welcome!

**GENERAL MEETING - Friday, January 5, 7:30 pm** at the Steward Observatory Auditorium -room N210. Topic is *A Tour of Planetary Systems* by Didier Saumon.

**YOUNG ASTRONOMERS CLUB - Friday, January 5, 7:30 pm** at Steward Observatory room 202. Aimed at school-age kids and is concurrent with the general meeting.

**EXECUTIVE COMMITTEE MEETING - Tuesday, January 9, 7:30 pm** at Steward Observatory, Room N305. Latecomers can call 621-2607 and we can let you in.

### STAR PARTIES & EVENTS:

January 13 - Whipple Observatory

January 23 - Catalina Public Library

January 25 - Jewish Community Center

**Newsletter Schedule:** Deadline for articles: Monday, January 15. Printing: Monday, January 22. Folding Party: Tuesday, January 23. Mailing: Wednesday, January 24. The newsletter is scheduled to be in the mail at least one week prior to the following month's General Meeting.

**Cover:** The Galileo spacecraft entered orbit around Jupiter December 7, 1995. The atmospheric probe transmitted data for at least 57 minutes, or to an approximate depth of 100 miles below the visible cloud tops. The first transmission of data from the probe was received December 9-14. More data will be obtained when Galileo clears the Sun in February.

**TAAA Home Page:** <http://www.primenet.com/~jwilson/taaa/taaa.html>

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Star Parties	Karen Allen	749-5744	

### Membership in the TAAA

Individual \$25.00/year  
Family \$30.00/year  
Senior Citizen (over 60) \$23.00/year

Sky & Telescope subscription (optional) \$24.00. Rates for membership in the TAAA are given above. Members may subscribe to Sky & Telescope at the time membership renewal, saving more than 25% off the cost of a regular subscription. The subscription term must match your membership period.

Send one check, made payable to: Tucson Amateur Astronomy Association, to cover both membership and subscription to:

TAAA  
PO Box 41254  
Tucson, AZ 85717

### Send Address Changes to:

TAAA  
Attention: "ADDRESS CHANGE"  
P.O. Box 41254  
Tucson, AZ 85717

### 4 Easy Steps to Membership Renewal

1. Pay your dues 2-3 months early. Your month of membership expiration is listed on your newsletter mailing label.

2. If you want Sky & Telescope:

- add \$24 to your membership rate.
- Include Sky & Telescope's renewal notice, if possible.

3. Write one check, payable to TAAA.

4. Send it to: TAAA  
P.O. Box 41254  
Tucson, AZ 85717

Call the Treasurer if you have any problems.

### Desert Skies Publishing Guidelines

All articles, announcements, news, etc. must be submitted by the newsletter deadline listed above. Materials received after that date will appear in the next issue. All submissions are retained by the editor unless prior arrangements are made. Partial page article submissions should be submitted on Wordperfect compatible files on a floppy. Full page articles, artwork, and photos should be camera ready. We will not publish slanderous or libelous material. Send articles, announcements, etc. to:

TAAA - Desert Skies  
PO Box 91316  
Tucson, AZ 85752-1316

OR email: [74750.247@compuserve.com](mailto:74750.247@compuserve.com)

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PO Box 41254, Tucson, Arizona 85717

## President's Message

There's some activity in our search for land. To remind you, we have been looking into the possibility of purchasing state land. This involves several things such as a bidding procedure, etc. If you want to know the details, contact John Zajac. We have only considered land southwest of Tucson due to the amount of construction to the southeast. We have placed a limit of one hours drive from the UofA area.

John Zajac, who has poured over topographic and power line maps, has located a piece of state land that looks more promising, in my opinion, than any others we have looked at. This land is bisected by a county maintained dirt road. This alone means we could save a lot of money just on the maintenance costs. Being a maintained road means it should be in good shape most of the time. The day we visited the site the road had just been graded so even though it was over three miles long, it was a beautiful dirt road and at 40mph it was a pleasant drive. The county is paving all county roads over the next ten years, so this road eventually will be paved. In addition to the road, there is a power line which crosses the land. There are actually two 40 acre parcels and John is looking into details about the power line and will have more information at the January executive meeting. There are several wells in the area, so the potential for water exists. With all these good points, there's bound to be a bad point or

two! The disadvantage is the proximity to the Baboquivari mountains. There is also a ranch almost a mile away. Over the next few months we hope to do some observing from the site and determine whether or not the seeing is seriously affected by the mountains. We will be discussing a scouting trip for observing from the site at the January executive meeting.

Please remember to pick up a package of photos for fundraising if you haven't already done so. If you have a package, I hope you're raising some funds for us! We have a telescope to build! At the January executive meeting, John Kalas should have a first report about how the photo fund-raiser is going.

One last note...there's been a rash of burglaries at Steward Observatory and we have been asked to keep the doors locked during our meetings. The lobby doors will be locked at all times, so it is recommended that you use the north sidewalk from 2nd Street between the Education building and Student Rehab Center to get to the lecture hall. We'll try arranging someone to man the doors to let you in, but no promises.

Clear Skies!  
Terri

## Meeting News

### Beginner's Lecture: Steward Observatory Astronomy Camp

Don McCarthy has been running the Steward Observatory Astronomy Camp for the last several years. There are camps for both youth and adults and includes some heavy duty observing at some of the UofA facility telescopes. Some TAAA members have already attended the camp and have enjoyed it tremendously. Don McCarthy is a well respected astronomer at Steward Observatory and has spoken to us on several occasions about his research activities, but never about the astronomy camp. Here's your chance to find out what it's all about. \*

### January's Speaker: Didier Saumon

#### *A TOUR OF PLANETARY SYSTEMS*

Didier Saumon is a senior research associate at the Lunar and Planetary Laboratory of the University of Arizona. He came to Tucson six years ago and has been involved in theoretical research on very-low-mass stars, brown dwarfs, Jupiter and Saturn. A long time interest is the study of the properties of hydrogen and helium under the extreme conditions of pressure and temperature found in these relatively cold and dense celestial creatures. Lately, he has aimed the sights of his computer on hypothetical "super planets" orbiting

nearby stars with the purpose of providing theoretical guidelines for the various search projects currently under development.

His presentation will be a traveler's guide to the four planetary systems presently known. Planets have been found around two pulsars, something that was once very hard to imagine. Three months ago, a planet orbiting the star 51 Pegasi was discovered, with a mass roughly equal to that of Jupiter and orbiting only 0.05 AU from its star! Astronomers are still trying to figure this one out. Finally, there is our own solar system, with its family of nine planets. Most people believe that ours is a generic planetary system, a thought deeply rooted in the Copernican revolution. It may be that "home" is a special place after all. He will discuss each system in detail in the context of planet formation theories. Several methods for planet searches around nearby stars will also be described.

Didier learned the constellations at age 11, to the dismay of his parents who saw him set his alarm for the wee hours of the morning so he could learn a little faster than the seasons would allow. He has been a visual observer ever since. In his free time, he can be seen as a dark silhouette at Empire Ranch or as a streak riding his bicycle along beautiful desert roads. \*

## Club News

### Member's Night

#### February 2 TAAA Meeting

That's right! The February meeting will be a Member's Night. Past member's nights have been some of the more interesting meetings. We've heard from lots of our members about current observing programs or current 'I built it myself' projects. You have over a month to prepare a 15 minute presentation, so if you've been holding out on us, its time to show us what you're working on. There will be a sign up sheet at the January meeting, but we can take speakers through the February meeting. \*

### Librarian Needed

Dean Ketelsen has put in quite an effort in getting our library underway and it is now time to find a librarian. This person would be available to loan and take in books and contact people when a book has been out too long. The library (located in room 208 at Steward) will be available to members during the refreshments break and only when/if the librarian is present. This means we want someone who generally attends the meetings. It is possible that we may have access to a computer if the librarian wants to computerize the check out procedure. If someone wanted to set up a manual system with 3X5 cards, that would be okay. Please talk to any executive officer if you're interested in this position. \*

### Science Fair Judges

The Southern Arizona Science Fair will be held in March this year. If we are to present any awards we need at least two members willing to spend the morning of Tuesday, March 12th judging the science projects. We select projects related to astronomy and optics and while we look for scientific procedures, we don't require our judges to be experts or have any experience in education or scientific research. Any member can participate in the judging process. The awards are presented on the evenings of Thursday and Friday, March 14th and 15th. Please contact Terri (579-0185) as soon as possible if you are willing to participate in the judging activities or award presentations so we can let the organizers know we will be participating. \*

### Observatory Showcase

At the November meeting I mentioned an idea that came to me while reading some old TAAA papers. Many years ago a member wrote to suggest a meeting devoted to backyard observatories. I thought about the number of member's excellent observatories I have seen over the years and thought this would be a GREAT idea. I am proposing what I call the Observatory Showcase. Each month an observatory would be talked about in the second half of the regular meeting. Slides or a video would be shown, similar to what John Wagner showed us a few months ago. The following

day, at a convenient time for the owner, there would be a few hours set aside for an open house allowing other members a chance to get a close look (in 3-d) at the problems encountered and how these problems were overcome.

At the November meeting those in the audience seemed to think this was a good idea. I'll have a sign up sheet at the next few meetings to get an idea of how many people are interested in showing off their backyard observatories. 'Backyard observatories' is a loose term and could include an observatory well away from your backyard, or any observing platform you've built for observing. If you have comments to make, please talk to me. \*

### Wishing Upon A Star! (the TAAA wish list)

The following items are being sought by the TAAA. If you can make donations of these items or cash donations for the purchase of them, please talk to Gary Rosenbaum.

Filing cabinet for letter sized folders. At least two drawers, suitable for hanging file folders. No locks necessary.

Astronomy books for our library.

Photographs for our photo library. Astronomical photos (slides preferred). These are to be used by our members for lectures they present. Club event photos (with dates) for our scrap book. \*

### PAS Home Page

The editors received notice that the Phoenix Astronomical Society (PAS) has a new Web page. Check out:

<http://www.primenet.com/~ranger/pas/pastime.htm> for meetings, star parties, and other fun events. Terri Renner is the PASTimes Editor. \*

### Request for Help

We received the following request at the end of November:

"Hello. My name is Zoe Treuer. I am fifteen and in tenth grade. I am looking for people to correspond with in order to obtain CCD images and/or home-made light curves of eclipsing binary star systems for my science project. The idea of this project is to try to make theoretical mathematical models of different systems with different components. I created an equation that averaged out the area and brightness of an entire system at certain points in its cycle. This equation was applied to seventeen different points in a complete cycle, and graphed. I have done thirty images of RW Tauri, myself, and created my own light curve from this data. I compared the afore-mentioned theoretical graphs to published light curves. My charts proved to be accurate. Again, if anyone out there has



any CCD images of any eclipsing binary star systems, I would like to exchange data with you (I will be doing more imaging of eclipsing variables this fall, which I would be happy to share). Thank you. My Internet address is: derekt@shadow.net." \*

## LBT Update

By URI FLEMING

The Mt. Graham issue is once more before Congress. As you may know, congressman Kolbe has introduced a rider clarifying the intent of the 1988 enabling legislation and allow the LBT to be built on the site identified by the U.S. Forest Service to be better for the environment as well as for astronomy.

Astronomers around the world, both professional and amateur understand the significance of this project to the field of Astronomy, as well its importance to other related sciences. Further, this project is going to have a profound impact on Tucson's economy. The Optics industry, which often involves technology derived from astronomical optical research, is the third fastest growing industry in Arizona. Business Week has called Tucson 'Optics Valley' because of this growth. Jobs in the Optics industry often pay more than double the average Tucson wage. The fact that this growth exists at the same place the University of Arizona, Steward Observatory and the Mirror Lab are situated is not a coincidence. Thus, it is critical that the cutting edge research conducted at the University be allowed to continued, including the work on the Large Binocular Telescope. If the LBT is defeated by the small extremist opposition, not only will Astronomy suffer, but so will Tucson's economy.

Currently, the opposition is mounting a "call-in campaign" to stall the legislation that will clear up this mess. It is vital that those who support the project counteract these attempts. The following are the telephone numbers, fax numbers and some e-mails of members of congress who play a critical role in assuring that the legislation passes. Please contact them today, as time is running out, and this legislation may be voted upon any day now. Also, pass this information along to your friends and colleagues so they may also contact congress.

The following are some suggested points to make in your messages:

- ▶ You support the LBT project and the Mt. Graham Observatory. Both are very important to science.
- ▶ Urge them to fight for completion of the Large Binocular Telescope Project.
- ▶ The new site will have less environmental impact on the endangered red squirrel.
- ▶ The alleged Native American issues are the work of a small group of vocal activists and are not the views of the majority of San Carlos Apache tribal members.

- ▶ The LBT has an overwhelming amount of public support.

Senator John McCain (Arizona)  
Washington D.C.:

Phone 202-224-2235

Fax 202-228-2862

Tucson:

Phone 520-670-6334

Fax 520-670-6637

senator\_mccain@mccain.senate.gov

Senator Slade Gorton (Washington)  
Washington D.C.:

Phone 202-224-3441

Fax 202-224-9393

senator\_gorton@gorton.senate.gov

Congressman Sid Yates (Chicago)  
Washington D.C.:

Phone 202-225-2111

Fax 202-225-3493

Congressman Ralph Regula (Columbus, Ohio)  
Washington D.C.:

Phone 202-225-3876

Fax 202-225-3059

This controversy is almost over, however, supporters need to voice their opinion clearly and loudly to Congress now more than ever. We need to make it clear that this project should be allowed to be completed, and that Tucson's economy, The University of Arizona and the field of Astronomy will benefit. \*

## Astro Tourism Adventure in Arizona

ANTARES (Arizona Nights: Telescope Adventures, Recreational, Educational, Services) provides telescopes for observing in the dark skies of the Chiricahua Mountains. With six portable telescopes, of 6" - 25" aperture, Arizona Nights offers a variety of opportunities for amateur astronomers and visitors to Cochise County.

TAAA members might relish the possibility of an uninterrupted "all-nighter" with the 25" Dobsonian at a very dark site at 5000' - 6800'.

Educational programs and public star parties are also offered, along with natural history tours of the Chiricahuas. ANTARES is active in light pollution issues, suggesting appropriate night lighting, while promoting dark skies as an amenity.

Call or write for details on our services and fee schedules. ANTARES via don Higgins, a TAAA member, offers discounts to TAAA members during early 1996.

ANTARES, Box 6210 DCR, Willcox, Arizona 85643.  
Phone 1-520-824-3270.

## Special Interest Groups

### Computers and Electronics In Astronomy Subgroup

By ROGER TANNER

The tenth meeting of the subgroup was held at my house on the southeast side of town. The meeting demonstrated several pieces of astronomical shareware or freeware. There were 9 members present.

The meeting started with Rik Hill doing a demonstration of CSHOW, a DOS shareware image file viewer. This software is meant to allow you to quickly look at images and see what they look like. The software is not an image manipulation or processing program just a viewer. The software will read several common types of image file formats, like TIFF, GIF, JPEG, BMP and PCX. These are common formats for non-astronomical programs and many astronomical programs will save processed images in these formats. Rik demonstrated how to set up the program and showed several images, some larger than the screen resolution. The program offers to either scale the image to fit the screen or allows you to pan around it. One unusual file format it handles well is JPEG, which is a complex highly compressed format. The decompression took a few seconds for the images Rik was showing. For a typical PCX or TIFF file, the image was up in less than a second. The program shows a list of all of the files in the current directory and you just pick one to view by clicking on it with a mouse. The program will also display the color depth, the size of the image in pixels, and any attached comment files. This viewer looks to be very handy for quick viewing of images files you run into. The program just requires a VGA display, if you have a video card the program supports, you can see images in Super VGA modes for more resolution and colors. The registration fee is \$32.

The second demonstration was Ron Ferdie showing a program he is very familiar with, SkyGlobe. This is another DOS shareware program. This program displays the night sky with stars, the brighter deep sky objects, planets, and the Milky Way. The program shows the sky on a spherical projection, as if you were looking over head. you can quickly zoom in and see a particular part of the sky in more detail. The program will show the sky for any date in the past or the future. The program can show constellation lines, star names, deep sky names, planets names. Most of the features can be very quickly accessed with the mouse or keyboard shortcuts. Ron was showing how he uses the program to look at configurations of objects in the sky for ancient times to check descriptions from the ancient literature. This program is limited to just the brighter stars magnitude — about magnitude 6. The

thing that is fun about this program is the quickness with which you can move around and zoom in on an area of the sky. Objects can be turned on or off just as quickly. The shareware fee is \$20. This is a great program for the casual sky observer, especially for those using binoculars or just their eyes.

The last program demonstrated was The Home Planet, which is a large Windows freeware program, (large is sort of redundant, aren't all Windows programs large?). While both CSHOW and SkyGlobe can fit on a single floppy with room to spare, The Home Planet takes up 6 floppies compressed. This program does a lot of things, including sky charts like SkyGlobe but with more detail, views of the planet from space or an orbiting spacecraft, a view of the earth with the night shadow shown on it. The shadow and the sky maps update in real time. You can see the spacecraft moving in its orbit in real time. The program will show images of objects when you click on them in the star map. The program includes the SAO star catalog, down to about 9.5 magnitude. However, when the SAO stars are turned on, the program takes a long time to bring up a star map. Other than that the program seemed fairly responsive for its size. The program is not the best at any one thing, but includes many things in one program. And of course the price is right, free. One nice feature is, the stars can be colored by spectral type. Another nice feature is that the images of the objects are stored in the standard Windows BMP file format and you can add your own images to the file and they will be called up when you click on the object. The help files are very good and explain things in more than average detail.

The next meeting is at James McGaha's house in Sabino Canyon. The meeting will be on January 7, a Sunday, at 7:00. He will present a comparison of three star chart programs that use the Hubble Guide Star catalog, The Sky, MegaStar, Project Pluto, and CSat, a satellite tracking program. He may even have in time for the meeting the 32 bit version of The Sky, and the new version of MegaStar, both with many improvements. Project Pluto is a new program written by a programmer in Massachusetts. Both Project Pluto and Deep Space 3D are DOS programs while The Sky and MegaStar are Windows programs. Later we may have time to look at his observatory in his backyard. See James at the general meeting on the 5th for maps to his place.

Contact Roger Tanner at 574-3876 or email:  
rtanner@gas.uug.arizona.edu.

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12/17/95

## TAAA Membership List

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Applegate	Richard & Cheryl	886-1801	9342 E Bellevue	Tucson	AZ	85715
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Balius	Alvin & Brenda	578-1887	PO Box 11887	Tucson	AZ	85734-1887
Ballesteros	Marto & Jill		2600 W Ironwood Hill Dr #9241	Tucson	AZ	85745-4002
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Barentine	John C	624-7789	415 E University Apt 118	Tucson	AZ	85705
Belden	Richard P	825-1641	14541 N Rock Springs Ln	Tucson	AZ	85737
Bergman	Ray E	296-3935	9950 E Sandshell Court	Tucson	AZ	85748
Berlind	Perry		1143 N Richey Blvd	Tucson	AZ	85716
Bigelow	William A	751-8389	245 S Kolb Rd No A	Tucson	AZ	85710
Bird	John R	792-1402	1214 N 6th Av	Tucson	AZ	85705
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Canizo	Thea		8875 E McClellan St	Tucson	AZ	85710-4418
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Carter	Lisa	887-4506	2561 W Whisbrook	Tucson	AZ	85741
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## TAAA Membership List

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Cota	Bill	529-0298	8030 E. Lakeside Pkwy #5101	Tucson	AZ	85730
Crawford	David	327-9331	3545 N. Stewart	Tucson	AZ	85716
Crawford	Robert	544-3720	10700 N La Reserve Dr #1201	Tucson	AZ	85737
Crocker	K. Robert	(503)524-7547	11765 SW Wilkens Lane	Beaverton	OR	97068
Crump	Dick	750-9287	5457 East Holmes	Tucson	AZ	85711
Cutler	Daniel G	297-8805	13475 N Lindbergh Dr	Tucson	AZ	85742
Danowski	Kristine	326-2903	PO Box 64754	Tucson	AZ	85728-4754
DeWarf	Ronald A & Martha	327-3000	2107 North Catalina Ave	Tucson	AZ	85712
Dickson	Paul W.	841-7044	7714 N. 36th Ave	Phoenix	AZ	85051
Dietrich	Donald & Mary	885-5851	8989 E. Escalante #104	Tucson	AZ	85730
Dodd	Charles G	825-2482	14292 N Trade Winds Way	Tucson	AZ	85737
Dunlap	Dennis & Laurel	443-0252	PO Box 5135	Scottsdale	AZ	85261-5135
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Edmonds	Russell J	297-9492	699 W Hagee Rd #15204	Tucson	AZ	85704
Elowitz	Mark		1089 E Oak St	Globe	AZ	85501
Esquerdo	Gli		2235 N Seville #623	Tucson	AZ	85715
Farnam	Philip C.	299-5484	5825 N. Misty Ridge Dr.	Tucson	AZ	85718
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Finerty	Michael		626 N. Dodge Blvd #18	Tucson	AZ	85716
Flanagan Jr	TSgt John	296-1643	DET2670SSQ Davis MonthandP3212	Tucson	AZ	85730
Ford	John		9822 Keyser Point Rd	Ocean City	MD	21842
Frey	Jin	(809)693-9007	PO Box 37, Cruz Bay	St. John, US V		00831
Friedman	Gilbert & Doris	571-1662	1318 Avenida Polar #F107	Tucson	AZ	85710
Fultz	Ellen	445-8818	2811 Ithica	Prescott	AZ	86301
Furlong	Steve	795-9153	2839 E 9th St	Tucson	AZ	85716
Gardner	Gary		14855 W. Belmont Dr.	Casa Grande	AZ	85222
Garnett	Robin	623-5151	315 N Cherry Ave	Tucson	AZ	85719-5540
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Garrett	William E	746-9462	1841 W Oak Ridge Court	Tucson	AZ	85746
Giffin MD	Charles	797-9370	6445 N Calle Lottie	Tucson	AZ	85718
Gilinsky	David	743-8847	3301 W Goret Rd	Tucson	AZ	85745
Gill	Timothy E.		10201 E. Skycastle Way	Tucson	AZ	85730



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Last Name	First Name	Phone	Address 1	City	St	Zip
Gilmartin	Terrence	579-9048	6648 N Silverbell	Tucson	AZ	85743-9757
Classer	Joy	296-5658	8602 E Rancho Circle	Tucson	AZ	85715
Goff	Bob	790-1452	AXE	Tucson	AZ	85733
Goldman	Chuck	577-6758	6355 E Placita Divina	Tucson	AZ	85750
Grajewski	Julian		1615 E Hampton St	Tucson	AZ	85719
Guerrero	Robert	296-6208	3261 N. Placita Brazos	Tucson	AZ	85750
Hagin	Gerald D	742-1433	2050 W Paseo Monserrat	Tucson	AZ	85704
Hall	Gary & Gretchen		6722 N. Cocopas	Tucson	AZ	85718
Hamlin	Loren & Marjorie	297-4691	902 W Comobabi Dr	Tucson	AZ	85704
Hancock	Molly	622-5471	1001 W St Mary's Rd #216	Tucson	AZ	85745-2468
Hardaway	Dr. E. Joan		10401 E. Plumeria Rd.	Tucson	AZ	85749
Harris	Brian	577-1173	4924 N Boyd Ln	Tucson	AZ	85750
Harris	Robert M.		49 S Sunrise Lane	Elgin	AZ	85611
Harvey	David	797-2512	1552 W. Chapala	Tucson	AZ	85704
Hawkins	Richard & Eleanor	623-6194	2366 W Drachman St	Tucson	AZ	85745
Head	Carla & Kendall	579-3741	7910 N Quail Ridge Dr	Tucson	AZ	85743-6004
Head	Roy	825-3862	14508 N. Lone Wolf Ln.	Tucson	AZ	85737
Healy	F Dale	623-0534	5815 E Edison St	Tucson	AZ	85712
Hebert	Robert J	459-3082	1600 Elmwood Lane	Sierra Vista	AZ	85635
Henning	Scott	326-7039	4411 E. Holmes St.	Tucson	AZ	85711
Hernandez	Daniel	889-4397	927 E Holladay Dr	Tucson	AZ	85706
Hester	Charlie & Teresa		107 Mills Circle	Fort Huachuca	AZ	85613
Higgins	Don	824-3270	Box 6210 DCR	Willcox	AZ	85643
Hill	Richard & Dolores	721-0123	10130 E. King Manor Dr.	Tucson	AZ	85730
Hoag	Art	795-8644	4410 E. 14th	Tucson	AZ	85711
Holsey	William & Joyce	297-3991	6501 N Camino Arturo	Tucson	AZ	85718
Houpt	Rebecca		3010 W Sky Ranch Trail	Tucson	AZ	85742
Hudson	Jim & Lynne	292-9035	5655 N Genenatas	Tucson	AZ	85704
Hunter	Tim	299-2972	4571 E Avenida Shelly	Tucson	AZ	85718
Iaci	Jack	290-0865	9462 E Calle Cascada	Tucson	AZ	85715-5821
Irons	Lee and Ted		PO Box 1446	Nogales	AZ	85628
Itokazu	Wayne	(808) 737-5557	910 Kapahulu #107	Honolulu	HI	96816
Jacobson	Robert N	(307) 655-9020	PO Box 249	Rauchester	WY	82839
Johnson	Arthur	744-7292	7771 N Wade Springs Dr	Tucson	AZ	85743-6004
Johnson	Kathryn	825-3052	Rt 50	Tucson	AZ	85739

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Last Name	First Name	Phone	Address 1	City	St	Zip
Jondrow	Jim & Marjean P.	(608)233-8165	101 Greenlake Pass	Madison	WI	53705 4754
Jordan	James D		4102 E Kings Rd	Tucson	AZ	85711-2828
Kalas	John & Elizabeth	620-6502	3470 W Red Bird Court	Tucson	AZ	85745
Kangieser	Paul C	575-4060	5651 N Paseo Miguel	Tucson	AZ	85718
Karkoschka	Erich	621-3994	University of Arizona	Tucson	AZ	85721
Kessel	James	883-2524	2926 W Nebraska	Tucson	AZ	85746
Ketelsen	Dean & Vicki	293-2855	1122 E. Greenlee Place	Tucson	AZ	85719
King	Ange B.	896-2054	P.O. Box 840	Oracle	AZ	85623
Kish	Robert	573-7335	2641 W Vereda Arboles	Tucson	AZ	85746-8006
Kline	George W.	(602)682-5131	15950 W El Tiro Road	Marana	AZ	85653
Klugmann	Joachim		Mozart STR 4	ENGER, Germany		
Knauss	Daniel	529-2387	5808 N. Moccasin Trail	Tucson	AZ	85750-0801
Kohut	Richard		2602 N Wilson	Tucson	AZ	85719
Kristmann	Steve	795-9332	3444 E 4th St	Tucson	AZ	85716
Kuehn	Tom & Mary Beth		6830 E Via Colorada	Tucson	AZ	85750
Kunn	Keith	577-2643	P.O. Box 43474	Tucson	AZ	85733
Lancaster	Chris T		4301 E 29th St #230	Tucson	AZ	85711
Landon	Thomas	886-3643	2160 N. Pantano Rd. #107	Tucson	AZ	85715
Lane	Ted C	529-6888	4740 E Sunrise Dr Apt 392	Tucson	AZ	85718
Laner	Howard & Lillian	747-0971	6199 E Broadway #326	Tucson	AZ	85711
Lappin	Teresa	579-0185	P.O. Box 40363	Tucson	AZ	85717
Lawler	Richard & Hazel	466-6408	PO Box 8	Arizona City	AZ	85223
Lehman	Nina M	579-1382	3641 W Shalako Place	Tucson	AZ	85742
Leonard	T Michael	323-0735	3819 E Bellevue	Tucson	AZ	85716
Levy	David H	762-5638	120 William Carey St	Tucson	AZ	85747
Liese	Lawrence		3725 Ironwood Hill Dr.	Tucson	AZ	85745
Lindahl	James & Kay	825-2192	14735 Wonderview Dr	Tucson	AZ	85737
Lopez	Mason	326-9419	2614 N La Verne	Tucson	AZ	85712
Lorenz	Paul	574-1719	4444 E Benson Hwy #289	Tucson	AZ	85706
Lownan	Rip & Arlene	749-9604	3980 N. Via del Sol	Tucson	AZ	85749-9259
MacIlroy	Bruce M		6650 N Columbus Blvd	Tucson	AZ	85718 2508
Magnuson	Russ & Katie	795-0166	2229 E Third Street	Tucson	AZ	85719
Maley	George E	742-7583	6037 N Reliance Dr	Tucson	AZ	85704-5325
Marinello	Micky	746-0541	5000 S Country Club #4102	Tucson	AZ	85706
Marsh	Phillip C	742-2997	325 E Morning Sun Court	Tucson	AZ	85704

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Last Name	First Name	Phone	Address 1	City	St	Zip
Martin	Robert C.		1671 N. Nancy Rose Ave.	Tucson	AZ	85712
Martinez	Paul & Cynthia	770-9445	17 N Bonita Ave	Tucson	AZ	85745
Maye	A. Colby	323-2212	2885 Sierra Vista Road	Tucson	AZ	85716
McDaniel	Bud & Janel	394-2372	PO Box 563	Sonoita	AZ	85637
McDaniel	Robert E	625-5724	822 Hermosa Place	Green Valley	AZ	85614
McGaha	James E.		5100 N. Sabino Foothills Dr.	Tucson	AZ	85750
Means	Dennis	322-3395	HC 04 Box 7520	Tucson	AZ	85735
Wechler	Gary	298-0456	6930 E. Arrowhead Place	Tucson	AZ	85715
Merens	Bernard H.	394-2739	P.O. Box 925	Patagonia	AZ	85624
Meriwether	Douglas	296-4457	6110 E. San Marino St.	Tucson	AZ	85715
Meyer	Andrew & Laura	742-4549	1440 W. San Annetta	Tucson	AZ	85704
Michaud	David	325-9860	4559 E Malvern St	Tucson	AZ	85711
Mitton	John H	806-1856	231 Rincon West	Tucson	AZ	85746
Moore	Jay	722-8453	6674 E Calle Alegria Apt D	Tucson	AZ	85715
Mulder	John & Audrey	298-7541	6001 E Pina St #86	Tucson	AZ	85712
Munne	Robert	792-3886	4352 E. Bryn Mawr Rd.	Tucson	AZ	85711
Nakamura	Michael		1961 E Greenleaf Dr	West Covina	CA	91792
Nault	Ben	326-7059	3141 N Laurel Ave	Tucson	AZ	85712-1177
Nelson	Douglas		Box 156	Wabasso	MI	56293
Nelson	Jessica L	886-2158	8225 E Speedway #714	Tucson	AZ	85710
Niehaus	Duane & Sharon	797-4189	9861 N Windwalker Trail	Tucson	AZ	85742
Nishimoto	Glenn	321-4737	3071 N. Sparkman Blvd.	Tucson	AZ	85716
Nyberg	Rob	745-0710	5969 E. Rosewood	Tucson	AZ	85711
Nye	Derald	762-5504	10385 E. Observatory Dr.	Tucson	AZ	85747
O'Hara	Thomas		3220-4 E Presidio	Tucson	AZ	85716
Oliver	Dennis		4700 N Kolb Apt 10204	Tucson	AZ	85750
Oliver	Jim & Karen	885-7040	2922 S. Harrison	Tucson	AZ	85730
Olson	Robert E.	577-1050	4641 N. Camino Campero	Tucson	AZ	85750-6321
Ori	Michael	751-1534	8030 E Lakeside Pkwy #11302	Tucson	AZ	85730
Patten	Jeffrey L	886-0212	8231 E Ravka Ct	Tucson	AZ	85715
Patton MD	Dennis D	299-0321	6502 N Pontatoc	Tucson	AZ	85718-1620
Pemberton Sr	Donald	293-3503	HC 3 Box 800-25	Tucson	AZ	85739-8624
Perper	Lloyd	743-3162	6700 W El Camino del Cerro	Tucson	AZ	85745
Perrone	Louis	825-1089	1649 E Broken Bow Way	Tucson	AZ	85737
Peterson	Steven W	326-5303	3102 E 26th St	Tucson	AZ	85713-2207

Last Name	First Name	Phone	Address 1	City	St	Zip
Pierce	DeJoy	451-8215	51S 150E	Farmington	UT	84025
Polacheck	John W & Faye Lib	544-8152	PO Box 299	Cortaro	AZ	85652
Poneroy	J.A.	825-9363	14654 N. Spanish Garden Lane	Tucson	AZ	85737
Price	Ronald S.		342 Kingsbridge Drive	Garland	TX	75040-0903
Pryor	Kenneth C & Chery	790-2520	4020 S Snapdragon	Tucson	AZ	85730
Puyear	Kevin	883-1934	7425 W Illinois	Tucson	AZ	85735
Quiroz	Randy	629-0678	2410 W 44th St	Tucson	AZ	85713
Rainville	C.J.	749-5092	10531 E. Oakwood Dr.	Tucson	AZ	85749
Reynolds	David & Stephanie	579-7337	4968 W Didion Dr	Tucson	AZ	85741
Ribaudó	Peter	294-3434	6134 E Euclid	Tucson	AZ	85706
Riggenbach	Jorga	749-2710	3531 N. Via San Jacinto	Tucson	AZ	85749
Ringwald	Fred	622-6300	620 N 6th Ave	Tucson	AZ	85705-8331
Robertson	Harold	825-2303	14310 N Choctaw Dr	Tucson	AZ	85737
Robinson	R Steve	(818)967-7186	2501 E Evergreen Ave	West Covina	CA	91791
Rosenbaum	Gary	579-0185	4131 W. Orangewood Dr.	Tucson	AZ	85741
Rostash	Rudolph & Carole	749-9175	2720 N Conestoga Ave	Tucson	AZ	85749
Roth	Herbert	575-1302	8419 N. Calle Tioqa	Tucson	AZ	85704
Saber	Ingrid	797-3834	6322 N Barcelona Lane #517	Tucson	AZ	85704
Salzman	Joseph	296-4023	6609 E. Crimson Sage Dr.	Tucson	AZ	85750-9998
Sanay	Ray		6394 E Cyclone Dr	Tucson	AZ	85730-1600
Sandoval	Salvador	623-2272	1732 W Linden St	Tucson	AZ	85745
Saunon	Didier	326-7547	University of Arizona	Tucson	AZ	85721
Schenz	Richard F	825-2573	1837 E Lone Rider Way	Tucson	AZ	85737
Schnall	William A	794-4476	2100 N Hayden Dr	Tucson	AZ	85715
Schneiker	Conrad	324-0673	PO Box 41537	Tucson	AZ	85717
Schultz	Rudy	297-5857	1200 E. Silvertree Dr.	Tucson	AZ	85718
Schulze	Richard	721-0694	1620 S Cathay Pl	Tucson	AZ	85748
Scott	Janna	298-6766	10156 E Arizmo St	Tucson	AZ	85748-1818
Seanan	Robin		5641 S Liberty Ave	Tucson	AZ	85706
Sebastian	David	886-8292	1701 N Wilnot No 150-G	Tucson	AZ	85712
Serkowski	Krystyna	529-7029	5210 N Grey Mountain Trail	Tucson	AZ	85750
Shankles	Brad	529-0842	7782 E Entrada De Ventana	Tucson	AZ	85715
Shapiro	Del & Claire	297-6695	6617 N Shadow Run Dr	Tucson	AZ	85704
Shoenaker	Cynthia	327-9740	2906 E Monte Vista	Tucson	AZ	85716
Skinner	Byron R.		14495 Anilaur Dr.	Tucson	AZ	85747



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Last Name	First Name	Phone	Address 1	City	St	Zip
Smith	Michael S.	299-0122	6715 N. Table Mtn. Rd.	Tucson	AZ	85718
Smith	Stephen B.		Box 5056	Huachuca City	AZ	85616
Snider	Robert W	889-1020	Mission View RV Park #331	Tucson	AZ	85706
Sowinski	Gary	(602)990-7449	6323 E Lafayette Blvd	Scottsdale	AZ	85251
Spain	Patrick L	(219)696-7056	5608 W 154th Ct	Lowell	IN	46356
Sprei	Stanley	577-7496	1070 64th St Apt 5	LaGrange	IL	60525
Stapelberg	Ton	574-9579	9952 E Via Del Pandango	Tucson	AZ	85747
Stayton	Steve	296-5323	801 N Shepherd Hills	Tucson	AZ	85710
Stolarski	Conrad J	722-6890	10891 E Chalkstone Dr	Tucson	AZ	85748
Stone	Signund	299-3723	4372 N. Vereda Rosada	Tucson	AZ	85750
Stoner	Jeff	795-7423	1830 E Broadway #124-403	Tucson	AZ	85719-5964
Straub	Deborah A	795-3128	1633 N Bentley Ave	Tucson	AZ	85716
Strittmatter	Donald J.	299-2304	4110 E. La Paloma Dr.	Tucson	AZ	85718-1506
Sunkin	Donald P		#03391 068	Longoc	CA	93436
Sutter	James	299-0651	PO Box 31882	Tucson	AZ	85751-1882
Sweetman	Michael	297-2781	2961 W. Katapa Trail	Tucson	AZ	85742
Tanner	Roger D	574-3876	9970 E Paseo San Bruno	Tucson	AZ	85747
Tekatch	Bill & Ann	(905)575-5433	19 Pheasant Place	Canada L9A 4Y4		
Tepper	Jack & Sheila	744-4129	4533 W Pyracantha Dr	Tucson	AZ	85741
Terenzoni	Michael	887-3226	380 E. Calle Arizona	Tucson	AZ	85705
Thompson	Andy	(408)245-1415	142 Carlow Ct	Sunnyvale	CA	94087
Tickner	Bill	749-1555	8842 E Driftwood Trail	Tucson	AZ	85749
Trexler	James	625-1216	1921 S. Abrego Dr.	Green Valley	AZ	85614
Trueblood	Mark & Pat	455-9263	P.O. Box 797	Sonolita	AZ	85637
Tubbiolo	Andrew	792-4980	1608 E 8th St	Tucson	AZ	85719
Turner	Gayle	458-2209	P.O. Box 1802	Sierra Vista	AZ	85636
Van Hoesen	Oliver C	749-4030	4240 N Lason Ln	Tucson	AZ	85749
Varner	Alan	294-4655	1515 W Highsmith Dr	Tucson	AZ	85746
Vega M.D.	Luis Eduardo	747-9323	420 S. Essex	Tucson	AZ	85711
Velkoff	Stephen		8701 S Kolb Rd	Tucson	AZ	85706
Ventiniqilia	Matt		1837 Timber Hill Court	Simi Valley	CA	93063
Verstoppen	Virgil	825-0473	14730 N Palmwood Dr	Tucson	AZ	85737-8840
Vreeland	Albert	749-9242	9261 Moenkopi Trail	Tucson	AZ	85749
Wagner	John	743-7997	1538 Plaza de Lirios	Tucson	AZ	85745
Wagner	Nancy L	579-1382	3641 W Shalako Place	Tucson	AZ	85742

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Last Name	First Name	Phone	Address 1	City	St	Zip
Walsh	Bruce	325-7457	2365 E Seneca	Tucson	AZ	85719
Wern	Evert	825-0641	1280 E Fawnbrooke Pl	Tucson	AZ	85737
West	Richard & Kathy	574-0830	70 W. Forrest Feetor	Tucson	AZ	85747
Wilmot	James C.	747-1419	7352 E. 38th St.	Tucson	AZ	85730
Wilson	Larry	299-6608	3818 E. Diablo Canyon	Tucson	AZ	85718
Wilt	Nelson	883-6669	3035 S. Sheila	Tucson	AZ	85746
Yolanda Yubeta	Education Directo	741-3164	Federal Correctional Inst.	Tucson	AZ	85706
Zajac	John	299-3203	5051 N. Sabino Canyon Rd. 2146	Tucson	AZ	85750
Zinnerer	John	529-2207	4561 N. Arroyo Vacio	Tucson	AZ	85750-6353
Zumbrunnen	John & Kathleen	748-0588	4318 E 31st St	Tucson	AZ	85711

### Dark Skies for January

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

Su/Mo	31/ 1	3:45	5:58	Th/Fr	11/12	19:05	23:12	Su/Mo	21/22	19:33	5:58
Mo/Tu	1/ 2	4:37	5:58	Fr/Sa	12/13	19:05	0:10	Mo/Tu	22/23	20:40	5:58
Tu/We	2/ 3	5:28	5:58	Sa/Su	13/14	19:06	1:09	Tu/We	23/24	21:44	5:58
We/Th	3/ 4							We/Th	24/25	22:46	5:57
Th/Fr	4/ 5			Su/Mo	14/15	19:07	2:11	Th/Fr	25/26	23:46	5:57
Fr/Sa	5/ 6	Full Moon		Mo/Tu	15/16	19:08	3:14	Fr/Sa	26/27	0:43	5:57
Sa/Su	6/ 7			Tu/We	16/17	19:09	4:18	Sa/Su	27/28	1:39	5:56
				We/Th	17/18	19:09	5:21				
Su/Mo	7/ 8	19:02	19:34	Th/Fr	18/19	19:10	5:59	Su/Mo	28/29	2:32	5:56
Mo/Tu	8/ 9	19:02	20:28	Fr/Sa	19/20	19:11	5:59	Mo/Tu	29/30	3:24	5:55
Tu/We	9/10	19:03	21:22	Sa/Su	20/21	19:12	5:59	Tu/We	30/31	4:12	5:55
We/Th	10/11	19:04	22:16					We/Th	31/ 1	4:58	5:54

Sa/Su	Sun Set	Sun Rise	Mercury Set Vi	Venus Set Vi	Mars Set Vi	Jupiter Rise Vi	Saturn Set Vi	Vi=Visibility
								-3 brilliant
								0 conspicuous
30/31	17:27	7:23	18:52 3	19:56 -3	18:31 7	6:41 7	22:57 1	3 moderate
6/ 7	17:32	7:24	18:57 4	20:11 -3	18:29 8	6:20 4	22:31 1	6 naked eye limit
13/14	17:38	7:24	-	20:24 -3	18:28 9	5:59 2	22:06 1	9 binoculars limit
20/21	17:44	7:22	Rise	20:38 -3	18:27 -	5:38 1	21:42 1	
27/28	17:51	7:19	6:03 5	20:50 -3	18:26 -	5:17 0	21:18 2	

By Erich Karkoschka

### Star Parties

#### Whipple Observatory January 13

Whipple Observatory Open House and Star Party - See The Stars Through A Telescope. Free and open to the public on Saturday, January 13. The Observatory Visitors Center will open at noon. Observing will begin at 6:30 p.m. courtesy of telescopes provided by the Tucson Amateur Astronomy Association. Observatory staff and TAAA members will be on hand to answer questions.

On view: Mercury, Mars, Venus, Saturn, double stars, star clusters, galaxies and perhaps meteors.

Dress for cool evening temperatures. Small flashlights and binoculars are useful to bring.

After 5 p.m., please cooperate with staff directing parking when you arrive. The parking spaces nearest the building are reserved for TAAA members and their telescopes. Visitors should park along the driveway or in the parking area outside the gate or along the road as directed.

For more information call 670-5707. In the event of threatening weather, call 670-5707 after 2 p.m. on the 13th for information about star party cancellation.

The Fred Lawrence Whipple Observatory and Tucson Amateur Astronomy Association present this opportunity to see the stars under dark Southern Arizona skies. \*

#### Catalina Public Library January 23

Catalina Public Library (N. Oracle/1st Ave) Tuesday, January 23th, set up time 6:30pm, observing at 7pm

Several months ago we held a very successful star party at the Catalina Library. Seventy people from the public attended and those in charge at the library had so much fun that they have requested a January star party to see what the winter sky has to offer. The library is located at 15631 N. Oracle, near the Catalina State Park. There will be a sign up sheet at the January meeting for this event. They have also requested a speaker for a half hour lecture starting around 6:30pm. Are there any volunteers out there? \*

#### Jewish Community Center January 25

Jewish Community Center (Ft. Lowell/Dodge) Thursday, January 25th set up 6pm, observing at 6:30pm

This star party is for the kindergarten and preschool classes at the Jewish Community Center. With this many students invited we may have a big group wanting to look through telescopes. If you can help out, please sign up at the January meeting. The community center is located on the corner of Ft. Lowell and Dodge. Maps showing where to set up will be available at the meeting. \*

## Grand Canyon Star Party '96

8-15 June

BY DEAN KETELSEN

Well boys and girls, it is time once again to make plans for that perfect summer getaway - the Grand Canyon Star Party! Where else can you go to keep the family happy and occupied all day, and the dark nights will keep even the most jaded of astronomers smiling all night long? Also, for the first time, we will be offering a North Rim version this year.

### *What is the Grand Canyon Star Party?*

Its current revision started in 1991 as the first anniversary of Dean and Vicki Ketelsen's honeymoon there. It was noticed that a telescope set up looking at the Canyon or sky soon gathered a crowd, so a public oriented event was planned. Though tens of thousands visit every day, a small fraction stay overnight to be treated to the spectacular views of the night sky there. The appreciative tourists tend to leave early, leaving the astronomers in solitude for observing far into the night. The last few years we have had solitary access to a clearing behind a locked gate so you can leave your scope set up for the duration of your stay.

The Grand Canyon Star Party originally started much earlier as a function of the San Francisco Sidewalk Astronomers who made annual pilgrimages to several western National Parks in the late '70s and '80s, spending several weeks at each stop. The latest version of the star party has been readily endorsed by several of their members who have become regular attendees.

### *What is there to do there?*

Well, the Grand Canyon offers world class hiking through Earth's largest canyon system. Even those less physically inclined can spend days exploring the scenic vistas offered from every bend of the rim trail, or from the roads from their cars or park shuttle buses. The place offers lots to explore for the history buff with many original structures preserved and a nearly century old train making daily runs to the rim. The area offers astronomical day trips to Lowell Observatory or Meteor Crater, as well as scenic drives through Monument Valley, the Painted Desert, Flagstaff and Oak Creek Canyon. One could easily spend a couple action packed days or the entire week without repeating yourself.

### *How is the observing at the Canyon?*

Conditions are excellent. The nearest town, Flagstaff - population 45,000, is 80 miles away, while Las Vegas and Phoenix are both about 170 air miles away making for very dark skies. Elevation at the South Rim is about 7,000 feet with the North about 8,000 feet. Seeing conditions are usually very good with the exception of very still nights when pockets of cold air move through slowly disrupting the seeing. Early June is Arizona's clearest time. We have not had a night lost to clouds in over three years (over 24 clear nights in a row)! 'Nuff said!

### *Where would we stay?*

That is the big question for every Canyon visitor during the summer. By anyone's opinion, the Canyon is overcrowded

in June and most housing has been booked up months in advance. If you need a room to stay in, you had best start NOW (I'm writing this before Christmas). Even in March you will likely have to search around for a room. If you can stand the 7 mile drive to Tusayan, there are also a number of motels there. Check out the list below. The campground is very nice if you enjoy roughing it a little. It is amazing how well you sleep on the ground when you are up all day and most of the night! Campsites are generally available a day or two ahead of time (\$10/night). The Park Service also gives us a few complimentary campsites which we make available first come, first served after March 1st. RV parking with a full hookup is available in Trailer Village (\$17/night). Again, early reservations are advised.

### *Any special activities planned?*

I'm glad you asked that. As part of our program, we offer a twilight talk every evening to entertain the folks while it gets dark. We always need volunteers to give these talks, so step up especially if you have an astronomical story to tell and have worked with crowds before. Also for the first time, the San Francisco Sidewalk Astronomers have stepped up and offered to grind and polish a telescope mirror and put together a telescope for the local school. There will likely be daily demonstrations and you may get put to work. Also we generally have a couple social cookouts to get to know the astronomical folk who come. These are great fun and you get to actually see the faces of the guy you have set up next to the last 4 nights!

### *Sounds great! How do I let you know I'm coming?*

If you need further information, or to let us know you would like to volunteer by bringing a telescope, PLEASE let us know at the address below. The space in the observing field is limited and we need to know how many folks we have coming that are bringing scopes. Be sure to have some housing plans before you let us know you are coming!

For South Rim information, write: Dean Ketelsen  
1122 East Greenlee Pl. Tucson, AZ 85719 (520) 293-2855  
ketelsen@as.arizona.edu

For North Rim information, write:  
Deloy Pierce P.O. Box 674 Farmington, UT (801) 451-8215  
South Rim Lodging: (all area code 520)  
All rim lodging or Trailer Village (Fred Harvey, Inc) 638-2401  
Campsites (MISTIX - no more than 8 weeks in advance)  
800-365-2267 Housing in Tusayan (7 miles south of Grand Canyon):  
Squire Inn 638-2681  
Moqui Lodge 638-2424  
Quality Inn 638-2673  
Red Feather Lodge 638-2414  
Seven Mile Lodge 638-2291

North Rim Lodging - (801) 586-7686  
North Rim Camping (MISTIX - no more than 8 weeks in advance) 800  
365-2267

\*



## A SOUTHERN SKY DOUBLE

On these cold January nights Orion passes along high in the southern sky. To the southwest of Orion extending to the horizon is a barren region of the sky in which the constellation of Eridanus the River winds serpentine like through. This area of the sky is devoid of bright stars, the brightest shine at only third magnitude. About  $45^\circ$  southwest of Rigel and rising  $18^\circ$  above the Tucson skyline is the star Acamar, pronounced (AKE-uh-mar). Also known as Theta ( $\theta$ ) Eridani, Acamar is a wonderful binary star for small apertures.

Acamar is a double system with a combined magnitude of 3.1. Both stars appear white in a telescope with spectra of A5III for  $\theta$  Eridani, and A1V for  $\theta$  Eridani.  $\theta$  Eridani has a magnitude of 3.2 and  $\theta$  Eridani shines at a magnitude of 4.4. Both of these stars are more luminous than our Sun.  $\theta$  Eridani has a luminosity of 16 suns and its about twice the size of our Sun.  $\theta$  Eridani's luminosity is 11 suns but its only half the diameter of our Sun. The distance to  $\theta$  Eridani is 93 light years. The separation between the two stars has remained constant for the past 160 years, but there has been a small change in the position angle of  $6^\circ$ .

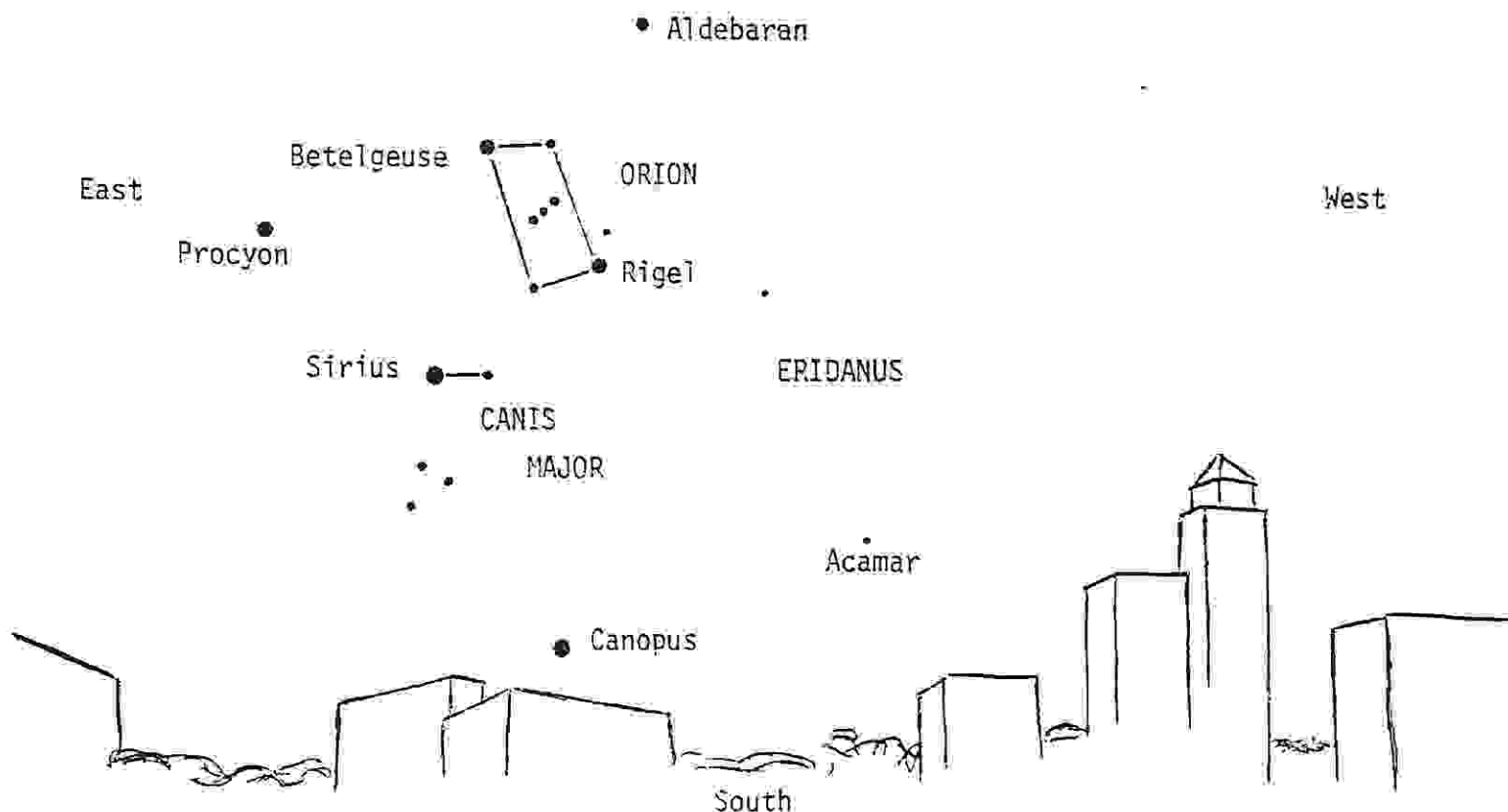
The current separation is  $8.2''$  at a P.A. of  $88^\circ$ , which means the companion appears due east of the primary.

In the southern hemisphere Acamar is one of the finest binary star systems visible with amateur instruments. To us in Tucson it suffers somewhat from dust and haze near the southern horizon. So if you want to get a good look at this pair go out under dark skies after a northern cold front has swept the air clear. With my 3" refractor I find that a magnification of 75x gives the most pleasing view of this fine duo.

To find Acamar I like to start from Rigel in Orion and move southwestward for  $45^\circ$ . At 3rd magnitude Acamar stands out by itself with no competition from any other stars in the area. This should make spotting Acamar quite easy on a clear night.

So this month go out one dark evening and look for Acamar low in the south sky and enjoy one of the southern skies finest binary stars.

by JEFF BRYDGES



## TAAA Executive Committee Meeting - December 5, 1995

Members present: Dean Ketelsen, Terri Lappin, Gary Rosenbaum, Larry Wilson, John Zajac.

Meeting called to order at 7:55 pm.

1. **Announcements:** The TAAA will be holding the following public star parties: 13 December - Smithsonian / Mt Hopkins Visitors Center, 23 December - Catalina Library, 25 January - Jewish Community Center (for Kindergarten class). Didier Saumon will be speaking on Planetary Systems at the January General meeting and the February meeting will be a member's night. Judges are needed for the TAAA Awards to be given those students doing the best Astronomy/optical projects at the upcoming Southern Arizona Science Fair.
2. **Land Questions:** John Zajac spoke about his latest foray into the land of bureaucracy, which has left him less than optimistic. The State land office is telling him that we will now have to do an archeological survey on any state land we are successful getting. This, in addition to the need to go through a bid request and the obtaining of access easements, is adding up to a process that may take a few years and an unknown amount of money to complete. None of the supposed experts can agree on the exact requirement, procedures, or costs of this seemingly simple problem. John and the Attorney will continue the quest. In the mean time, two more parcels of land have been identified as candidates, and we will plan an expedition to scout the areas.
3. **Treasurer's Report:** A motion was passed to pay \$157.00 to the Metro-Tucson Convention & Visitors Bureau for our listing in their directory. We get referrals from conventions and resorts to put on star parties from which the club makes a pretty good chunk of change (more than the cost of listing). The Treasurer also appeals to anyone having an unneeded file cabinet to donate it for the purpose of keeping club records. Last months

vote on restructuring our Astronomical League membership was in question after it was realized that dues changes (not just increases) must be ratified by the general membership. We will try to work this out to everyone's satisfaction, but a real solution may have to wait until the next general election.

Current Financial Status as of 30 November, 1995

Profit/Loss:

Total Income	1,179.57
Total Expenses	<u>-447.09</u>
Net Income	732.48

Balance Sheet:

Total Current Assets	34,905.35
Total Fixed Assets	<u>34,234.00</u>
Total Assets	69,139.35
Total Liabilities	<u>-250.00</u>

Total Equity 68,889.35

4. **Property:** The TAAA needs a Librarian to keep track of our growing stock of books and magazines. We also need to be clearing some of the unneeded stuff out of the storage locker while the weather is cool.
5. **Fundraising:** Terri reported that John Kalas is well underway with the Photo fund-raising project. Half the sales-kits have been either signed-out or spoken for. A question has been raised concerning how we may spend the money obtained in our fundraising campaigns so as not to jeopardize our tax-free status. Terri will be checking into this.
6. **Constitution:** Discussion postponed. \*

## Desert Skies Classified

**FOR SALE:** Six inch f/10 Alt/AZ homemade Newtonian telescope with newly re-aluminized mirror by legendary optician Joe Frish - \$300. Call Dick Buchroeder at 884-9800. (12-95).

**FOR SALE:** In excellent Condition - LX200, 10-inch f/10 telescope, 1 yr old, with carrying case, several 1 1/4 inch eyepieces and a field tripod. \$2,000. Call Shamus Carney (909) 657-8857. Will deliver for a nominal fee. (12-95).

**FOR SALE:** Brandon 80mm f/6.25 APO refractor, 2" focuser, 2" diag., 2" 32mm eyepiece in wooden case \$250. Meade 60mm f/11 guidescope fitted with 1 1/4" sky micro regular focuser \$90. Lumicon DS filter 1 1/4", \$25. O.B.O. Commodore 64 keyboard and disk drive plus extras, V.G. condition \$80. O.B.O. Call evenings 797-1693 - ask for Ted. (12-95).

**FOR SALE:**

- Set of optics for 8" Dall-Kirkham Cassegrain telescope made by Coulter Optical Co. Focal length of primary is 31 1/2 inches, amplification factor 4. Primary and secondary are not aluminized. \$200. Can make tube assembly and mounting if you desire.
- Bell and Howell wide field camera lens for large format photography. 12-inch focal length, 5 inch clear aperture. Includes light yellow clip-on filter. \$100.
- Lens blanks, 8 1/2 inch dia. for 8 1/4 inch clear aperture refractor objective lens. Glass by Schott, BK7 crown and F2 flint each 1 inch thick. \$350 for the set.
- Generated lenses for 8 1/4 refractor objective. R<sub>1</sub> = 83 inches; R<sub>2</sub> = R<sub>3</sub> = 35 inches; R<sub>4</sub> is flat now but can be ground to proper curve to give focal ratio of f15 to f18. Not certain about crown and flint, but probably BK7 and F4. \$200 for the set.

All above call Duane Niehaus at 797-4189. (02-96)

**FOR SALE:** In excellent condition-Meade Variable-Projection Camera Adapter (1.25"). T-ring not included. Purchased Spring '95, however, it's only been used twice. \$30. Call Detrick Branston at 318-8334. (02-96)

**WANTED:** A] a small dome (8' x 8'), B] spotting scope (25 x - 40 x) or zoom scope, and C] binoculars 25 x 100, call Dale Healy 298-2005. (03-96).

**FOR SALE:** Portable Brother Word Processor, (only 3 mos old), PN 8500 MDS, 3 1/2" disk, address book, schedule LOTUS 1,2,3, one-piece gray model - \$200. Was originally \$320. Call Mon. - Thu. (daytime) Massoud Mortazavi at 326-0057 Page # 703-3797. (03-96)

**FOR SALE:** Celestron 8 with carrying case, tripod, wedge, 1 1/4" star diagonal, piggy back camera bracket, sturdy sand cast aluminum fork mounting, special coatings on optics, 30mm finder and one University Optics Konig 24mm eyepiece. Also, telecompressor lens for f/5 performance, \$850. For more info call Duane Niehaus at 797-4189. (03-96)

