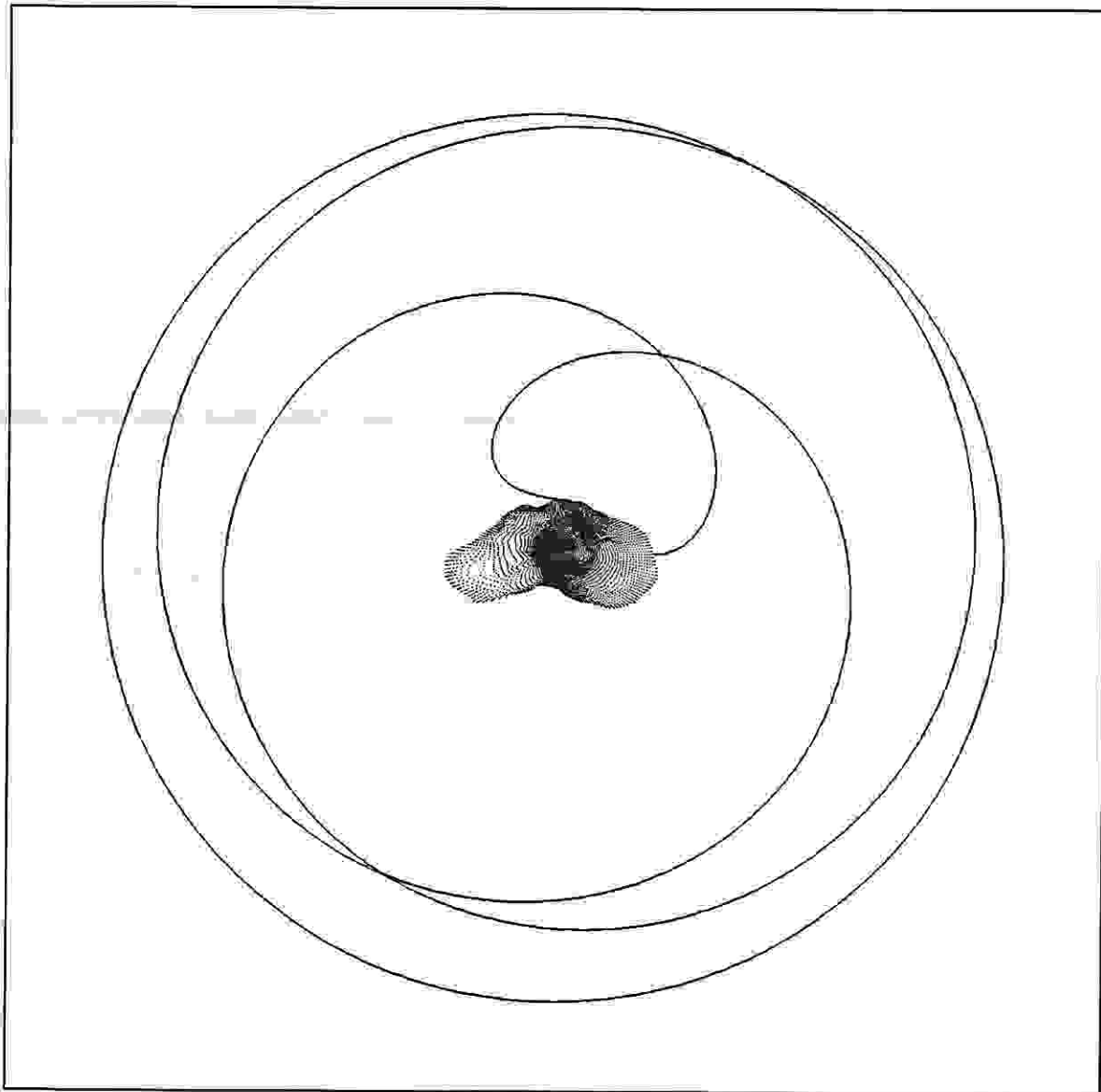


Desert Skies

Tucson Amateur Astronomy Association

April, 1995



The long flight of a baseball thrown by an astronaut off the end of the 56 km long asteroid 243 Ida. Courtesy of Dr. Dan Durda, Lunar and Planetary Laboratory.

Calendar of Events

GENERAL MEETING - Friday, April 7, 7:30 pm at the Steward Observatory Auditorium -room N210. Topic is **Starting and Observing your Own Self-Assembly Universe** by Russ Genet.

BEGINNERS LECTURE- Friday, April 7, 6:30 pm at the Steward Observatory Auditorium - room N210. Topic is **TAAA Update** by Dean Ketelsen. All are welcome!

YOUNG ASTRONOMERS CLUB - Friday, April 7, 7:30 pm at Steward Observatory room 208. Aimed at school-age kids and is concurrent with the general meeting. This month - Moon and Ursa Major by Nina Lehman.

See enclosed map for directions to Steward Observatory.

EXECUTIVE MEETING - Thursday, April 13th, 7:30 pm at Flandrau Science Center's Conference Room.

STAR PARTIES:

April 1 - Messier Marathon

April 4 - Ft. Lowell Elementary School

April 22 - Kitt Peak Cookout & Star Party

April 24 - Santana Bike Rally at Colossal Cave

April 29 - TAAA Spring Picnic at Vega-Bray

April 29 - Sentinel Star Gaze

May 3 - Agua Caliente Elementary School

June 17-24 - Grand Canyon Star Party

Steward Observatory's Public Evening Series

April 10 - Dr. William Bickel, The Physics of Sound

April 24 - Dr. Peter Strittmatter, To Be Announced

Next Newsletter Deadline - April 19.

TAAA EXECUTIVE

President	Dean Ketelsen	293-2855
Vice-President	Terri Lappin	579-0185
Executive Sec.	Rob Nyberg	745-0710
Recording Sec.	Tabitha Neihaus	797-4189
Treasurer	Duane Niehaus	797-4189
Member-at-Large	Bob Goff	790-1452
Member-at-Large	Dave Harvey	797-2512
Chief Observer	Mike Terenzoni	887-3226
Mem. Coord.	Gary Rosenbaum	579-0185
Past President	Tim Hunter	299-2972
Editors	Nancy Wagner	579-1382
	Nina Lehman	579-1382
Star Party Chair	Karen Allen	749-5744

MEMBERSHIP IN THE TAAA

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

Sky & Telescope subscription (optional) \$20.00. 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

It is best to pay your dues 2-3 months before your membership actually expires.

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:
 - a) add \$20 to your membership rate.
 - b) 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 41254
Tucson, AZ 85717

OR email: 74750.247@compuserve.com

Meeting News

Spring Fling on Campus

Be advised that the University of Arizona's annual spring festival, Spring Fling, will be held the same weekend (April 6-9) as our meetings on the 7th. Please give yourselves a little extra time to locate parking and get to the meeting. *

Beginner's Lecture: TAAA Update

By DEAN KETELSEN

This month Dean will be bringing us up to date on all of TAAA's long term projects. Topics of interest include (but are not necessarily limited to) our telescope making classes at Flandrau, 30 and 16 inch telescope projects, and the search for a permanent observing site. It might also be a good opportunity to air complaints and suggestions to better meet the needs of all of our members. So come with your questions and your ideas to make this a better organization. *

April's Speaker: Russ Genet

By DEAN KETELSEN

"Starting and Observing Your Own Self-Assembly Universe"

Russell Genet founded the Fairborn Observatory in 1979, which along with the Smithsonian Institution operates eight robotic telescopes at an automatic observatory on Mt Hopkins. He is currently director of the Fairborn Institute, a non-profit organization devoted to scientific advancement via public education, and president of the Astronomical Society of the Pacific, a large organization of professional astronomers, educators and science enthusiasts.

A man of diverse interests, Russ has authored, co-authored or edited some 16 books and a hundred or so technical papers. His first book, Photoelectric Photometry of Variable Stars, was written some fifteen years ago, but was recently released in a second edition. Another, Microcomputer Control of Telescopes, with TAAA member Mark Trueblood, is also about to be reissued in a second edition.

Russ remains an active pilot, and has flown everything from Piper Cubs to F-16s. He has a passion for climbing mountains and hiking along deserted beaches. Summers he and his wife are usually found in remote national forests in the Arizona mountains.

They spend their winters camped on remote beaches in New Zealand (New Zealand's summer).

His talk at the April meeting will be a scientific overview of our roots, from the Big Bang to modern civilization. *

Young Astronomers Club

By NINA LEHMAN

I was unable to hold the Young Astronomers Club last month due to illness - my entire family came down with the flu on the day of the meeting. I would like some parents to volunteer to be emergency back-ups so that we don't disappoint the children again. I can prepare all the materials each month along with a lesson plan. There is strong interest in this activity, so please help out!

This month we will cover the topics we had lined up for March: the Moon and Ursa Major. To volunteer to help and for additional information, contact me at 579-1382 or email 74750.247@compuserve.com. *

Spring 1995 Steward Observatory's Public Evening Series

The 72nd year of Steward Observatory Public Evenings continues during the Spring Semester 1995; the host for the Series continues to be Dr. Raymond E. White. All talks will be held in Room N210, Steward Observatory Lecture Hall, and will begin 7:30pm. The talks, including pertinent questions to the speaker and their answers, will last for about an hour.

Following the talk, there will be opportunities for viewing the night sky (weather permitting, as always) with the use of the telescopes at the Campus Station of the Observatory, and with the assistance of members of the University's Astronomy Club.

All of the lectures and the use of the telescopes are free of charge and open to the general public.

Date	Speaker	Topic
10 Apr	Dr. William Bickel	The Physics of Sound
24 Apr	Dr. Peter Strittmatter	To Be Announced

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Club News

Computers In Astronomy Subgroup

By ROGER TANNER

The March 12 meeting of the Electronics and Computers in Astronomy Subgroup of the TAAA was held at my (Roger Tanner) house. I demonstrated the Cookbook 245 CCD camera and some image processing using a beta version of Superfix. I set the scope up in the drive way with the controlling computers in the garage.

The sky was clear until everyone showed up and then it clouded up until everyone left. (it cleared up by 11:00). I started by taking some flat fields of the twilight sky. These allow the erasing of the dust spots and vignetting present in the camera and the telescope. Then since it was cloudy, I showed the general processing procedure with some images taken a few days before. The procedure consists of generating a dark frame, flat field frame and using these to calibrate your image. Then some contrast stretches were used to improve the image. I mentioned the difficulty of getting exact focus and that I have used a twin hole mask over the end of the telescope to help define the exact focus point. This works because a star will show as two stars until you have the exact focus.

After everybody had left I got some images of the supernovas in NGC 2441 and NGC 2726 (I think). Also tried for the helix in the Helix Galaxy but didn't get it. Probably need a moonless sky, more image scale and, and more exposure. I tried the diffraction focusing discussed in the latest CCD Astronomy and I think it works better than the twin hole method. I used the diffraction spikes off of the secondary spider.

The next meeting is at Dean Ketelsen's house where he will show us MegaStar and SATPRO. MegaStar is a great star chart program for deep sky observers, and SATPRO is a satellite visibility program, both for the PC. The meeting is on April 9 (Sunday) at 6:00 PM. His address is 1122 E. Greenlee Pl., phone is 293-2855. If you are not a member of the Subgroup please call to see if there is room before you come.

The meeting after that is on Astronomy resources and PD software on the Internet by Paul Brown, May 12 at 7:00PM.

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

*

AAS Book Bags

By TERRI LAPPIN

At the end of the American Astronomical Society meeting in January, the Local Organizing Committee was left with a lot of shoulder bags...hundreds of them! The bags are great for carrying books, school supplies, or even groceries. We will have a supply of them at the

April meeting. The price is \$5 each, 2 for \$8, and 3 for \$10. What money we collect will be split 50-50 with the AAS Local Organizing Committee. Our portion will go towards the Land & Telescope Fund.

*

Volunteer Lecturers Needed

By TERRI LAPPIN

Would you like to give an occasional Beginner's Lecture? Beginner's Lectures are about 40 minutes long and cover some aspect of astronomy that is of interest to beginner's. Previous lectures have been about light pollution, Mars, astrophotography, deep sky observing and unusual sky phenomenon. None of the lectures have assumed more than an interest in astronomy and very few have been technical. You don't need to be an expert to make a presentation. I do some research for every Beginner's Lecture and I have learned a lot of astronomy in the process. If this sounds like something you'd like to do, let me know at the next meeting or call me at 579-0185.

*

Volunteer Bibliophiles Needed

By ROB NYBERG

Did you know the TAAA has an extensive library of books, magazines, software, etc? Yes, we do! But it hasn't been in order for several years. I'm looking for 2 or 3 stargazing bibliophiles to organize and maybe catalog our library, so we all can use and enjoy it. Contact Rob Nyberg at 745-0710, or email either robby@primenet.com, or 70541,1027 on CIS. Thanks in advance.

*

Bulletin Board

By NINA LEHMAN

The following was provided by Mark of the San Jose Astronomical Association:

"For your members without e-mail or fuller Internet accounts, but with computer and modem, we also provide AstroNet via a BBS that is set up for fast transfer of our text newsletter files. The number is (408) 358-2010 up to 14.4K baud 8N1. ANSI or ASCII only at this time (no RIP).

I also realize that many people who may have an interest in astronomy have e-mail privileges but no access to newsgroups or FTP. Our e-mail delivery is set up especially for them."

For more bulletin board information, contact Nina Lehman at 579-1382 or email:

74750.247@compuserve.com.

*

Kalmbach Publishing Offers TAA Members Discount

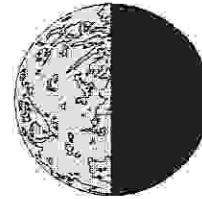
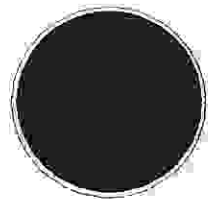
BY TERRI LAPPIN

The last book order we placed was about two years ago. This was after being notified by Sky Publishing that they would no longer fill our orders. Instead they offer a 10% discount on any item in their catalog...but only to members who subscribe to Sky & Telescope. This was a real disappointment considering we used to get a 30% or 50% discount, which was passed on to our members. Well, the publisher of Astronomy magazine, Kalmbach Publishing, is now offering us discounts of up to 50% off items in their catalog. Most discounts are on the order of 25%. So, with this arrangement, we offer the following titles. There are many more in their catalog which will be at the next two meetings. A sample list is as follows:

Norton's 2000.0 (hrdbd., 179 pages, 15 maps to magnitude 6) (Ed. by Ian Ridpath) \$36.00
Field Guide to the Star/Planets (3rd Ed, sftbd., 473 pages, 52 maps)(Menzel/Pasachoff) \$18.75
Sky Atlas 2000.0 (11 X 16, color, sftbd., 26 fold-out maps to magnitude 8) (Tirion) \$33.75
Burnham's Celestial Handbook (sftbd., 652 pages, three volume set) price per volume \$10.50 ea.
Philip's Moon Map (39 X 26, 500 binocular/telescope features) (Philip) \$11.25
Miller's Planisphere (plastic, 10 1/2 diameter, for 30 degrees North latitude) \$ 7.50

Uranometria 2000 (hrdbd., 2 volume set) (Tirion, Rappaport, Lovi), price/volume \$30.00 ea.
Turn Left at Orion (hrdbd., 205 pages, star hopping) (Consolmagno/Davis) \$21.00
The Universe From Your Backyard (hrdbd., 188 pages, 46 maps) (Eicher) \$20.25
Color Star Atlas (sftbd., 11 X 15.5, 20 maps to magnitude 6.5) (Cox/Monkhouse) \$13.50
Atlas of the Moon (hrdbd., 8.25 X 11, 224 pages, 76 maps) (Rukl) \$20.25
The Backyard Astronomer's Guide (hrdbd., 296 pages) (Dickinson/Dyer) \$30.00
Quick Reference Guide to Astronomy Magazine 1973-1990 (sftbd., with 1991 update) \$ 7.00
CCD Astronomy (hrdbd., 321 pages) (Buil) \$18.75
Introduction to Astronomical Image Processing (sftbd., 96 pages) (Berry) \$22.50
How to Build Your Own Observatory (3rd Ed., sftbd., 97 pgs, Telescope Making articles) \$10.25
How to Make a Telescope (hrdbd., 424 pages) (Texereau) \$15.00
Telescope Optics: Evaluation and Design (hrdbd., 384 pages) (Rutten/Venrooij) \$18.75

The order will be placed after the May meeting. Delivery should be at the June meeting. Make your check payable to TAAA. Either give to Terri at the meeting, or mail to TAAA - ATTENTION BOOKS, PO Box 41254, Tucson, AZ 85717. *



Dark Skies for April

DARK SKIES for Tucson (in MST)

1995 APRIL no twilight
no moonlight

Sa/Su	1/ 2	8:30pm - 4:49am
Su/Mo	2/ 3	9:24pm - 4:47am
Mo/Tu	3/ 4	10:17pm - 4:46am
Tu/We	4/ 5	11:08pm - 4:44am
We/Th	5/ 6	11:56pm - 4:43am
Th/Fr	6/ 7	12:41am - 4:42am
Fr/Sa	7/ 8	1:24am - 4:40am
Sa/Su	8/ 9	2:05am - 4:39am
Su/Mo	9/10	2:43am - 4:37am
Mo/Tu	10/11	3:20am - 4:36am
Tu/We	11/12	3:57am - 4:34am
We/Th	12/13	- - -
Th/Fr	13/14	- - -
Fr/Sa	14/15	- - -

Sa/Su	15/16	- - -
Su/Mo	16/17	8:20pm - 8:37pm
Mo/Tu	17/18	8:21pm - 9:44pm
Tu/We	18/19	8:22pm - 10:47pm
We/Th	19/20	8:23pm - 11:45pm
Th/Fr	20/21	8:24pm - 12:37am
Fr/Sa	21/22	8:25pm - 1:23am
Sa/Su	22/23	8:26pm - 2:04am
Su/Mo	23/24	8:27pm - 2:42am
Mo/Tu	24/25	8:28pm - 3:18am
Tu/We	25/26	8:29pm - 3:52am
We/Th	26/27	8:30pm - 4:14am
Th/Fr	27/28	8:31pm - 4:13am
Fr/Sa	28/29	8:32pm - 4:11am
Sa/Su	29/30	8:33pm - 4:10am
Su/Mo	30/ 1	8:34pm - 4:09am

Erich Karkoschka

Star Parties

Messier Marathon 1 April, 1995

As in the last two years, the Saguaro Astronomy Club is organizing a Messier Marathon on April 1st. It will be held at their Arizona City dark sky site, which is nearly midway between Phoenix and Tucson, making for good attendance from the primary astronomy groups in the state. They have invited all known clubs in the state, so it should be a great time to do some competitive observing and meet some new friends. Observing forms, a guide to successful marathon observing, and maps will be available at the March meeting, or by mail by calling Dean at 293-2855. Try it, you'll like it! *

Ft Lowell Elementary School 4 April 1995

We have scheduled a star party on 4 April from 7-8 pm for 4th graders including their parents and siblings at Ft Lowell Elementary School. Ft. Lowell School is at 5151 E. Pima and Rosemont. For setup, which will be from 6:30 - 7:00 pm use the gate at Rosemont. For more information, call Karen Allen at 749-5744. *

Kitt Peak Cookout and Star Party 22 April, 1995

We have asked permission to hold another picnic and star party at the Kitt Peak picnic area. At this point, we have not received a response, but assume it will be approved. For the first time, we have also asked for a walk-through tour of the new WIYN telescope - Kitt Peak's newest 3.5 meter telescope with many innovative design features (see the April Sky and Telescope for some of the details). Signup will be at the April general meeting.

Assuming the ground rules will remain the same as previous events, attendance will be limited to 30 people. However, if you are one of the many Kitt Peak museum docents who are TAAA members, you will not count towards that limit. In other words, if the list fills fast and you absolutely have to be there, think about becoming a docent and you can attend all of these! Assuming the WIYN tour is approved, that will happen around 3pm before the mountain closes for the public. At 4pm, we will head down to the picnic area, or if you arrive after 4, head directly to the picnic area, in other words, the mountaintop is strictly off limits! Cooking fires need to be put out at sunset to minimize impact on telescopes near the picnic area. And at moonrise, sometime after 2am, we need to think about vacating the area. No camping is allowed on the site - if you are too sleepy to drive back to Tucson, head down to the bottom of the mountain to sleep in your car.

These events are fun, social events, and even if cloudy, head on up for the picnic and some camaraderie. There are bathroom facilities on site, and there is electricity if you bring your own LONG cord. Bring something to grill (charcoal provided) and a dish to share for the picnic, and of course, don't forget the telescope for some great observing. See you there! *

Santana Bike Rally at Colossal Cave 24 April 1995

Santana Bicycles, makers of tandem bikes, is sponsoring a bike rally in Tucson and want us to be a part of the entertainment on Monday the 24th of April, 7pm. They are having dinner at a local resort, then traveling by bus to Colossal Cave for evening tours and star gazing through our scopes. They are expecting about 200 folks and will pay us \$2 a head to our land fund (yes, \$400). We need at least 6-8 scopes, and the site is reasonably dark, so if you can make it on a school/work night come on down and help out our land fund by assisting with this star party. *

TAAA Spring Picnic at Vega-Bray 29 April, 1995

Eduardo Vega has again graciously offered his observatory as the site for our Spring picnic. For those of you who have never been there (see map elsewhere in newsletter) it is truly not to be missed. It is part museum and part science center in a spectacular observatory setting. Be sure to bring the kids - there is fishing in the lake, lots of room to run around and enough telescopes for everyone! Festivities start after 3pm and run as late as you want to stay.

At last year's picnic, he dedicated the 20" Maksutov, one of the largest in this hemisphere. This year optician extraordinaire Max Bray hopes to have Ed's new 11.25" refractor ready to dedicate. You might want to think about staying around till Jupiter gets high in the sky for some spectacular views!

As always, Eduardo is providing a grill for cooking, as well as a cooler or two full of drinks, so bring something to char over the fire and a dish to share with others. You might also want to bring some folding chairs to assure you have a seat, and bring your scope if you need to have a view all to yourself. Ed usually is looking for a little entertainment, so call him if you have a slide show or other presentation of interest (747-9323).

This is truly the event of the year (I know members who join just to come to this every year!) so come take advantage of the Vega hospitality and have a great time. Thanks Pat and Ed *

During the April General Meeting, April 7, 1995, there will be a vote, by show of hands, on the following updated version of the TAA Constitution and Bylaws. The vote will be to accept or reject this version as a whole.

**CONSTITUTION AND BYLAWS
OF THE
TUCSON AMATEUR ASTRONOMY ASSOCIATION**

**WORDS IN BOLD TYPEFACE REPRESENT A SUBSTANTIVE CHANGE FROM THE
BYLAWS OF AUG 93**

ARTICLE I

- Section 1. Name: The association shall be named the Tucson Amateur Astronomy Association, Inc.
Section 2. Purpose: The Association shall be a nonprofit, educational, service, scientific, and technical organization devoted to the study of, and promotion of interest in, Astronomy and its related allied sciences.

ARTICLE II

- Section 1. Membership: Anyone interested in Astronomy may become a member of the Association upon payment of dues and by complying with the other requirements for membership as specified in this constitution or in the standing rules of the Association.
Section 2. Dues: The dues for membership will be set by the **Board of Directors** and changed from time to time, as the need arises, by a 2/3 vote of the **Board of Directors** and ratified at a regular meeting by a 2/3 majority vote of the membership **represented**. Notice of a proposed dues change ratification vote shall be published in the Association newsletter at least one month prior to the vote, and announced during at least one meeting preceding the meeting of the vote.
Section 3. Types:
Individual Memberships: Individual members shall enjoy full privileges of the association including the right to vote (one vote per member) at any general meeting as specified under Article IV Section 6.

Family Memberships: Family memberships shall include husband, wife, and children who shall enjoy full privileges of the association including the right to vote (two votes per family membership) at any general meeting as specified under Article IV Section 6.

Honorary Memberships: Honorary members shall be selected by 2/3 vote of the **Board of Directors**. Term of honorary membership shall be one year subject to renewal by the **Board of Directors**. Honorary members shall enjoy the full privileges of the association including the right to vote as specified under Article IV Section 6.

ARTICLE III

- Section 1. Board of Directors: The elected Board of Directors shall consist of a President, Vice President, Treasurer, **Secretary**, and Member(s) at Large. **There shall be one Member at Large for every complete unit of 100 Association members, and one for any remainder between 1 and 99.** The Board of Directors shall fulfill the requirements of the state of Arizona and shall approve all lawful actions of the Executive Committee and the Association Membership. **The Board of Directors shall be empowered with the right to vote on all matters governing the Association. A decision made by any elected Officer on behalf of the Association may be vetoed by a 2/3 vote of the Board.**
Section 2. Executive Committee: The Executive Committee shall consist of the Board of Directors and the immediate past President (for one year), **Publicist, Education Administrator, Fundraising Chairperson, Property Chairperson, Chief Observer, and the Newsletter Editor.** The Executive Committee shall advise and assist the Board of Directors in making general decisions, setting Association policy, and planning Association activities.
Section 3. Standing Committees: **Decisions of the Presidentially appointed standing committees are subject to approval by the Board of Directors.**

Section 4. Powers and Duties of Officers:

President: The President presides over the General Meeting and calls the Executive Committee and Board of Directors Meeting. The President chairs the Board of Directors and Executive Committee. The President shall have the power to form committees as needed to carry on Association business, and is responsible for overseeing their operation. The President shall appoint the positions of Publicist, Education Administrator, Fundraising Chairperson, Property Chairperson, Chief Observer, and Newsletter Editor. The President performs all other duties assigned to that office unless otherwise delegated. In the absence of the Vice President, the President shall appoint another officer to coordinate member presentations at General Meetings. In the absence of the Secretary, the President shall appoint another officer to take minutes of General or Executive Meetings.

Vice President: The Vice President shall coordinate member presentations at General Meetings. The Vice President shall assist the President and perform all other duties assigned to the Vice President position. In the event the President is unable to fulfill his duties, the Vice President shall assume the duties of the President.

Treasurer: The Treasurer shall receive all funds and maintain complete and current financial records for the Association. The Treasurer shall maintain complete and current records of all dues paying and honorary members and shall notify dues paying members one month prior to their membership expiration. The Treasurer shall give a written annual report and other reports of financial status, either orally or written, as required by the Board of Directors. The Treasurer shall maintain all legal documentation for the Association and serve as the statutory agent for the Association. The Treasurer may appoint an Assistant. In the event the Vice President is unable to fulfill his duties, the Treasurer shall assume the duties of the Vice President.

Secretary: At the direction of the presiding officer, the Secretary shall correspond with other associations, and individuals. The Secretary shall keep and maintain the minutes of Board of Directors, Executive Committee, and General Meetings.

Member(s) at Large: The Member(s) at Large shall serve the Association membership as an independent representative to the Board of Directors and the Executive Committee.

Chief Observer: The Chief Observer shall direct the astronomical observing programs of the Association. The Chief Observer shall select dates for Association observing sessions, which are subject to the approval of the President.

Newsletter Editor: The Newsletter Editor, at the direction of the President, shall communicate news and events of interest to members via the Association's monthly publication.

Publicist: The Publicist shall serve as the official contact person between the Association and the media. The Publicist is under the direction of the President and shall give reports to the Board of Directors as requested. In the event that the Publicist is unable to attend a public event, the Publicist shall appoint another officer to act as official media contact. The Publicist shall perform all other duties assigned to that office.

Education Administrator: The Education Administrator shall direct the Education Program, and chair the Education Committee. The Education Chairperson is under the direction of the President and shall give reports to the Board of Directors as requested. The Education Chairperson shall perform all other duties assigned to that office.

Fundraising Chairperson: The Fundraising Chairperson shall direct Association fundraising programs and assist in the scheduling of special events. The Fundraising Chairperson is under the direction of the President and shall give reports to the Board of Directors as requested. The Fundraising Chairperson shall perform all other duties assigned to that office.

Property Chairperson: The Property Chairperson shall maintain records of all Association property. The Property Chairperson shall maintain records of equipment on loan to Association members. The Property Chairperson is under the direction of the President and shall give reports to the Board of Directors as requested. The Property Chairperson shall perform all other duties assigned to that office.

- Section 5. General Elections: Board of Directors shall be elected annually at regular meetings. Nominees names shall be published in the newsletter **one month prior to the election meeting. Nominations for elective offices must be submitted prior to the publishing deadline to be officially included on the ballot.** Any member who has been a member for one year, and is a member in good standing, may be nominated for office. **All members of the Board of Directors must be at least 18 years of age. No member shall simultaneously hold two or more positions on the Board of Directors.**
- Section 6. Special Elections: In the event an elective office is not filled, or is vacated before the next general election, the **Board of Directors** may appoint by 2/3 vote a member in good standing to fill that office.
- Section 7. Removal of Members and Officers:
- A. Causes: Any member or officer may be dropped or expelled from the Association for any of the following reasons:
1. Willful misuse of organization property.
 2. Willful disregard for his own safety or the safety of others while on organizationally sponsored activities.
 3. Conduct detrimental to the organization and constituting misfeasance, malfeasance, or nonfeasance.
- B. Removal of Members: By a vote of all the **Board of Directors** minus one, any member may be removed from membership in the Association. Prior written notice of at least ten days shall be given to the Executive Committee and to the member in question before such vote is taken.
- C. Removal of Elected Officers: By a vote of 2/3 the **Board of Directors**, any elected officer may be removed from office. Prior written notice of at least ten days shall be given to the Executive Committee. **From issuance of notification until the vote is completed, the elected officer shall not exercise the powers of office.**
- D. Removal of Appointees: By a 2/3 vote of the **Board of Directors**, any appointed officer or committee member may be removed from office. Appointees shall remain subject to dismissal at any time and for any reason by their respective committee chairperson or by the President.
- E. Appeals: **If the Board of Directors votes to remove an elected officer or to expel a member, that person may appeal to the General Membership for reinstatement. A vote will be taken at a General Meeting at least one month after an announcement in the Association Newsletter. Reinstatement will require a majority vote of the represented General Membership. In the interim, the vote of the Board of Directors shall remain in effect.**
- Section 8. Any member shall be automatically dropped from the Association for dues one month or more in arrears.

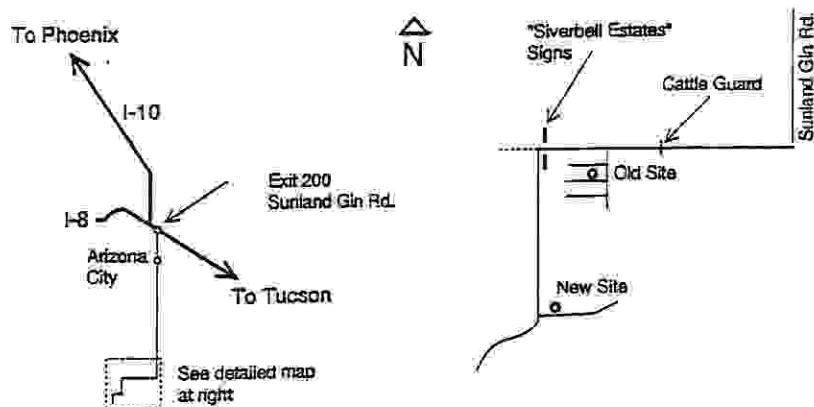
ARTICLE IV

- Section 1. General Meetings: The Tucson Amateur Astronomy Association, Inc. shall meet monthly as determined by the **Board of Directors**. General meetings shall be announced in the Association newsletter.
- Section 2. Rules: Robert's Rules of Order, latest revision, shall be the governing parliamentary law at all meetings, except as provided in these Bylaws or other standing rules of the Association.
- Section 3. Amendments: Amendments to this constitution may be made upon 2/3 approval of the General Membership at any regularly scheduled meeting provided the requirements of Article IV, Section 6, are met and with prior approval of the **Board of Directors**. Notice of a proposed amendment vote shall be **published in the Association newsletter at least one month prior to the vote, and announced during at least one meeting preceding the meeting of the vote.**
- Section 4. Special Meetings: Special meetings may be called from time to time and announced in the newsletter.

- Section 5. Motions: Any member of the Association may bring items of business before the Executive Committee or Board of Directors at any regularly scheduled meeting of the Executive Committee or the Board of Directors.
- Section 6. Voting:
- A. General Meetings: The members present at a regularly scheduled General Meeting shall constitute a quorum and shall be eligible to vote on any issue provided prior notice is given to all members via the Association Newsletter. A majority vote of the members **represented** at the General Meeting shall carry. **Proxy votes are permitted and:**
1. **Shall be in written form and must be signed by the member,**
 2. **Must be presented to the President prior to holding the vote in question,**
 3. **Will be independently counted by two members of the Executive Committee which are to be appointed by the President,**
 4. **Need to be counted only when the number of proxy votes cast can have an effect on the outcome of the vote.**
- B. Executive Meetings: Fifty percent plus one member of the Board of Directors shall constitute a quorum of the Board of Directors. **Proxy voting is not allowed.**
- C. **Initiatives, Appeals, and Recalls by the General Membership:** The General Membership may initiate a vote on any matter, appeal a decision by the Board, or recall any elected officer by presenting the President with a petition signed by ten percent of those members with voting rights. The petition must clearly spell out the reason for requesting a vote of the General Membership at the top of the form where it can be read by members signing below. Upon verification of the petition signatures, a vote will be held at the next General Meeting following an announcement in the Association newsletter at least one month prior to the vote. The vote of the General Membership shall supersede any decision of the Board of Directors.

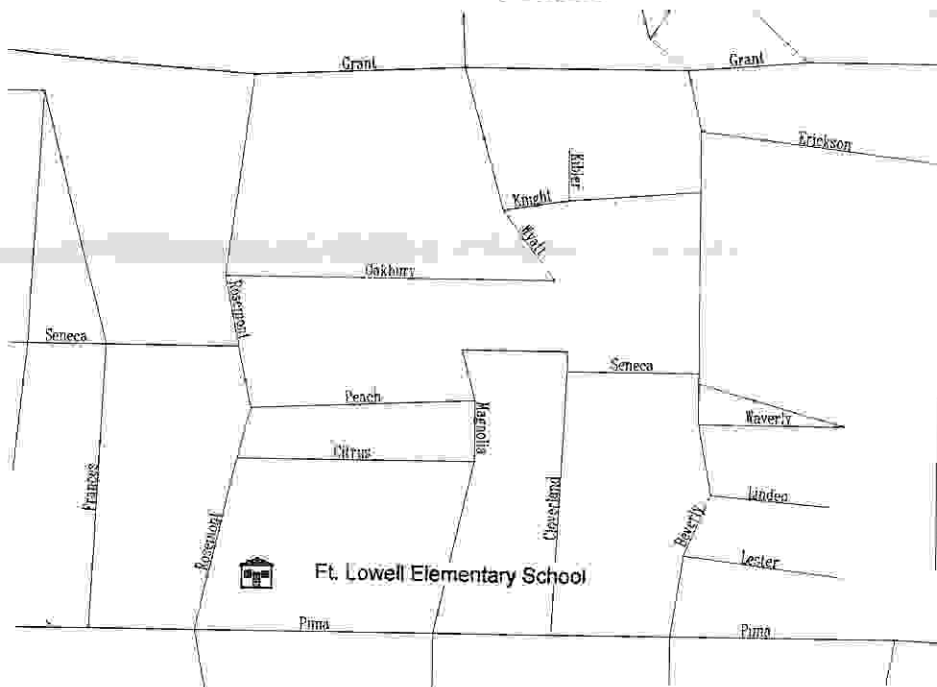
— **WORDS IN BOLD TYPEFACE REPRESENT A SUBSTANTIVE CHANGE FROM THE BYLAWS OF AUG 93.**

Messier Marathon



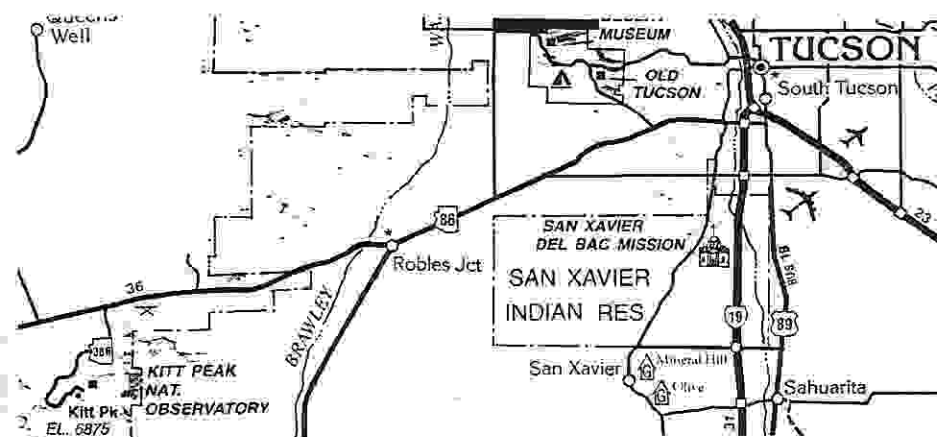
Take I-10 to exit 200 (Sunland Gin Road). Turn right (south) after exiting the freeway. After about 15 miles, the pavement ends and about one mile further, the road turns sharply to the west. One mile past the road to the old site, the main road will turn south just after the "Silverbell Estates" signs. Continue for another 2.5 miles. The road will veer off to the west. Immediately to the east is the road to the site. About 100 yards down this road are several large, open areas to the left.

Ft Lowell Elementary School



Kitt Peak Cookout and Star Party

Kitt Peak is 56 miles southwest of Tucson, via S.R. 86 (Ajo Way). Turn south onto S.R. 386.

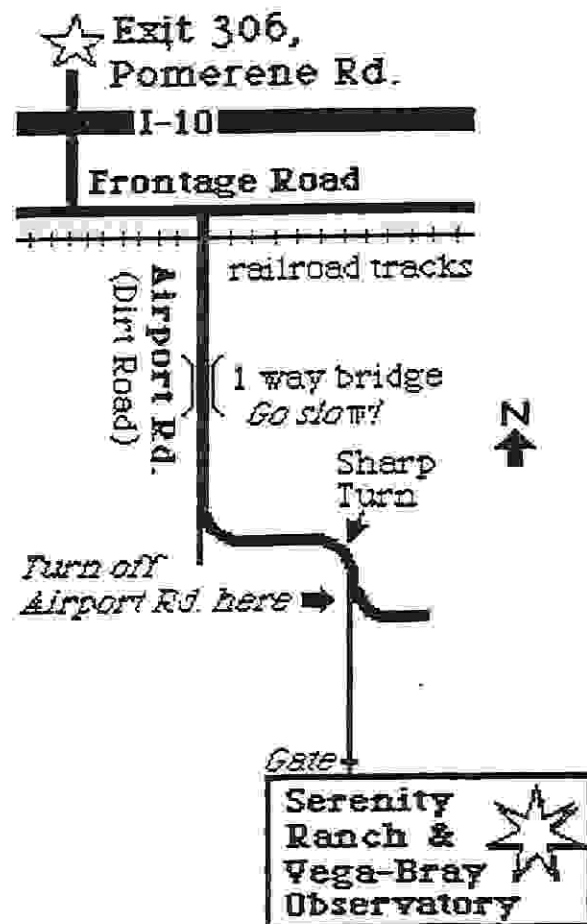


Santana Bike Rally at Colossal Cave

Go 20 miles southeast on I-10 to exit 279. Then go north 8 miles.



TAAA Spring Picnic at Vega-Bray



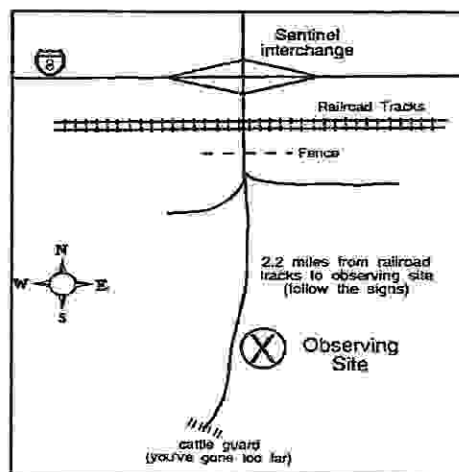
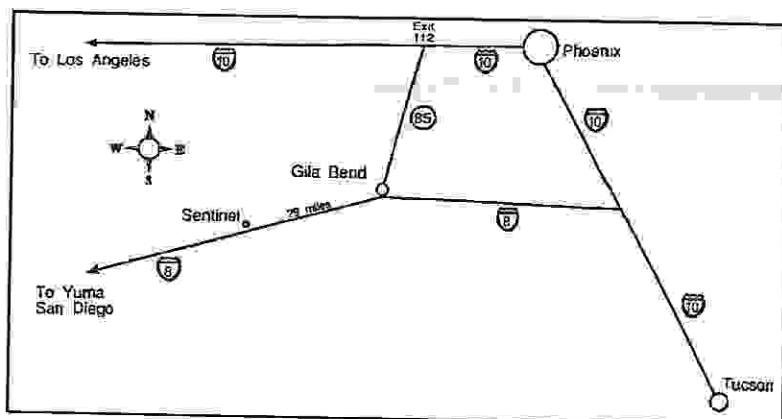
Sentinel Star Gaze

29 April 1995

The Sentinel Star Gaze gives astronomers a chance to meet at an Arizona dark sky site. It is sponsored by the Deep Sky Group of the Saguaro Astronomy Club. There is no registration and no fee to attend, just show up and enjoy the night sky. In the past, folks have arrived on Friday, for two nights of observing. There are no facilities at the site, it is just a large flat area in the middle of the desert southwest. It gets both hot and cold, depending on the whim of the weather, so bring cool water and warm clothes. Please be courteous about white light, many observers and photographers are going after very dim objects.

To get to the site, drive to Gila Bend, AZ and get on the I-8 freeway going west toward Yuma. The Sentinel exit is about 30 miles from Gila Bend. Take the exit and go south, under the freeway and across the railroad track. Go left at the fork in the dirt road and drive two miles until you see a large, flat area of the desert to your left. YOU ARE THERE! If you get to a cattle guard and warnings about the bombing range, you went too far.

Sentinel Star Gaze



Agua Caliente Elementary School

3 May 1995

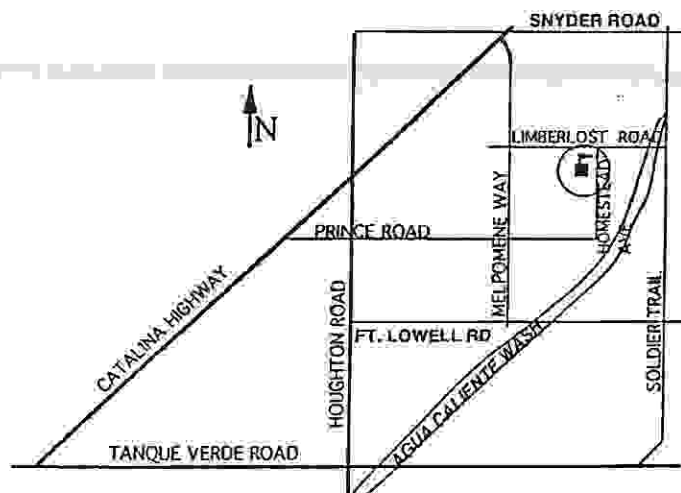
There will be a star party at Agua Caliente Elementary school May 3, from 7:00 to 8:30 pm. The Agua Caliente Elementary School is at 11420 E. Limberlost near Houghton and Prince. Setup will be between 6:30 and 7:00 pm. This is a school-wide event. We anticipate more than 300 visitors, and will need 6 to 8 scopes. To volunteer and for more information call Karen Allen at 749-5744.

Grand Canyon Star Party

17-24 June, 1995

Though there is still lots of time until this event, it is never too early to make plans. If you need a motel room, you need to make reservations NOW! The Park has been giving us some complementary campsites, and I will be taking names for them starting March 1st. Preference will be given to those staying the full week. If you want to come up for a few days, campground rates are only \$10 per day, and we can arrange to get you assigned to our area. Call Dean at 293-2855 for lodging or star party information.

Agua Caliente Elementary School



Stella Polaris

Or as it is more commonly called Polaris or the North Star. This star is the most important navigational star in the heavens. Polaris pronounced (poe-LAH-ris) is the 49th brightest star in the skies shining at a magnitude of 2.0. Polaris is visible in the northern part of the sky 32 degrees above the Tucson horizon. Polaris lies at the tail end of the constellation of Ursa Minor the Lesser Bear. In the year 2102 Polaris will make its closest approach to the North Celestial Pole passing within $\frac{1}{2}^\circ$ of this spot.

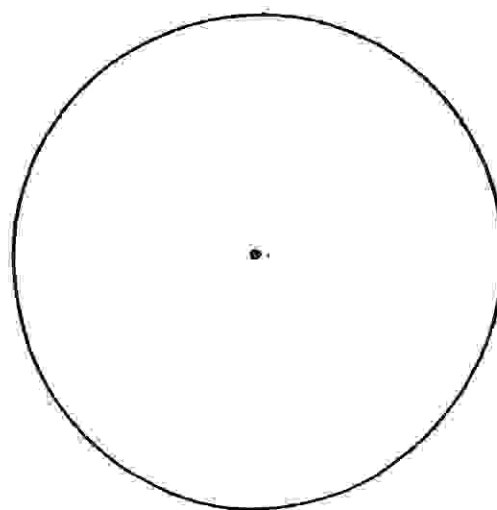
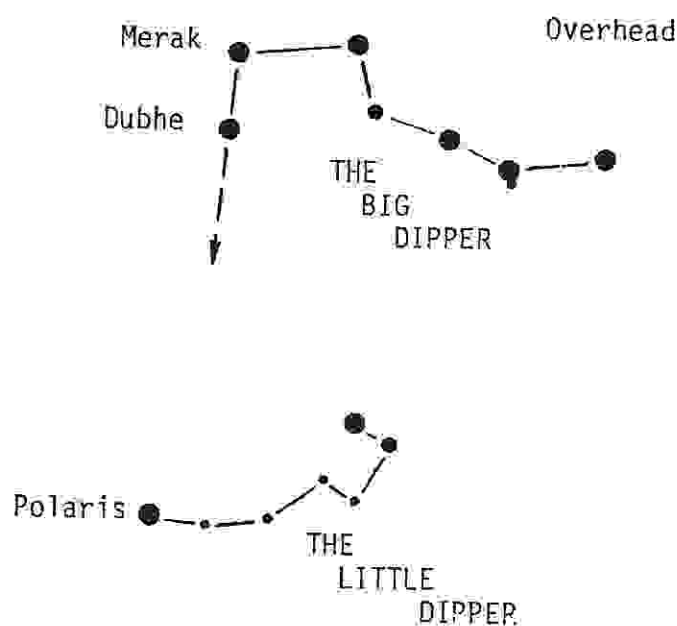
Polaris is a supergiant star with a spectrum of F8Ib, and it lies 690 light years from Earth. It has a luminosity of 5500 suns, and a temperature of 6000°K. Up until 1994, Polaris was known to be a Cepheid variable of small amplitude and it had a period of 4 days. But recent observations show that Polaris has stopped pulsating and is now constant. Astronomers aren't sure what to expect next from Polaris since it still lies within the instability strip of the Hertzsprung-Russell diagram. Will it start pulsating again or change its amplitude and period? Only careful observation and time will tell.

For small telescope users Polaris makes a pretty double star of unequal magnitudes.

Alpha Ursae Minoris A the primary out shines its companion by 7 magnitudes or about 630 times brighter. Alpha Ursae Minoris B is a main-sequence star with a spectrum of F3 and it has a luminosity about 3 times greater than our Sun. The companion lies $18\frac{1}{2}''$ from the primary at a P.A. of 218° . The companion has been changing slowly about 2° in P.A. per century, suggesting an orbital period of perhaps 40,000 years. Polaris can be difficult to resolve with small telescopes. Pick a dark steady night and use a fairly high magnification (50x-100x) to place the companion away from the glare of the primary. The primary appears yellowish-white and the companion looks blue.

Finding Polaris is easy, first locate the "Bowl" of the Big Dipper using the first two stars named Dubhe (Alpha Ursae Majoris) and Merak (Beta Ursae Majoris). These two stars are called the "Pointers" because they point straight to Polaris which lies 28° away. Polaris is not the brightest star visible but it still has enough interesting history and nature to make it worth your time and effort to observe.

Jeff Brydges



Polaris as seen in a 3" telescope at 75x

Chief Observer's Report

The TAAA/Flandrau Science Center "Mars Gazing" party on the UofA mall was a nice success. The TAAA again brought out about 6 scopes and Flandrau put out 4 and this was adequate for the 200 or so people who showed up. Although we did not have the mob scene of the February mall event, lots of folks showed up for a pleasant evening. Dean Ketelsen and Jim Wilmot again brought SCT's out and were busy but Roger Tanner attracted the longest lines with his long sonotube reflector. This high f/ratio scope gives sharp images and was a big hit with the public. Thanks to all who attended: Jeff Brydges, Andy Gittler, Terry Gilmartin, Randy Quiroz and anyone else I've forgotten. We'll have to do this again when Jupiter is near opposition.

The planet Mars this month is gradually dimming from its February encounter with Earth. Look for the "red planet" high overhead 1 hour after sunset. Mars, straddling Leo and Cancer, continues to shrink from a respectable 10.4 arc seconds to 8.3" by month's end. Even though Earth is drawing farther away from Mars, good surface features and its famous ice caps can be seen with a large amateur telescope if the air is steady, so don't give up observing it yet!

Venus continues as our "morning star" all month, but is gradually getting lower in the pre-dawn sky. Venus, a brilliant beacon in the east, will appear close to the horizon, so buildings, trees and other obstructions may block your view. Look for the moon to pass north of Venus on the mornings of the 26th and 27th. Finally, on the 13th, Venus and Saturn have a spectacular gathering in the pre-dawn sky (see conjunction description later in this article).

Gas giant Jupiter rides high in the south at dawn, in the constellation Scorpius. Jupiter will

remain a morning planet all month, revealing remaining impact sites from Shoemaker-Levy comet crash. Look for a dark, smudgy new "belt" on the southern half of the planet's disk. Jupiter rises in the southeast at 11 PM mid-month and reaches the meridian at 3:45 AM. It's disk of 42.5 arc seconds should give a decent view of the impact sites.

Saturn returns to the morning sky in April, and is visible low in the eastern sky, 1 hour before sunrise. The "ringless" planet (the rings are now edge on as viewed from Earth) is just off of the right knee of Aquarius and moving away from the sun in the eastern sky. It will become progressively higher in our sky all month. On the 13th Saturn and Venus have a spectacular gathering in the morning sky. Saturn, much dimmer of course than brilliant Venus, will only lie 0.5 of a degree southeast ("below", from our skies) of the now ringless planet. Both planets will appear only 4. degrees above the horizon (assuming a flat horizon-which most people won't have) 1 hour before sunrise, so the Rincon and Catalina Mountains may block your view.

There is *both* a partial Lunar Eclipse (although shallow) and an occultation of Spica for early risers on the morning of April 15. Spica will disappear about 3:12 AM and reappear just before start of morning twilight at approximately 4:03 AM (give or take a minute or two). Later, you will get to see one corner of the full moon darkened starting at 4:41 AM. At maximum eclipse only 12% of the moon's diameter will pass into Earth's umbra, so this a shallow eclipse indeed. Wishing you clear skies.

Michael Terenzoni

Voice mail at 621-2001; mailbox #111-1123

E-Mail: terezon@gas.uug.arizona.edu

WHAT'S NEW AT



Work Continues on the 16" Telescope

Volunteer Demo Galanos continues improving and optimizing our 16" telescope with the help of Bob Goff and the Observatory Committee. The latest improvement (other than new flooring) has been the addition of two Telrad finders, each spaced 180 degrees apart. Demo will add custom reticles to these Telrads in the future, matched to the field of view selective eyepieces give when used with the telescope. The Telrads are directly wired to AC power, so there's no danger of wasting batteries if they're left on. New improvements underway are new desks and shelves (to be made by Rob Nyberg),

a new finderscope, new finder illuminated reticle display and focuser adaptations and alterations. High on the "to be done" list are a computer controlled drive system, alternations to allow easy viewing for the disabled, and a final mirror refiguring (to make the already vastly improved optics perfect). Right now the only thing slowing these improvements down is funding and time.

If you haven't been to the telescope recently you owe yourself a trip to check out how much work has been done. The telescope is not only looking good, but performing nicely as well. Of course if you're interested in running the telescope, feel free to contact me and/or come by the Science Center and pick up a volunteer form.

Michael Terenzoni

Outreach Coordinator

Flandrau Science Center

Phone: 621-4515;

Voice mail at 621-2001; mailbox #111-1123

TAAA Executive Committee Meeting - March 9, 1995

Members present: Dean Ketelsen, Bob Goff, Duane Niehaus, Ingrid Saber, John Z., Larry Wilson, Gary Rosenbaum, and Teresa Lappin.

1. **Land Issues** - Discussed concerns regarding mineral rights, mining claims, and right of way across state and federal lands. Worked to help identify southernmost site on route 286, near Santa Margarita Ranch, while also being near a power line. Peter Schmerl, an attorney hired to help us acquire state land, will address many of our questions and concerns in a report due in the next month or two.
2. **Constitutional Reform** - Covered massive changes to existing TAAA constitution. Main changes involve new Board of Directors and Exec Committee positions to better distribute work load as recent changes dictate. Defined process for proxy voting and removing members and elected officers from the club. Better defined powers of Board of Directors. Changes will be reviewed by Dan Knauss before final publication and vote at the May meeting before elections.
3. **Nomination Committee** - The current slate for the May elections is:
 - President: Teresa Lappin
 - Vice President: Larry Wilson
 - Treasurer: Gary Rosenbaum or Duane Niehaus
 - Secretary: David Harvey
 - Mem./Large 1: Bob Goff
 - Mem./Large 2: Ingrid Saber
 - Mem./Large 3: John Kalas

Since the constitutional changes modify Board positions, the vote on the constitution will be taken first. If it passes, proxy, or absentee voting will be allowed, so a proxy ballot will be enclosed in April newsletter. If changes are not approved, we need to identify another secretarial position from the floor and proxy votes are disallowed.

4. **Upcoming Events** - It was decided to drop participation in this year's school science fair. We will participate with Kitt Peak in a public star party for astronomy day on May 6th.
5. **Astronomical League News** - Bob discussed AL sponsored e-mail and Internet access. It was decided that with most of the Board of Directors already with access, we didn't need to take advantage of it.

Desert Skies Classified

For Sale: Coulter 4.25" F/4 optic set with Novak mirror supports \$45, Deep Sky Magazine, 24 issues \$15. Call evenings 797-1693, ask for Ted. (04-95)

For Sale: CD-ROM disks of astronomical images and CD-ROM player. ARN (Astronomical Research Network), IRAS, Deep Space, Neptune and moons for \$40 each or best offer. Perry Berlind, 795-4575. (06-95)

For Sale: Celestron 6 telescope, \$400. Minolta XG1 Camera with 500mm telephoto lens, T-ring, tripod, \$180. Massoud Mortazavi, pager: 703-3797. (07-95)

For Sale: Meade 8-inch, F/6 telescope with setting circles, equatorial mount, 12-110V RA and Dec drive, \$450. Eyepieces: 26mm and 15mm Super Plossl, \$50 each; 40mm Kellner, \$30; 6mm Ortho, \$30; 9mm alluminated reticle, \$40. Eyepiece case, \$10. \$625 for all. Don Dietrich, 885-5851. (07-95)

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 Nancy or Nina at 579-1382 or email to 74750.247@compuserve.com.