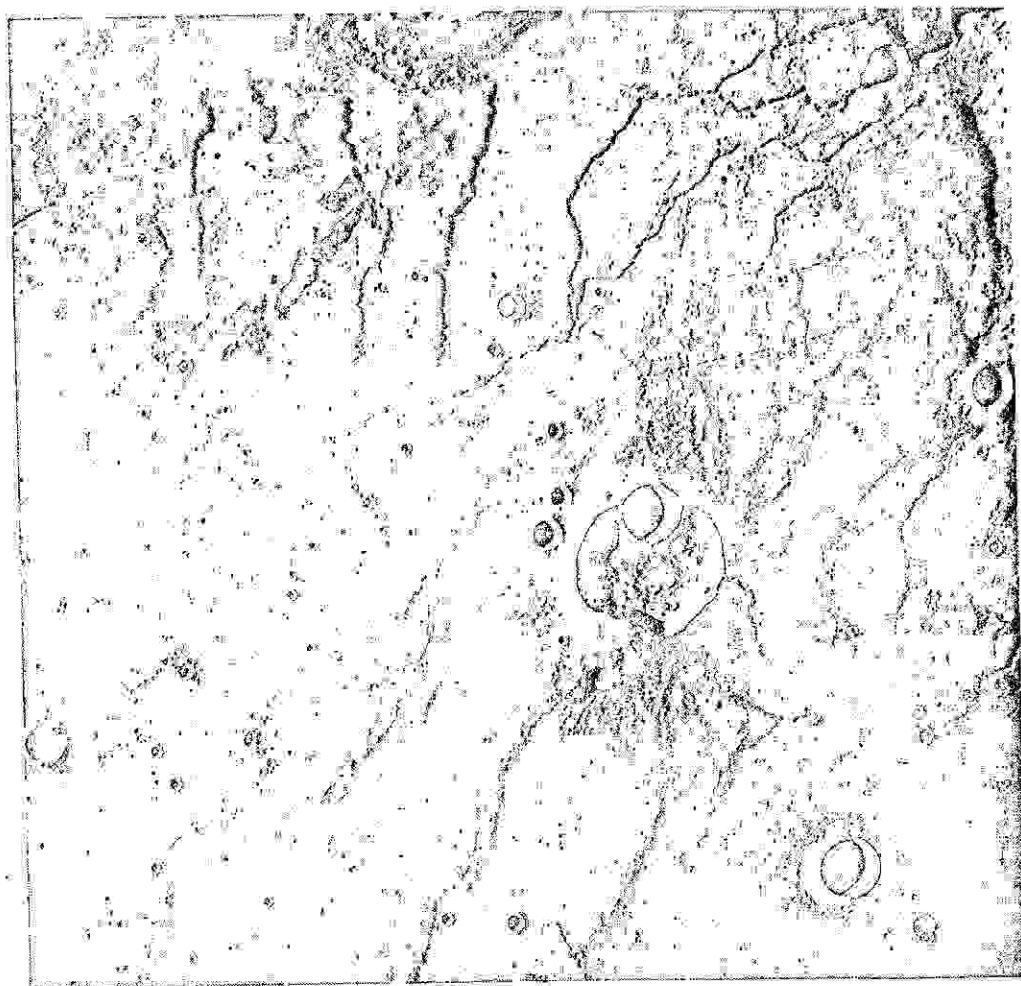


Desert Skies

MAY 1992



Cover: Central Krieger Crater north-northeast of Aristarchus Crater in Oceanus Procellarum. (Notice the several wrinkle ridges to the north and abundant sinuous rilles to the south.)



GENERAL MEETING - Friday, May 1, 7:30 P.M. - Roy Tucker will discuss Imaging Jupiter from Tumamoc Hill Observatory's 21 inch Telescope. Also, ELECTIONS for TAAA officers will be held!

EXECUTIVE MEETING -Wednesday, May 13, 7:30 P.M. at the home of Duane & Sharon Niehaus.

ASTRONOMY DAY - MAY 9 —SEE INSIDE FOR DETAILS

STAR PARTIES - Saturday, April 25 - Arivaca Star Party at new site*.
Friday, May 1 - Star Party for Mesa Elementary School at Catalina State Park (11570 N. Oracle)
Saturday, May 2 - Star Party at Arivaca.
Thursday, May 7 - Star Party at Biosphere II (Hwy. 77, Oracle-follow signs).
Saturday, May 9 - ASTRONOMY DAY at El Con Mall and star party at Sabino Canyon & UofA mall (Flandrau Planetarium)
Monday, May 11 - Star Party for Sunrise Elementary School (5301 E. Sunrise Dr.)
Friday, May 15 - Star Party for Smithsonian Institution at Sabino Canyon parking lot. You must sign-up ahead of time with Andy Meyer.
Friday, May 22 - Star Party for Smithsonian Institution at Sabino Canyon parking lot. You must sign-up ahead of time with Andy Meyer.
Saturday, May 23 - Star Party at Arivaca.
Saturday, May 30 - Star Party at Arivaca.
Saturday, June 6 - Star Party for Smithsonian Institution at Sabino Canyon parking lot. You must sign-up ahead of time with Andy Meyer.
Saturday, June 20 - Star Party at Kitt Peak picnic area. There will be a sign-up sheet at the May meeting (see Andy Meyer).

TAAA EXECUTIVE

| | | |
|-------------------|----------------|----------|
| President | Dean Ketelson | 293-2855 |
| Vice-President | Terri Lappin | 579-0185 |
| Executive Sec. | Dick West | 574-0830 |
| Recording Sec. | Sharon Niehaus | 299-7328 |
| Treasurer | Sharon Niehaus | 299-7328 |
| Member-at-Large | Bob Goff | 790-1452 |
| Member-at-Large | Ed Vega | 747-9323 |
| Chief Observer | Andy Meyer | 742-4549 |
| Membership Coord. | Terri Lappin | 579-0185 |
| Past President | Tim Hunter | 299-2972 |
| Desert Skies ed. | Dolores Hill | 325-9820 |
| Asst. ed. | Rik Hill | 325-9820 |

Desert Skies Publishing Guidelines

- * All articles, announcements, news etc. must be submitted by the 20th of the month. Materials received after that date will appear in the NEXT issue.
- * All submissions are retained by the editor unless prior arrangements are made.
- * Articles, artwork, and photos should be camera ready. Photos should be screened.
- * We will not publish slanderous or libelous material!

Send articles, announcements etc. to:
 Dolores Hill, Desert Skies
 4632 E. 14th St., Tucson, AZ 85711
 or Lunar & Planetary Lab, UA campus mail
 Send ADDRESS CHANGES to:
 TAAA
 Attention: "address change"
 P.O. Box 41254
 Tucson, AZ 85717

MEMBERSHIP IN THE TAAA

Individual Membership \$20.00
 Family Membership \$25.00
 Senior Citizen (over 60) \$18.00

Sky & Telescope subscription (optional) \$18.00

Rates for membership in the TAAA are given above. Members can subscribe to Sky & Telescope at the time of membership renewal, saving over 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, P.O. Box 41254, Tucson, AZ 85717. It is best to pay your dues 2-3 months before your membership actually expires.

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. a) Decide if you want Sky & Telescope, then add \$18 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.

COMET FLASH FROM DAVID LEVY!

David Levy's 17th and Carolyn Shoemaker's 27th comet, 1992f Shoemaker-Levy 8, was discovered in early April. West of Scorpio when discovered, it is a 17th magnitude, periodic comet.

ITEMS WANTED OR FOR SALE..... If YOU have placed an ad and sell the item(s) or no longer wish to run it, please call Dolores or Rik Hill at 325-9820 (home) or 621-6951(work). Otherwise the ad will continue to appear. Thanks. -ed.

ANNOUNCEMENT: We have received information about The Planetary Society Scholarship Programs that are awarded to college and high school students. It's not a lot of money, but every bit helps when you're a student. If you are interested, contact Teresa Lappin.

FOR SALE: Book published in 1858 by Harper & Brothers, "Celestial Scenery; or The Wonders of the Planetary System Displayed", written by Thomas Dick. Interesting reading, I'll bring it to the May meeting. Make an offer....Bookman's offered me \$3!.....Teresa Lappin 579-0185.

FOR SALE: 14 1/2" F/5.5 Newtonian. Superb optics by Enterprise (Ed Breck) with special coatings. Optics tested by Duane Niehaus, 2-inch helical focuser with 1 1/4" adapter, finderscope and rotating rings, heavy duty Elysium mount with 12-inch Byers gear, RA and Dec motors. Both scope & mount made by Gary Rosenbaum. Pick-up only.....\$5,300. Call Ed Vega at 602-747-9323 (work 602-721-3815).

FOR SALE: Epson LQ-2250 twenty-four pin, wide carriage, color dot matrix printer, \$450.
Call Dan Knauss at 881-2639.

WANTED: 25mm eyepiece; **FOR SALE:** Small diagonal for Newtonian telescope; 20th wave, 7/8" minor axis, custom made; **OR WILL TRADE FOR** 1 1/4" diameter eyepiece with 16-18mm focal length. Call Gilbert Friedman at 571-1662.

FOR SALE: 18" mirror 1 1/2" thick, presently has 25 foot focal length and is coated...Call Rik Hill at 325-9820 for info.

FOR SALE: Estey (Vermont) antique pump organ. 11 stops, all notes work fine, delightful sound... \$995.
Contact Stephen B. Smith at (602) 456-9440 or Box 5056, Huachuca City, AZ. 85616.

SERVICE: Newtonian telescope mirrors tested FREE for club members by Bob Goff (call 790-1452).

NEEDED: Donations of astronomy magazines to give away at star parties along with the TAA brochure.

FOR SALE: CELESTRON binocular viewer (mint condition, like new, used only once);
TELEVUE 2" star diagonal (excellent condition) with 1 1/4" adapter and Schmidt-Cass. adapter.
Call John Zajac at 299-3203 (answering machine is always on).

WILL TRADE: 4.8mm NAGLER eyepiece (excellent condition) and additional cash for 7mm Nagler eyepiece.
Call John Zajac at 299-3203 (answering machine is always on).

FOR SALE: 65mm refractor with equatorial mount (no motor), manual slow motion controls, carry case, 4 eyepieces, approx. 30 yrs. old.....good for beginner.\$65. Call Virginia Breckenridge at 298-3586.

FOR SALE: NEW (never used) 13mm Plossl TeleVue eyepiece...\$80; two Celestron polarizing filters, 67mm dia. @ \$10.00; 10 rolls of Ektapress print film, 1600 ASA, hi-contrast...\$6/roll or \$25/Propack (5 rolls). (This is the film Mike used for the award-winning photo in the September issue of *ASTRONOMY*); calymenina trilobites from Morocco...\$10 ea. Call Mike Terenzoni at 577-6857.

FOR SALE: *ASTRONOMY* magazine 1974-1990; missing 7 early issues; 14 yrs. complete, in good condition...\$150.
8 inch Edmund mirror kit...\$40.00. CAVE drive, 1 1/2 inch shaft with housing, only 40 hrs. running time...\$80.00. Call Mike Sweetman evenings at 297-2781.

FOR SALE: 2" Rack & pinion Novak focuser with 1 1/4" adapter- mint condition (never used).....\$90.00. Call Ray Wallace at 294-1197.

FOR SALE: Yashica 35mm SLR camera/50MM lens...\$150. Call Patrick Craig at 792-4980 (new phone#).

OBSERVERS REPORT

Star Parties

Regular:

May 2 Arivaca site,
see map

May 23 Arivaca site,
see map

May 30 Arivaca site,
see map

Public:

May 1 Catalina State Park for
Mesa Verde Elementary
School

May 7 Biosphere 2, see map
elsewhere

May 9 Astronomy Day, at El Con
Mall & Sabino Canyon

May 11 Sunrise Elementary, see
map elsewhere

May 15 Smithsonian star party, at
Sabino Canyon

May 22 Smithsonian star party, at
Sabino Canyon

As you can see from the above list we have the potential to be a very busy club this month, the weather gods be willing. I will have Terri Lappin set out sign-up sheets for most of these events at the May meeting (thanx in advance Terri!).

Ah, the viewing has finally become decent, dare I say excellent? Seeing has been the best I've seen it, at least on the northwest side of town. Jupiter really comes into its own on nights like this. The equatorial band(s) show splendid detail, festoons, red spot hollow, moon & moon shadow transits all neat stuff! Drag that telescope out of the closet and take a good, long look.

OK folks, heres your opportunity to evaluate the prospective observatory site down by Arivaca. There are three club star parties scheduled for this site during dark of the moon this month. The land and telescope committee would like to put this site to a referendum soon. So please become an informed voter and see this land. If you need help getting there let me know and I'll help you with transportation.

Until next month, may transparency and good seeing prevail!

Andrew J. Meyer

CELESTIAL CALENDAR for May (all times are in MST):

- F May 1 6:30pm, Star party at Catalina State Park for Mesa Verde Elementary School, dinner at 5:30pm for club members who sign up to attend.
7:30pm, TAAA General Membership Meeting, Steward Obs. 1st floor auditorium.
- S May 2 TAAA Star Party, Arivaca site, see map elsewhere.
10:45am, NEW MOON.
- S May 3 5pm, Moon passes 1.4° S of Pleiades.
- M May 4 η Aquarid meteors, ZHR 40, dark sky till twilight this morning at 4:03am.
- T May 5 11:38pm, Moon at descending node, longitude 91.4° .
- W May 6 Robert Dicke, American physicist, born 1916.
- T May 7 7:30pm, ~~TAAA Executive Meeting, Flandrau Science Center conference room.~~
9pm, Star party at the Biosphere II, set up at 7pm, see map elsewhere.
- F May 8 8pm, Astronomy Day set-up at El Con Mall, volunteers needed!
- S May 9 8:44am, FIRST QUARTER MOON.
10am, ASTRONOMY DAY, booth at El Con Mall
7pm, ASTRONOMY DAY, star party at Sabino Canyon
- S May 10 1am, Moon passes 2.9° S of Regulus.
- M May 11 6:30pm, Star party at Sunrise Elementary School, see map elsewhere.
9pm, Pluto at opposition, best time of year to view, see chart in Jan. S&T.
- T May 12 Adler Planetarium, 1st in US, opens in Chicago, 1930.
- W May 13 7:30pm, 30" Telescope Design, Land and Fundraising Meeting at Duane Niehaus', see map elsewhere.
- T May 14 1st U.S. space station, Skylab 1, launched, 1973.
- F May 15 6pm, Smithsonian star party, Sabino Canyon parking lot.
- S May 16 9:02am, FULL MOON, the planting Moon.
- S May 17 7am, Mars at perihelion, 1.3812 a.u. from Sol.
- M May 18 US launches Apollo 10 to rehearse lunar landing, 1969.
- T May 19 2:57am, Moon at ascending node, longitude 270.9° .
7pm, Comet Tsuchinshan 2 at perihelion.
- W May 20 2pm, Moon passes 0.87° N of Neptune.
- T May 21 Yerkes 40-inch refractor sees first light; E.E. Barnard discovers companion of Vega, 1897
- F May 22 6pm, Smithsonian star party, Sabino Canyon parking lot.
- S May 23 TAAA Star Party, Arivaca site, see map elsewhere.
- S May 24 8:54am, LAST QUARTER MOON.
- M May 25 1st US crew to occupy a space station (Skylab 2), 1973
- T May 26 Richard Carrington, English astronomer, born 1826
- W May 27 7pm, Mercury 0.51° N of Venus, both are 4° from the Sun. Be extremely careful!
- T May 28 2am, Moon passes 6.8° N of Mars.
- F May 29
- S May 30 TAAA Star Party, Arivaca site, see map elsewhere.
- S May 31 Mercury at superior conjunction.

Andrew J. Meyer

ASTRONOMY DAY

The TAAA Astronomy Day Mall display will begin at 10am and run until 6pm. Members are needed to help man the display and make sure that nothing walks away or is broken. You may get asked some questions, too. We will also be manning a solar telescope outside near Foley's. Your help would be greatly appreciated by all who bring items for the display. If you can provide a few hours on Saturday morning or afternoon, please come by the mall. Our display will be near the JC Penney Center Court, to the left of the center area if you come in the south entrance to the mall.

If you would rather help behind the scene or if your Friday evening is free, we will be setting up most of the display on Friday at 8pm. I hope to have as much as possible done by 9:30pm Friday. What doesn't get done will need to be finished up Saturday morning at 8am. Take down will be at 6pm on Saturday. Helpers are needed at these times.

We are still in need of some items for the display: a solar telescope, a refractor, a reflector (Dobson mounted would be best), and a Celestron or Meade Schmidt Cassegrain. If you would like to show off your computer and astronomy programs, we would like to see them, but we don't have an IBM (or compatible) computer yet for the display. A VHS video player is needed, too. If you have any of these items and would like to provide them for the display, call Teresa at 579-0185 or talk to her at the May 1st meeting.

Later in the evening, there are two star parties to attend. The TAAA is hosting one at Sabino Canyon Parking Lot at 7:30 pm and Flandrau Planetarium has asked us to attend their star party on the mall. If you and your telescope are free in the evenings, how about helping out at one of the star parties.

Teresa

ASTRONOMY DAY FLANDRAU SCIENCE CENTER AND PLANETARIUM

Saturday May 9th

Tentative Schedule of events

SPECIAL EXHIBITS
Arizona Astronomers
Mirror lab display
Hubble Space Telescope

Afternoon Activities 1-5 pm

Solar prominence telescope
- courtesy Frank Lopez, Stellar Vision
Mirror lab tours @ 2:00 and 3:00
- John Hill, Mirror Lab
Science Demonstrations - "Too cold to hold"
1:45 2:45 3:45
- Dr. Donald McCarthy, Steward Observatory
Planetarium shows: \$2.00 / ticket
1:30 Skywatchers of Ancient Mexico
2:30 Laser Odyssey
3:30 Skywatchers of Ancient Mexico

Evening 6-10 pm

Live Sky show. Free admission
6:30 "What's Up?"
Astrophotography with 16-inch telescope
7-10 pm Lunar photography
Star Party on the Mall
7-10 pm TAAA
Planetarium programs (regular prices)
7:30 Skywatchers of Ancient Mexico
8:30 Country Laser

ASTRONOMY DAY

SATURDAY, MAY 9TH

These are the Astronomy Day activities that are going on in the Tucson area.

Mall Display

Tucson Amateur Astronomy Association
El Con Mall 10am - 6pm near JC Penney Center Court

Astronomy Exhibit

Flandrau Science Center, UofA mall
tours of Mirror Lab (contact Flandrau)

Stellar Vision

1835 S. Alvernon Way

Public Observing

Sabino Canyon Parking Lot

and

Flandrau Science Center

All events held at Flandrau Science Center, Cherry and the Mall.

STAR PARTY AT SABINO CANYON FOR SMITHSONIAN OBSERVATORY

Friday, May 15 and Friday, May 22

For the fourth time the TAAA has been asked to host a star party at the Sabino Canyon Parking Lot for attendees of the Smithsonian Institution's New Astronomies Seminar. We will be meeting at Sabino Canyon at 6:00pm to set up telescopes and then sit down with the group for a boxed dinner at 6:30pm. After that it's observing! The seminar attendees will have spent an entire week in the classroom hearing lectures by prominent astronomers in the Tucson area and will be anxious to see something through a real eyepiece! According to surveys, the star parties we have hosted in past years have been one of the highlights of the seminar. We always come across as very friendly and knowledgeable and TAAA members have always enjoyed this annual event.

We will have sign-up sheets at the meeting. Be sure to sign up if you want to have a dinner waiting for you (we usually get a few extras just in case). In the event of clouds, we will still set up telescopes for the attendees to see. In the event of rain, we will cancel.

Please note: Many TAAA members will be at the Riverside Telescope Makers Conference on May 22nd. If you are not going to RTMC, please consider attending this event.

DARK SKIES for May 1992 (in MST):

| | | | | |
|-----|-----|-------|-----------|---------|
| F/S | May | 1/2 | 8:35pm - | 4:06am |
| S/S | May | 2/3 | 8:36pm - | 4:04am |
| S/M | May | 3/4 | 8:37pm - | 4:03am |
| M/T | May | 4/5 | 9:35pm - | 4:02am |
| T/W | May | 5/6 | 10:33pm - | 4:01am |
| W/T | May | 6/7 | 11:25pm - | 4:00am |
| T/F | May | 7/8 | 12:11am - | 3:59am |
| F/S | May | 8/9 | 12:52am - | 3:57am |
| S/S | May | 9/10 | 1:28am - | 3:56am |
| S/M | May | 10/11 | 2:03am - | 3:55am |
| M/T | May | 11/12 | 2:36am - | 3:54am |
| T/W | May | 12/13 | 3:10am - | 3:53am |
| W/T | May | 13/14 | 3:47am - | 3:52am |
| T/F | May | 14/15 | none | |
| F/S | May | 15/16 | none | |
| S/S | May | 16/17 | none | |
| S/M | May | 17/18 | none | |
| M/T | May | 18/19 | 8:52pm - | 9:32pm |
| T/W | May | 19/20 | 8:53pm - | 10:18pm |
| W/T | May | 20/21 | 8:54pm - | 10:58pm |
| T/F | May | 21/22 | 8:55pm - | 11:33pm |
| F/S | May | 22/23 | 8:56pm - | 12:05am |
| S/S | May | 23/24 | 8:57pm - | 12:35am |
| S/M | May | 24/25 | 8:58pm - | 1:03am |
| M/T | May | 25/26 | 8:59pm - | 1:31am |
| T/W | May | 26/27 | 8:59pm - | 2:01am |
| W/T | May | 27/28 | 9:00pm - | 2:33am |
| T/F | May | 28/29 | 9:01pm - | 3:10am |
| F/S | May | 29/30 | 9:02pm - | 3:40am |
| S/S | May | 30/31 | 9:03pm - | 3:40am |

Times listed are for Tucson, Arizona when:

- (1) Moon is below the horizon
- (2) Sun is $>18^\circ$ below the horizon
(astronomical twilight)

Andrew J. Meyer

Grand Canyon Star Party - Final Notice!

By the time the next newsletter comes out, the Grand Canyon Star Party will be in full swing. If you have not heard from me about your reservations, please notify me of your plans as soon as possible! There are still some of the complimentary campsites available for the second half of the star party. Please call if you are interested in one of them. As of the 20th of April, I have gotten about 30 requests for information, with them still coming in most every day. Interestingly enough, there is little regional interest, the requests are very nearly randomly scattered throughout the country. It should be an interesting mix of amateurs and of course, a great international crowd at the Canyon. Don't miss out, make plans today!

Dean Ketelsen 293-2855

TAAA Annual Elections at May Meeting

Elections of the TAAA Executive will be held at the May 1 meeting. Current nominations for office consist of the current officeholders except for Treasurer, for which Duane Niehaus has been nominated. The current candidates:

President - Dean Ketelsen
Vice-President - Teresa Lappin
Executive Secretary - Dick West
Recording Secretary - Sharon Niehaus

Treasurer - Duane Niehaus
Members-at-Large:
Robert Goff
Dr. Eduardo Vega

If you would like to run for an office or nominate someone, please call Gary Rosenbaum, this year's nomination committee, at 579-0185.

Astronomy Day on Kitt Peak!

Kitt Peak has requested TAAA assistance for Astronomy Day on May 9th(see other notices for events on this day). They are looking for a couple of members to run telescopes for observing the sun during their museum hours of 10am to 4pm. You can enjoy lunch there as an additional reward to educating the crowds that come up. If you have the proper neutral density or Hydrogen alpha filters for your telescope, please sign up at the May meeting with Teresa. At the same time, you might want to consider joining the Docent Program there, where you would volunteer your time to give tours of the mountaintop. They are requiring only one volunteer day per month, and they are also in need of people to help with their public nights, which they have every month. I (Dean K.) have gone through the training and have worked two days and a public night there and it was a lot of fun. The meals are a nice perk, but the people you are taking around really soak up the info and make you glad you got involved. Think about it!

Exec Meeting in May Rescheduled

Because of the Biosphere II Star Party scheduled for May 7th, the Executive Meeting normally held on that night will be postponed until the following Wednesday, May 13, at the home of Sharon and Duane Niehaus at 7:30 pm.

We have a Winner!

The t-shirt design contest finally has a winner in Pat Daniels, who won the vote-off with Michael Hurwitz at the last meeting. He will receive a gift certificate from Stellarvision and a year's membership to TAAA. Congratulations Pat! The Executive is considering the variables in transferring his art to the torsos of our members.

APPULSES by Brad Becker

Looking for a way to make your observing sessions or astrophotos more interesting? Try catching an appulse! Loosely put, the term "appulse", as used in astronomy, refers to two or more celestial objects in close proximity (at least one of which is a body of our solar system). The term is often used when an object of our solar system (comet, minor planet, or planet) is seen projected next to a distant deep sky object (star cluster, nebula, galaxy, etc). In the case of a minor planet "passing by" a galaxy (as seen from Earth), this would be referred to as an appulse between the two objects. For a specific example, see the May, 1992 issue of Sky & Telescope detailing the close approach of Vesta to NGC 3628.

Software is now available which predicts when a comet or minor planet can be seen near a deep sky object. Using detailed charts, the field of view containing the object, and hence the object itself, may be more easily identified. Astrophotographers can take delight in obtaining some unique, one of a kind photos. Visual observers receive the satisfaction of tracking down and identifying an object changing position with respect to a fixed background. Here's a few resources that can get you started in discovering your own appulses:

1992 Ephemerides of Minor Planets. Orbital elements and positions for more than 4600 asteroids, all in epoch J2000. \$38 available from: The White Nights Trading Co., 520 NE 83rd St., Seattle Washington 98113.

Subscription to the Minor Planet Observer, Box 818, Florissant CO 80816. \$17/yr. subscription. An excellent monthly newsletter with lots of information. Occultation predictions, selected plots of the positions of asteroids against Hans Vahrenberg's Falkau Atlas, appulses of deep sky objects and brighter stars, emphasis on photometry. Members are eligible for the "MPO Asteroiding Award" given to those confirming the sighting of asteroids with categories for visual, photographic, astrometric, and photoelectric observations.

Software program "CLSAPP2" available from the Minor Planet Observer. \$25. Allows the user to determine which asteroids will be near any of over 2000 deep-sky objects. User parameters include limiting asteroid magnitude, distance from object, and more. Math co-processor recommended.

Software program "ASTPOS2" available from the Minor Planet Observer. \$25. This program allows the user to ask: "which asteroids, if any, are within a given distance of a point in the sky at a given time/date?" Includes a deep-sky catalogue and database of 4200+ asteroids. Helpful to identify those "streaks" on your astrophotos and determine multiple appulses to a deep-sky object. Math co-processor recommended.

Software program "APPULSE" available from George Viscome, 100 Sentinel Road, Lake Placid, NY 12946. \$10. George has had a number of his articles published in Sky & Telescope as a result of his software. Allows manual entry of orbital positions to discover appulses. Helpful for comet appulses.

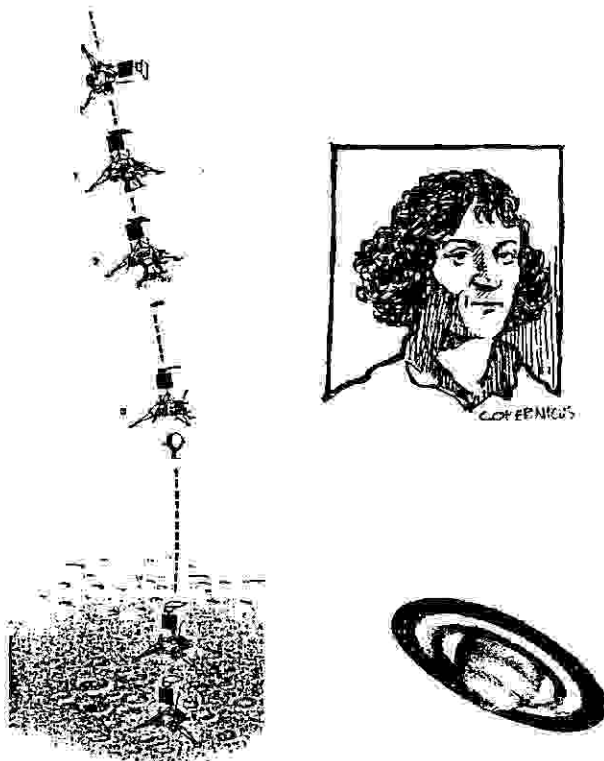
You may also want to check out a few astronomy bulletin boards, many of which have a number of excellent shareware programs. You can get anything from ephemeris generators and planetarium programs to IAU Circulars to keep you on top of new discoveries. Two of my favorite boards include the Rancho Palos Verdes BBS and the Stargate BBS. Refer to the September issue of Sky & Telescope for phone numbers.

Appulses occur just about every night but the key is to find those which will be easily observable. In future newsletters I'll try to profile some of the better ones.

CELESTIAL CALENDAR for April (all times are in MST):

- W Apr. 1 12pm, Moon passes 7.0° N of Venus.
- T Apr. 2 10:02pm, NEW MOON.
- F Apr. 3 7:30pm, TAAA General Membership Meeting, Steward Obs. 1st floor auditorium.
- S Apr. 4 TAAA Star Party, Arivaca site, see map elsewhere.
- S Apr. 5 3pm, Mercury 2.3° N of Venus.
- M Apr. 6 10am, Moon passes 1.2° S of Pleiades.
- T Apr. 7 6pm, Mercury stationary in RA, resumes direct (eastward) motion.
- W Apr. 8 6:30pm, Star party at Donaldson Elementary School, see map elsewhere.
- T Apr. 9 7:30pm, TAAA Executive Meeting, Flandrau Science Center conference room.
- F Apr. 10 3:05am, FIRST QUARTER MOON.
- S Apr. 11 Jupiter Event Party at Gary and Terry's, see map elsewhere.
- S Apr. 12 10pm, Comet Giacobini-Zinner at perihelion.
- M Apr. 13 12am, Moon at perigee, 57.7 earth-radii.
- T Apr. 14 5am, Venus at greatest latitude S of the ecliptic (-3.4°).
- W Apr. 15 7:30pm, 30" Telescope Design, Land and Fundraising Meeting at Duane Niehaus', see map elsewhere.
- T Apr. 16 9:42pm, FULL MOON.
- F Apr. 17 Surveyor 3 launched: 1st spacecraft to sample the surface of the Moon, 1967.
- S Apr. 18 11am, Mercury at aphelion, 0.4667 a.u. from Sol.
- S Apr. 19 M56 discovered by Charles Messier, 1779.
- M Apr. 20 1am, Moon passes 2.6° N of Antares.
- T Apr. 21 2pm, Uranus stationary in RA, begins retrograde (westward) motion.
- W Apr. 22 Lyrid meteors, ZHR >30, dark sky till 11:40pm of 4/21, bright Moon in morning interferes.
- T Apr. 23 7am, Mercury at greatest elongation west, 27.3° from Sol.
- F Apr. 24 2:40pm, LAST QUARTER MOON.
- S Apr. 25 TAAA Star Party, Arivaca site, see map elsewhere.
- S Apr. 26 Copernicus makes his first observations of the planet Saturn, 1514.
- M Apr. 27 Immanuel Kant, Russian philosopher & astronomer, born 1724.
- T Apr. 28 α Bootid meteors, ZHR 7ish.
- W Apr. 29 12am, Moon passes 7.0° N of Mars.
- T Apr. 30 4pm, Jupiter closest to Regulus, 5.0°.
- F May 1 6:30pm, Star party at Catalina State Park for Mesa Verde Elementary School, dinner at 5:30pm for club members who sign up to attend.
- S May 2 TAAA Star Party, Arivaca site, see map elsewhere.

Andrew J. Meyer

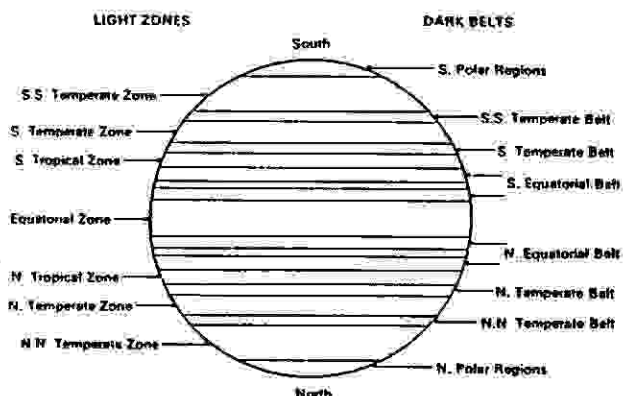


DARK SKIES for April 1992 (in MST):

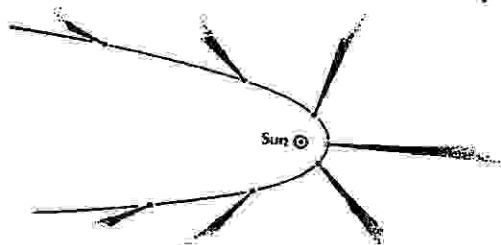
| | | |
|-----|------------|------------------|
| W/T | Apr. 1/2 | 8:07pm - 4:46am |
| T/F | Apr. 2/3 | 8:08pm - 4:45am |
| F/S | Apr. 3/4 | 8:09pm - 4:44am |
| S/S | Apr. 4/5 | 8:38pm - 4:42am |
| S/M | Apr. 5/6 | 9:41pm - 4:41am |
| M/T | Apr. 6/7 | 10:43pm - 4:39am |
| T/W | Apr. 7/8 | 11:43pm - 4:38am |
| W/T | Apr. 8/9 | 12:38am - 4:36am |
| T/F | Apr. 9/10 | 1:28am - 4:35am |
| F/S | Apr. 10/11 | 2:11am - 4:34am |
| S/S | Apr. 11/12 | 2:51am - 4:32am |
| S/M | Apr. 12/13 | 3:27am - 4:31am |
| M/T | Apr. 13/14 | 4:02am - 4:29am |
| T/W | Apr. 14/15 | none |
| W/T | Apr. 15/16 | none |
| T/F | Apr. 16/17 | none |
| F/S | Apr. 17/18 | none |
| S/S | Apr. 18/19 | 8:22pm - 8:57pm |
| S/M | Apr. 19/20 | 8:23pm - 9:57pm |
| M/T | Apr. 20/21 | 8:24pm - 10:52pm |
| T/W | Apr. 21/22 | 8:25pm - 11:40pm |
| W/T | Apr. 22/23 | 8:26pm - 12:23am |
| T/F | Apr. 23/24 | 8:27pm - 1:01am |
| F/S | Apr. 24/25 | 8:28pm - 1:35am |
| S/S | Apr. 25/26 | 8:29pm - 2:06am |
| S/M | Apr. 26/27 | 8:30pm - 2:35am |
| M/T | Apr. 27/28 | 8:31pm - 3:03am |
| T/W | Apr. 28/29 | 8:32pm - 3:33am |
| W/T | Apr. 29/30 | 8:33pm - 4:03am |
| T/F | Apr. 30/1 | 8:34pm - 4:07am |
| F/S | May 1/2 | 8:35pm - 4:06am |
| S/S | May 2/3 | 8:36pm - 4:04am |

Times listed are for Tucson, Arizona when:
 (1) Moon is below the horizon
 (2) Sun is >18° below the horizon
 (astronomical twilight)

Andrew J. Meyer



Zones and belts on the surface of the planet Jupiter



KITT PEAK NATIONAL OBSERVATORY MUSEUM

HC 04 BOX 7520 TUCSON, ARIZONA 85735-9734 602-740-2428



Have you ever wanted to visit an astronomical observatory after dark?? Have you ever wished you could look through a professional telescope?? Kitt Peak Museum is pleased to offer you the opportunity to visit Kitt Peak National Observatory during one of our special Public Evenings.

A Public Evening lasts four to five hours and includes: a visit of the Kitt Peak Museum, a talk by a professional astronomer, and visits to the McMath Solar Telescope and one or two of the large optical telescopes on the mountain. The Observatory's 36-inch telescope will be open for viewing.

Public Evening dates for the season are:

| | |
|-------------------------------|---|
| Saturday, February 22 | (departure at 4:30 pm) |
| Saturday, March 21 | (departure at 4:30 pm) SOLD OUT |
| Saturday, April 18 | (departure at 5:00 pm) |
| Saturday, May 16 | (departure at 5:00 pm) |
| Saturday, June 13 | (departure at 5:30 pm) |

A chartered bus leaves our mid-town offices promptly at the set departure time and arrives on the mountain approximately an hour and a half later. The bus leaves the Observatory at 10:30 pm for the return trip to Tucson.

Visitors should bring a picnic-style dinner to eat shortly after arriving on the mountain. We will provide hot drinks. Our Museum Store, offering one of the finest selections of Tohono O'odham basketry available, will be open. Staff members will be available to answer questions about the Observatory and to assist you in any way.

In case of inclement or cloudy weather, the Public Evening visits will still take place. Telescope viewing is then replaced by a behind-the-scenes tour of the Observatory.

Please be aware that the Observatory is at an altitude of 7000 feet. The tour involves considerable walking in a mountainous setting and climbing stairs is necessary to access some areas. Evening visitors should also note that the temperature on Kitt Peak can be remarkably different from the weather in Tucson, depending particularly on wind conditions. Warm clothing is required, even during the warm weather months. Please note that absolutely no alcoholic beverages are allowed.

To join us for a memorable evening under the stars, send us a check or money order (no cash, please) for \$30.00 per person and indicate your first and second preference for visiting dates. Please act promptly. Requests are filled on a first-come, first-served basis. This is a sellout event! There is a limit of four (4) tickets per request. Your check will be returned if we are unable to schedule your visit.

Sorry, no phone reservations, no refunds and no date substitutions.
Please send your check or money order, payable to AURA INC.
and a self-addressed stamped business-size envelope to:

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