



East Valley Astronomy Club

January

Newsletter

1997

EVAC MEETING HIGHLIGHTS

by Aaron McNeely

In President Sheri Cahn's absence, Vice-President Tom Polakis opened the meeting at 7:43 pm (Sheri arrived a little later). There were 58 persons present. Tom discussed the following events:

Local Star Party: Jan 4 at Florence Junction.
EVAC Meeting: Jan. 8 at SCC.
Deep Sky Star Party: Jan. 11 at Vekol Road.

Treasurer Silvio Jaconelli was accepting membership renewals for next year.

Bob Kerwin reminded members of EVAC's Messier program. Participants who complete the Messier list receive a certificate and telescope plaque.

Paul Dickson is selling SAC's Best of the NGC for \$5, and he also unveiled his latest creation, SAC's Messier Logbook. Similar in format to the Best of the NGC, the Logbook devotes an entire page to each Messier object and costs \$15. Paul still hasn't received copies of The Observer's Handbook, he was going to sell them for around \$11. He also reminded members of the University of Arizona Mirror Lab open house which is scheduled for Saturday, Jan. 18th. The Mirror Lab will celebrate the casting of their first 8.4 meter mirror. For more information contact Paul Dickson at 841 7044.

Sam Herchak presented photographs from a friend who attended the Stellafane telescope builders convention in Vermont. Sam also had 1997 Exploring the Universe calendars (Kalmbach) available for those who had paid in advance. Sam hosted EVAC's holiday party which occurred on Friday, Dec. 27.

Don Wrigley requested that members participate in a Jan. 11th star party for the Boyce Thompson Southwestern Arboretum. The Arboretum is about 3 miles further down US 60 from the Florence Junction site. This star party is on the same night as the Deep Sky star party and will cater to a senior crowd. For more information contact Don Wrigley at 982-2428.

Bill Peters attempted to rally observers for the occultation of a tenth magnitude star by the asteroid Interamnia. The occultation occurred near the Perseus-Taurus-Aries border at around 2:00 am on Tuesday morning, Dec. 17. The prediction of visibility favored the Phoenix area, and we will probably hear reports at the Jan. 8th EVAC Meeting. Bill also presented data derived from a grazing occultation of Spica which indicated heights of 60-120-240 ft for features near the south pole of the Moon (close to where the Clementine lunar probe detected hints of ice in the bottom of a deep crater).

FEATURED PRESENTATIONS

Since this was Members Show and Tell, Tom Polakis introduced a variety of presenters. Tom himself began by describing his observation from Sentinel of the Space Shuttle reentering the atmosphere early Saturday morning, Dec. 7th. Also, during this weekend, Tom swept up a faint "comet" and began to entertain thoughts of Comet Polakis. The object turned out to be a galaxy listed in the Uppsala General Catalog not plotted in Uranometria 2000.

Paul Dickson presented examples of his serial comic "Dim Moments in Amateur Astronomy." I won't describe the punch lines, but I will state that his comics involved, among other things, a swap meet, hitchhiker, car-b cue, and averted imagination! He has also included some of these strips in his recent Messier

UPCOMING EVENTS

- **Local Star Party, Jan. 4, 1997, Sunset -5:33 pm**
Florence Junction site
- **EVAC Club Meeting, Jan. 8, 1997, 7:30 pm**
SCC, Physical Science Bldg., Room 172
- **Deep Sky Star Party, Jan. 11, Sunset - 5:39 pm**
Vekol Road site
- **Local Star Party, Feb. 1, 1997, Sunset -5:58 pm**
Florence Junction site
- **Deep Sky Star Party, Feb. 8, Sunset - 6:05 pm**
Vekol Road site
- **EVAC Club Meeting, Feb. 12, 1997, 7:30 pm**
SCC, Physical Science Bldg., Room 172

Logbook.

Bernie Sanden began by discussing a serendipitous photograph of Comet Hale-Bopp taken at the Siding Spring Observatory in Australia on April 27, 1993. The photo, taken with the UK Schmidt Camera, shows Comet Hale Bopp at magnitude 18 and at a distance of 13 a.u. The comet was not noticed at this time and, after the July 23, 1995 discovery of Comet Hale Bopp, Tom McNaught of Siding Spring went back into the archives and discovered the pre-discovery image. This photograph has proved invaluable in determining a precise orbit for the comet. Bernie and Tom Polakis, on their 1996 trip to Australia, were treated to a view of this photographic plate by Tom McNaught himself. After receiving a copy of the Hale-Bopp image, Bernie decided to give another copy, juxtaposed with a Hale-Bopp free counterpart derived from a digital sky survey, to Tom Bopp.

Ken Spruell attempted to watch a nighttime liftoff of the NASA Mars Pathfinder mission from Florida but was foiled by the subsequent delay of the launch. In slight compensation for missing such a beautiful nighttime launch, Ken did receive some nice posters from JPL detailing the objectives of the current NASA Mars missions. Ken graciously donated a poster to EVAC Secretary Aaron McNeely to be used in his Charter high school. Aaron's zeal for free posters knows no bounds!

Pierre Schwarr continues to find new ways to apply his camcorder to astronomical subjects. On one evening he videotaped 20 separate sections of a nearly Full Moon at high power. From these videos he assembled a photographic mosaic of the entire lunar disk by photographing each field as they were displayed on his monitor screen. The individual photographs were taken at 1/8-1/15 second exposures on ASA 400 film directly from the monitor screen. The accurate reproduction of each lunar field, so that they fit together in a harmonious composition of nearly equal brightness, taxed the ability of the clerk at Pierre's nearby 24 hour photo shop. She had to manually adjust the device used to make the exposures and had to discard many attempts. Pierre stated that he gave her a good tip.

Chris Schurr displayed some of his latest photographs, plus his "best of 1996," taken with either the red-sensitive Kodak 400 Pro PPF film or Fuji 400 slide film. Most of his slides were a combination of two 45 minute slides sandwiched to produce images of 90 minutes exposure. Chris' first set of images, in increasing obscurity, were the following: The North American Nebula; the Cocoon Nebula-an unusual object positioned at the end of a peculiar dark lane and combining green and red emissions; the Pinwheel Galaxy M33 with a meteor trail; another of M33 displaying greater detail; Sharpless 132-a faint emission nebula located near William Herschel's

Garnet Star in Cepheus; DWB111-a "collision zone" of supernova bubbles. Chris' "best of 1996" consisted of the following: The Lagoon Nebula M8-displaying faint outer detail; the Eagle Nebula M16-home of the famous "Hubble Pillars"; the Cocoon Nebula; M33 developed with an unsharp mask; Orion with Barnard's Loop; "Mexico"-a portion of the North American Nebula.

Dwight Bogen, our last presenter, exhibited slides of his recent astrophotos. Dwight began with two shots of Comet Hyakutake taken with two different lenses, then he showed three different views of the North American Nebula, two shots of the Andromeda Galaxy M31, one slide of the Rosette Nebula, a wide field view of Orion, a smaller field of Orion's Sword, and a striking close up of the Orion Nebula. Dwight manually guided his telescope when exposing these images.

NAKED EYE ASTRONOMY

by M. Aaron McNeely

January 1997: Month of Janus
31 Days: day 1 to 31 of the year
Julian Days: 2450449.5 to 2450479
Phoenix, Arizona
33°27'N, 112°04'W

Constellations and Starlore

Early on January evenings we see the Orion family of winter constellations rising in the east while the discarded stars of summer, Lyra and Cygnus, are making a long overdue descent in the northwest. The Milky Way arches overhead from the southeast to the northwest horizon, its glorious trail passes between Gemini and Orion low in the east, through Auriga, through Royal Family members Perseus, Cassiopeia, and Cepheus, and ends with the upright Cygnus in the northwest. Cetus, Pisces, Aries, and Triangulum all lie near the meridian. The splendid binocular galaxies M31 and M33 have achieved their highest seasonal position in the sky. Another exemplary binocular galaxy close to the meridian, NGC 253 in Sculptor, lies about seven degrees below the star Diphda in Cetus. NGC 253 resembles a smaller version of M31 and, coincidentally, lies at nearly the same right ascension. Saturn, near the vernal equinox position just below the Great Square of Pegasus, lies a bit west of the meridian.

In Astronomical History:

Jan 1, 1801: Giuseppe Piazzi discovered first asteroid (Ceres).

Jan 7, 1610: Galileo discovered the four "Galilean" satellites of Jupiter.

Jan 9, 1839: Thomas Henderson measured the distance to Alpha Centauri.

Jan 11, 1787: William Herschel discovered Oberon and Titania, satellites of Uranus.

Jan 31, 1862: Alvan Clark, Jr. discovered white dwarf companion of Sirius.

Solar System Phenomena

Saturn lies high in the southwest at sunset. It is the only bright evening planet visible until Mars rises later in the evening. Mars is approaching its March opposition and lies in Virgo close to the autumn equinox position of the celestial sphere (interestingly, it is nearly opposite to Saturn's position at the vernal equinox). Even though this opposition is not favorable due to the Earth-Mars distance, the planet should still be an impressive naked eye sight and will display surface detail in telescopes. Mars jumps from magnitude +0.4 to -0.2 during January. Venus lies low in the dawn sky for the next three months and is joined by Mercury during the second week of January. The two planets will appear closest together on the morning of the 12th. Jupiter, Uranus, and Neptune are all too close to the Sun for observation, the three planets achieve conjunction with the Sun in January.

The Last Quarter Moon lies between Mars and Spica on the mornings of the 1st and 2nd, as a waning crescent, the Moon interferes with the Quadrantid meteor shower on the morning of the 3rd, lies north of Zubenelgenubi on the morning of the 4th, north of Venus on the morning of the 7th, and appears in a line with Mercury and Venus on the morning of the 8th. New Moon also occurs on the 8th. The Young Moon appears on the evenings of the 9th and 10th, the thick waxing crescent passes closely north of Saturn on the evening of the 13th. First Quarter Moon occurs on the 15th. The waxing gibbous Moon lies north of the Head of Cetus on the 16th and near Aldebaran on the 18th. The Moon occults Aldebaran from Canada, and a grazing occultation will be visible in Canada and New England. From Arizona, the Moon will pass about 1/4 degree north of Aldebaran-an interesting sight whereby an observer can witness the true orbital motion of the Moon with the naked eye. The Moon, approaching Full, passes south of Castor and Pollux on the night of the 22nd and, when Full on the 23rd lies south of the Beehive Cluster in Cancer. On the following evening the just past-Full Moon approaches Regulus. The waning gibbous Moon lies on the autumn equinox, west of Mars on the morning of the 28th and passes north of Spica on the morning of the 30th. The Last Quarter Moon of January 31st lies between Virgo and Libra.

The Quadrantid Meteor shower peaks on the morning of the 3rd. The radiant of the shower lies in the defunct constellation of Quadrans Muralis located north of Bootes halfway between the end of the handle of the Big Dipper and the Head of Draco. There will be some interference from the one-day-past-Last Quarter Moon. The Quadrantids display a well-defined peak, and the

prospects for a favorable view are high this year.

The sunrise positions in azimuth for January 1st and January 31st are 117 degrees and 110 degrees, and the sunset positions are 243 and 250 degrees respectively. In other words, the sunrise and sunset positions shift about 7 degrees towards the north. The Sun begins January in mid Sagittarius, it enters Capricornus on the 19th.

PHYSICS NEWS UPDATE

The American Institute of Physics
Bulletin of Physics News
Number 300 December 20, 1996
by Phillip F. Schewe and Ben Stein

MOUNTAINS ON THE SUN. The SOHO spacecraft, dedicated to observing the sun and doppler-mapping the rise and fall of material and the passage of vibrations across the sun's face, has detected the presence of extended structures a third of a mile high on the solar surface. Jeffrey Kuhn of Michigan State, speaking at this week's American Geophysical Union meeting in San Francisco, said the bumps persisted in the same place on the surface for a month or more. (San Jose Mercury News, 18 December 1996.)

HIGH ALTITUDE OBSERVING JUNE 27 - JULY 6, 1997

Cool Campout! Come to The Rocky Mountain Star Stare, hosted by the Colorado Springs Astronomical Society, June 27-29, 1997 at Pike National Forest, Colorado. Camp out in the cool of the mountains at the biggest star party of the summer! This annual event offers clear dark skies at 8,700 ft. with unforgettable views of the summer Milky Way. The web site is <http://www.UCCS.edu/~cwet/heri/Astro/CSAS/RMSS97.html>. Check it often for new information! Then plan to stay on for

The Golden Celebration! The 50th Anniversary convention of the Astronomical League, July 1-6, 1997 at Copper Mountain Ski Resort in Colorado (20 miles east of Vail). Observing sites above 10,000 ft. will be available for those bringing telescopes. At the resort, Jim's Mobile will provide a 40" telescope, two 25" telescopes and other instruments for convenient, on site observing. A highlight of the convention will be the opportunity to visit and observe from the University of Denver's observatory on Mt. Evans the night of July 2 (weather permitting). At 14,125 feet, this is the highest operating observatory in the world. Personal telescopes may be set up on the resort grounds, on Mt. Evans, and at local dark sites.

Updates/Contacts: Periodically updated information will be found at the Univ. of Denver web site:

http://www.du.edu/~pryan/das.html and at the
 Astronomical League homepage:
 http://www.mcs.net/~bstevens/al

METEORITE MADNESS
 from S & T news online

Updated convention information and registration materials will be available through The Reflector, other astronomical magazines, and from the following addresses: ALCON 97, c/o Chamberlin Observatory, Univ. of Denver, Denver, CO 80208-0202.

Convention chairman Jerry Sherlin can be reached at the following e-mail address: sherlinj@aol.com or write to him at P.O. Box 461404, Aurora, CO 80046-1404.

Activities will take place at/above 9,700 ft. . . Bring some warm: clothes.

CALL FOR PAPERS

Oral and poster papers are solicited. For a Proposal to Present form, please contact Mr. Jim Fox, 14601 55th St. S., Afton, MN 55001-9626. E-mail: jhfox@worldnet.att.net. Cutoff date for abstracts or papers is April 15, 1997. Camera ready copy or computer diskette version will be required.

You might have caught a news report, about two weeks ago, about a meteorite hitting Honduras and creating a 50-meter-wide crater, fires, and other calamity. Well, here's the story as best we know at present. A very bright, fragmenting bolide was seen on the night of November 22nd, exploding near the village of San Luis. It was seen from as far away as central Guatemala, 200 kilometers away. However, the Associated Press report of a 50-meter-wide crater is unconfirmed and probably false. Right now a team of astronomers is at the site, combing the rugged terrain for meteorites. We've also heard that a major fireball was seen in the Pacific Northwest and Vancouver before dawn on December 17th.

Meanwhile, two recent auctions offer a sense of what meteorites from Mars are worth. On December 10th a 7.6-gram slice of the Zagami meteorite, which fell on Nigeria in 1962, fetched \$11,000 -- close to \$1,500 per gram. But the November 20th auction of a trio of Martian stones, representing three of the known compositional types and totaling 498.5 grams, yielded a "no sale." The top bid of \$1.1 million fell short of the owner's minimum asking price.

1997 EVAC SCHEDULE OF EVENTS(Proposed)

	Meeting	Local	Deep Sky	New Moon
JAN	8	4	11	9
FEB	12	1	8	7
MAR	12	1&29	8*	9
APR	9	#	5*	7
MAY	14	31	3	6
JUN	11	28	7	5
JUL	9	26	5	4
AUG	13	2&30	monsoon	3
SEP	10	27	monsoon	1
OCT	8	25	4*	1&31
NOV	12	22	1&29	30
DEC	10	20	27	29

Other Events: MAR 8 *Messier Marathon
 APR 5 *Sentinel Star Party
 APR 12 #Astronomy Day/Public Star Party
 ?????? EVAC Cookout
 MAY 4-11 Texas Star Party
 MAY 23-26 Riverside Telescope Makers Conference
 JUN 7-14 Grand Canyon Star Party
 OCT 4 *All Arizona Star Party

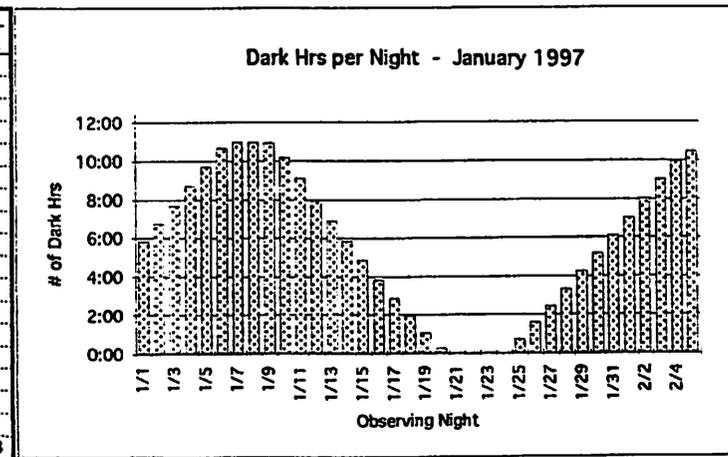
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29 	30	31	1 ☉ *Mercury at Inferior Conjunction *ALL MONTH NOTES	2 *7:00 PM PAS Mtg	3 *4:00 AM Quadrantid Meteors	4 Local S Party *5:57 AM Algal at Min
5	6 *Good S. Lunar Libration *10:47 PM Algal at Min Sunset 5:36 PM	7 *6:45 AM Mercury/Moon/ Venus Conjunction Sunrise 7:33 AM	8 EVAC Meeting ☉ *7:36 PM Algal at Min	9	10	11 Deep Sky S Party
12 *6:45 AM Mercury/Venus Conjunction	13 *10 PM Saturn/Moon Conjunction *10 PM Asteroid Isolda/ M1 Conjunction	14	15 ☉	16	17 *Neptune in Conjunction with Sun	18 *11:30 PM Aldebaran/Moon Conjunction *Excellent NE Lunar Libration
19 *Jupiter in Conjunction with Sun	20 Sunset 5:48 PM	21 Sunrise 7:31 AM	22	23 ☽ *Mercury at Greatest W Elongation	24 *Uranus in Conjunction with Sun *3:42 AM Algal at Min *7:30 PM SAC Mtg	25
26	27 *12:32 AM Algal at Min	28	29 *9:21 PM Algal at Min	30	31 ☉	1 Local S Party

Date	Start	Title	Description
1/1/97	12:00 AM	ALL MONTH NOTES	<p>CALENDAR NOTES: Sorry, but the Lunar Occultation Predictions for 1997 have not arrived yet. See Sky&Telescope (S&T) or Astronomy (ASTRO) magazines for details on January events.</p> <p>PLANETS: MERCURY moves to the morning sky this month and becomes a difficult object in the E-SE before dawn. VENUS rises after dawn begins now as it heads toward conjunction with the Sun. MARS rises before midnight and has grown to 8 arcseconds. Reaches magnitude 0 by end of month. With steady air, most telescopes will show details now. JUPITER is lost in the solar glare. SATURN is well placed in the evening sky for observation. Ring tilt has increased slightly to 4 degrees (south side visible). URANUS and NEPTUNE are lost in solar glare with Jupiter. PLUTO is lost to solar glare.</p> <p>OBJECTS OF INTEREST: Comet Hale-Bopp moves to the morning sky late in the month, and is low in the E at dawn. Should be naked eye object if nearby Milky Way doesn't interfere.</p>
1/2/97	7:00 PM	7:00 PM PAS Mtg	Phoenix Astronomical Society meeting, Brophy Prep, 4701 N. Central Ave. Turn off Highland into Main entrance, follow signs upstairs to Physics lab.
1/3/97	4:00 AM	4:00 AM Quadrantid Meteors	Named after a constellation that no longer exists, the Quadrantids are expected to put on a strong showing this year. Up to 85 meteors/hour radiating from Bootes can be expected from a dark site.
1/3/97	10:00 PM	10 PM Asteroid Isolda / M1 Conjunction	Minor Planet 211 Isolda closes within 8 arcminutes of the Crab Nebula (M1) tonight. See pg 70 of Jan ASTRO for details.
1/24/97	7:30 PM	7:30 PM SAC Mtg	Saguaro Astronomy Club meeting, Grand Canyon University, Fleming Bldg, Rm 105. Camelback and 33rd Ave.

Dark of the Moon Table -- January 1997

OBSERVING NIGHT	START OF DARK	END OF DARK	TOTAL DARK	OBSERVING NIGHT	START OF DARK	END OF DARK	TOTAL DARK
WED/THURS	1/1 7:00 PM EOT	1/2 12:50 AM MR	5:50	SUN/MON	1/20 5:01 AM MS	1/20 6:04 AM SOT	1:03
THURS/FRI	1/2 7:01 PM EOT	1/3 1:46 AM MR	6:45	MON/TUES	1/21 5:49 AM MS	1/21 6:04 AM SOT	0:15
FRI/SAT	1/3 7:02 PM EOT	1/4 2:44 AM MR	7:42	TUES/WED	none	none	--
SAT/SUN	1/4 7:02 PM EOT	1/5 3:44 AM MR	8:42	WED/THURS	none	none	--
SUN/MON	1/5 7:03 PM EOT	1/6 4:45 AM MR	9:42	THURS/FRI	none	none	--
MON/TUES	1/6 7:04 PM EOT	1/7 5:46 AM MR	10:42	FRI/SAT	none	none	--
TUES/WED	1/7 7:05 PM EOT	1/8 6:05 AM SOT	11:00	SAT/SUN	1/25 7:19 PM EOT	1/25 8:03 PM MR	0:44
WED/THURS	1/8 7:05 PM EOT	1/9 6:05 AM SOT	11:00	SUN/MON	1/26 7:20 PM EOT	1/26 8:55 PM MR	1:35
THURS/FRI	1/9 7:06 PM EOT	1/10 6:05 AM SOT	10:59	MON/TUES	1/27 7:21 PM EOT	1/27 9:48 PM MR	2:27
FRI/SAT	1/10 7:51 PM MS	1/11 6:05 AM SOT	10:14	TUES/WED	1/28 7:22 PM EOT	1/28 10:42 PM MR	3:20
SAT/SUN	1/11 8:59 PM MS	1/12 6:05 AM SOT	9:06	WED/THURS	1/29 7:22 PM EOT	1/29 11:36 PM MR	4:14
SUN/MON	1/12 10:06 PM MS	1/13 6:05 AM SOT	7:59	THURS/FRI	1/30 7:23 PM EOT	1/31 12:32 AM MR	5:09
MON/TUES	1/13 11:11 PM MS	1/14 6:05 AM SOT	6:54	FRI/SAT	1/31 7:24 PM EOT	2/1 1:29 AM MR	6:05
TUES/WED	1/15 12:15 AM MS	1/15 6:05 AM SOT	5:50	SAT/SUN	2/1 7:25 PM EOT	2/2 2:28 AM MR	7:03
WED/THURS	1/16 1:16 AM MS	1/16 6:05 AM SOT	4:49	SUN/MON	2/2 7:26 PM EOT	2/3 3:28 AM MR	8:02
THURS/FRI	1/17 2:15 AM MS	1/17 6:05 AM SOT	3:50	MON/TUES	2/3 7:27 PM EOT	2/4 4:27 AM MR	9:00
FRI/SAT	1/18 3:13 AM MS	1/18 6:05 AM SOT	2:52	TUES/WED	2/4 7:27 PM EOT	2/5 5:24 AM MR	9:57
SAT/SUN	1/19 4:08 AM MS	1/19 6:05 AM SOT	1:57	WED/THURS	2/5 7:28 PM EOT	2/6 5:56 AM MR	10:28

EOT = End of Astronomical Twilight MR = Moonrise SOT = Start of Twilight MS = Moonset NOTE: Applies to Phoenix area (Mtn Std Time)

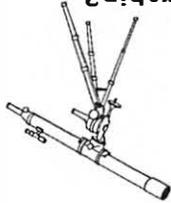


Bernie Sanden 10/96

• METEOR MADNESS
 • MOUNTAINS ON THE SUN
 • NAKED EYE ASTRONOMY
 • 1997 RENEWAL FORM
IN THIS ISSUE

Do you need to renew your membership?

Valued member since 1/17/92.
 Hope to see you at the meeting Jan. 8th!



EAST VALLEY ASTRONOMY CLUB
 Robert G. Kearney, Jr., Editor
 2120 W. 8th Ave.
 Mesa, AZ 85202

EAST VALLEY ASTRONOMY CLUB—1997

President: Sheri Cahn 841-7034	Vice-President: Tom Polakis 967-1658	Treasurer: Silvio Jaconelli 926-8529	Secretary: Aaron McNeely 954-3971	Properties: Ken Spruell 264-5847
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MEMBERSHIP&SUBSCRIPTIONS: \$20.00 annually. Reduced rates available to members for *Sky& Telescope* and *Astronomy*. Contact Silvio Jaconelli, 1700 E. Lakeside Dr. #59, Gilbert, AZ 85234 (602) 926-8529.

CLUB MEETINGS: Second Wednesday of every month at the Scottsdale Community College, 7:30 PM. Normally Room PS 170 or 172 in the Physical Sciences Building.

NEWSLETTER: Published and mailed out the week before the monthly Club meeting. Send your thoughts and stories for publication to: Bob Kearney, 2120 W. 8th Ave, Mesa, AZ 85202, (602) 844-1732. Email to—starjb@mail.idt.net

CHANGE OF ADDRESS: Notify Bill Smith, 1663 S. Sycamore, Mesa, AZ 85202, (602)-831-1520. Email to—bsmithaz@aol.com

EVAC LIBRARY: The library contains a good assortment of books, downloaded imagery, and helpful guides and is usually brought to the Club meetings. Contact Ken Spruell for complete details, (602)-264-5847.

BOOK DISCOUNTS: Great savings for members through Kalmbach and Sky Publishing Companies. Contact Aaron McNeely, 3222 N. 38th St. #1, Phoenix, AZ 85018, (602)-954-3971. Email to—amcneely@aol.com

EVAC PARTY LINE: Let other members know in advance if you plan to attend a scheduled EVAC observing session. Contact Robert Kerwin, (602)-837-3971. Email to—p24493@namerica.mot.com