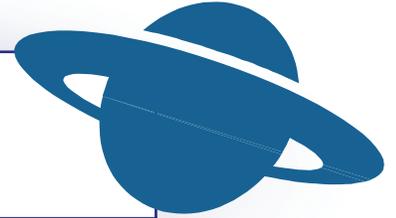


May 2006

The Voyager



East Valley Astronomy Club

Volume 20 Issue 5

From the Desk of the President by Steven Aggas, 2006 EVAC President

Anyone in the mood for telescopic galaxy searches? May is a good month to search in and around the constellation Virgo. The number of galaxies in this region is immense, with examples of every type of galaxy on Hubble's tuning fork diagram. Don't think you need a large telescope either, as you may see detail in some of the brighter members of the *Realm of the Galaxies* with no more than binoculars. Check it out tonight (see chart on

page 15).

I would also like to thank those that came out to the trash pickup along US 60 last month. Your help is always appreciated, by us and the travelers along that route.

As our speaker for the May General Assembly meeting we will have Ted Dunham on The Next Generation Airborne Observatory: SOFIA (Stratospheric Observatory for Infrared Astronomy) & HIPO (High-speed Imaging Photometer for

Occultation). Join us at the Southeast Regional Library (Gilbert Public Library) on Friday, May 19th at 7:30PM. The GPL is located at the Southeast corner of Greenfield and Guadalupe Roads .



The Backyard Astronomer Weird Things on the Moon by Bill Dellings

Every time I look at the moon with a telescope, I see something new. Maybe it's the different way light falls on the craters and mountains as the Moon's terminator sweeps across the lunar landscape. Or perhaps I've spotted some new interesting thing on the moon's surface I read about in a book. There is one inescapable fact about lunar observation that many observers may overlook: the moon is the ONLY other world on which you can see rich de-

tail in the form of craters, mountains, rilles, and lava flows. All other celestial objects, due to their great distances, preclude seeing the detail we observe on our beloved satellite.

As years passed, I became bored with the moon and came to see it as a light polluting nuisance and excuse to take a respite from stargazing(!). However, recently I took on Charles Wood's Lunar 100 list as an observing challenge and wow, did that re-awaken my interest in Luna!

I'll like to share here six items I found on the list that were very unusual and might be of interest to fellow lunatics. All have one thing in common: I had never seen or heard of them before. Listed next to them are references to Wood's Lunar 100 Number (L#), photographs or further details in Wood's *The Modern Moon* (Wood page #), chart number in Rukl's *Atlas of the Moon* (R#), and plate number in the Consolidated Lunar Atlas

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May Events:

- *Astronomy Day at Arizona Science Center - May 6*
- *Lindbergh Elementary Reading Under the Stars - May 11*
- *Public Star Party at Riparian Preserve in Gilbert - May 12*
- *Yavapai Elementary - May 17*
- *General Meeting - May 19*
- *Local Star Party at Boyce Thompson - May 20*
- *RTMC Weekend - May 26*
- *Deep Sky Star Party at Vekol Road - May 27*

The Backyard Astronomer

(Continued from page 1)

(CLA: #).

[Note: While Wood's book, *The Modern Moon*, discusses and pictures these objects, they are not referred to as Lunar 100 objects as his "L100 list" came out after the book).

A note on lunar directions: While north and south are obvious (the bright heavily cratered area, the "highlands", are south). West and east can be tricky. Looking at the Moon naked eye, *its* west is to your left. Imagine if you were on the Moon, west for you would be in that direction too.

Aristarchus/Schroter's Valley [L11/17, p.166,167,168. R18. CLA: C20. Also see S&T 3/05 p.63,64].

Aristarchus (Diameter 25 miles) is the brightest crater on the Moon due to its relatively young age, 500 million years. Combine that with the largest rille on the moon, Schroter's Valley (100 miles long, 6 miles wide, 3280' deep), and you have a glorious sight to behold. I'm amazed I never noticed it before. The likely reason is its location near the west limb. The terminator doesn't reach the area until well after it has passed Copernicus, when one might think the lunar show is over crater-wise. We also tend to avoid observing the Moon in its gibbous phase due to its great brightness. Let me make a bold statement here – this is the most remarkable thing on the moon I've ever seen. Period. It was an astonishing sight in my 5" refractor and binoviewer at 114x. Look for the "Cobra Head", a widening in Schroter's Valley adjacent to Aristarchus.

Hyginus Rille [L24, p.57. R34. CLA: D13. Photo S&T, Apr 2004, p.116].

Triesnecker Rilles [L35, p. 57. R33, 34. CLA: D13. Photo S&T Apr 2004, p.116].

Ariadaeus Rille L29, p.57. R35. CLA: D13. Photo S&T, Oct. 2005, p.62].

Wood calls this "Rilleland." The best concentration of these faults or cracks in the moon's crust or maria can be seen in the same telescopic field around craters Hyginus (Dia. 7 mi.), Triesnecker (Dia. 16 mi.), and Ariadaeus (Dia. 8mi.) just northeast of the center of the Moon's disk. These rilles are only 1 to 3 miles wide, so you'll need aperture and power to see them. I used a C-14 at 230x. A superb photo of this region is in Wood's book, p.57. Incidentally, just north of these rilles, you'll note a strange rough area best seen in low sun near the terminator. This is the Julius Caesar-Boscovich crater region known as the Imbrium Sculpture (L63, p.57. R34 CLA: D12). The craters here have been deformed by the blast effects of the Mare Imbrium impact.

Marius Hills [L42, p.169, 170. R28, 29. CLA: D24].

A series of 300 volcanic domes on the west side of Marius (Dia. 26 mi.) located in the far west side of the Moon – due west and slightly north of Kepler. Caused by rising magma under the Moon's crust creating small shield volcanoes 4 miles wide and 3000' feet high. An easy to find array of 6 domes can also be spotted north of Hortensius (Dia. 9 mi.) which is to the SW of Copernicus (Dia. 58 mi.). I spied this item with a 5" refractor at 148x.

Alphonsus [L47, p.136, 137, 139. R 44. CLA: E14. S&T Apr. 2006, p.58].

This 64 mile diameter crater lies between Ptolemaeus (Dia. 96 mi.) and Arzachel (Dia. 60 mi.) and is unique in harboring 6 dark spots on its floor easily seen in a 3.3" refractor at 150x. The spots are dark volcanic ash from cinder cones and can be plainly seen in any close up photo of this crater. How I could have observed this crater for millennia and never noticed the dark splotches before doing the Lunar 100 list beats me ("You see Watson, but you do not *observe!*").

Davy Crater Chain (Also known as

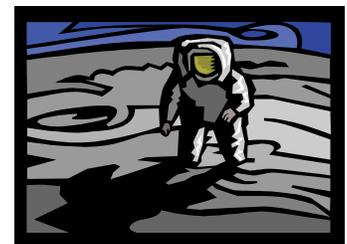
Catena Davy) [L51, p. 141, 143. R43. CLA: E15].

Southwest a short distance from Ptolemaeus can be found the small crater Davy (Dia. 22 mi.) Between these two craters lies an unnamed battered crater in which resides a 30 mile long chain of 12 one mile diameter craters. It was probably caused by the impact of a disintegrating object a' la Comet Shoemaker – Levy on Jupiter in 1994. A striking sight in a C-14 at 230x.

Reiner Gamma [L57, p.171. R28. CLA: D27].

If anything on the Moon is truly weird, this is it. Hop from Copernicus west to Kepler, then an equal distance west to Reiner (Dia. 19 mi.) on the far west side of the Moon. Just west of Reiner, you will see a strange white oval-shaped swirl of light material on the smooth dark lunar surface of Oceanus Procellarum. The swirl is about the same size as Reiner, and has a narrow tail of similar light material running north towards the Marius Hills. This is the only example of a "Swirl" on the side of the Moon facing us. While their nature is somewhat of a mystery, there is one interesting theory: in the distant past, after a meteor impact exposed light lunar material, a local strong magnetic field deflected the solar wind away from the area, precluding eons of solar radiation from darkening it. Whatever, I still enjoyed viewing this unusual object with a C-14 at 230x.

I found these six objects to be some of the more interesting things on Wood's Lunar 100 list. I'll bet when you view them, you'll say to yourself - like I did - "Well I'll be darned, look at that!"



Treasurer's Report for First Quarter 2006

by Wayne Thomas

The first quarter of the year has come to a close, and so it is time to present a financial snapshot of the club to the membership. What follows is a simplified balance sheet for the club, spanning 1 January through 31 March.

Any questions can be directed to the Treasurer :
treasurer@eastvalleyastronomy.org

Membership 1Q06

Membership

Total as of 12/31/2005	261
New This Quarter	10
Renewals This Quarter	45
(Paid through 12/31/2006)	171
(Expired 12/31/2005)	86
Total as of 3/31/2006	192

Income 1Q06

Income - Current Quarter

Dues	\$2,317.37
USPS Surcharge	\$ 30.00
Name Badges	\$ 113.18
Sky & Telescope	\$ 593.03
Astronomy	\$ 204.00
Books	\$ 222.90
Other	<u>\$ 20.20</u>
Total (Register)	\$3,500.68

Expenses 1Q06

Expenses - Current Quarter

Newsletter & Postage	\$ 159.22
Speaker Honorarium	\$ 200.00
Dinner with Speaker & Spouse	\$ 42.07
Incorporation Fee	\$ 157.45
Holiday Party	\$ 176.84
Meeting Refreshments	\$ 44.54
BoD Meeting Refreshments	\$ 79.66
Miscellaneous	\$ 139.79
PO Box Rent	\$ 40.00
Insurance	\$ 305.00
Properties	\$ 316.00
Sky Publishing (Sky & Telescope)	\$ 580.15
Kalmbach Publishing (Astronomy)	\$ 204.00
Alpha Barrett's (Name Badges)	\$ 53.96
Accounting Charges	\$ 33.00
IDA Membership	<u>\$ 100.00</u>
Total (Register)	\$2,631.68

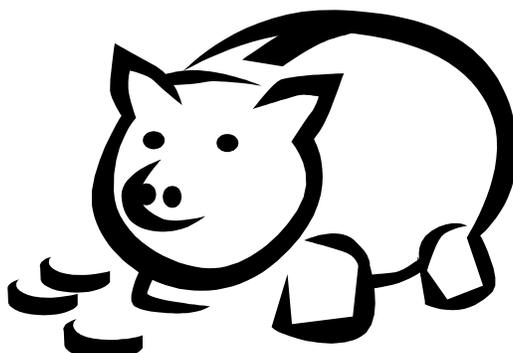
Cash Flow 1Q06

Check Register

Beginning Balance		\$6,017.41
Deposits	+	\$3,500.68
Expenses	-	\$2,631.68
Ending Balance	=	\$6,886.41
Plus Petty Cash	+	<u>\$ 64.10</u>

Current Quarter End Balance (3/31/06) \$6,950.51

Current Quarter Cash Flow \$ 869.00



Adopt-a-Highway 2006 - Part One



Early on Saturday morning (April 8) a few brave souls gathered in the parking lot of the Village Inn on Apache Trail in Apache Junction. Their mission? To gather all those items discarded from moving vehicles along a one-mile stretch of US-60 near Florence Junction. This is the section of highway that the club sponsors as a part of the Arizona Adopt-a-Highway program.

The Adopt-a-Highway Volunteer Program is a national litter awareness program where groups volunteer to pick up litter off of Arizona's freeways and highways. Each year more than 1,700 groups participate in removing litter on Arizona's highways saving approximately \$1,800,000 in taxpayer money.

Arizona's program started in 1988 with approximately 120 groups. By 1991, all available mileage was adopted in the metropolitan areas. By fall of 1995, more than 1,300 groups had adopted over 2,300 miles of Arizona's highways. In 2005, there were more than 1,750 groups with 12,285 volunteers adopting approximately over 3,100 of the more than 6,500 available miles of Arizona highways.

EVAC participates in this program twice each year. If you are interested in volunteering, please contact Event Coordinators Butch Miller or Randy Peterson.

The East Valley Astronomy Club is proud to participate in this program and salutes all who volunteer!

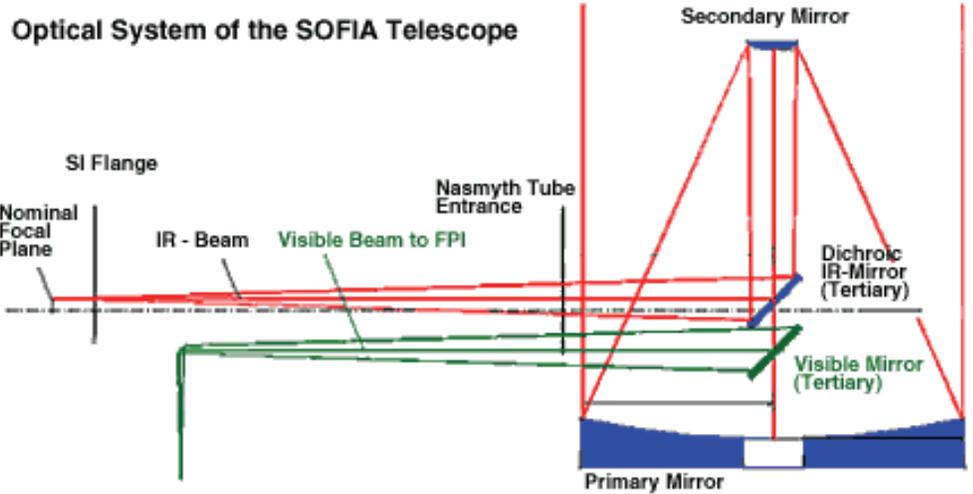
The motley crew included: Marty Pieczonka, Peter Argenziano, Mike Collins, Claude Haynes, Butch Miller, Gary Hobbs, Donna Bader, Randy Peterson, Jon Christensen, John Holmquist, Bill Dellinges, Don Wrigley and Ron Risko.

May Guest Speaker : Dr. Ted Dunham

Dr Dunham earned his PhD from Cornell University in 1978. He is in charge of developing improved instrument capability at Lowell Observatory in Flagstaff. Since joining the staff in February 1996, he has overseen construction and commissioning of a several new CCD cameras and an automated telescope. He is currently working on an instrument for observing occultations with SOFIA (Stratospheric Observatory For Infrared Astronomy) and is co-investigator on the Kepler mission, a NASA Discovery class mission designed to detect extrasolar terrestrial planets using transit photometry.



The topic of Dr. Dunham's presentation is *SOFIA and HIPO*.



Help Wanted

Isn't it time you got involved?

The success of the East Valley Astronomy Club depends on active participation of its members in club activities, including administrative duties.

To that end there are some opportunities currently available:

Due to family matters, one of our Directors has had to step down from the Board. Please join me in offering our sincere appreciation to Dave Williams for all he has done for EVAC.

Chuck Crawford has volunteered to fill this vital position for the remainder of this year. Thanks Chuck!.

Another need exists in the area of special event planning. Our Event Coordinators are quite busy with the regular star parties and the many outreach events. They don't have the time for special events, most notably the All-Arizona Star Party. In years past this event was nothing more than a group of people meeting at a pre-determined location on a pre-determined date. The last couple of

years have seen steps addressed at having a more organized event. To that end we need volunteers to make that happen. If you are interested in participating on an All-Arizona Star Party committee, please contact President Aggas.



As the club moves toward tax-exempt status, we will have new opportunities become available to us. To be in a position to take full advantage of

the many benefits afforded to a tax-exempt nonprofit organization, we are seeking members who have experience in the areas of fundraising, and possibly, grant writing. If you would like to participate on a fundraising committee, please contact President Aggas.

Occasionally, as part of our outreach activities, we receive requests for short presentations. If you would like to speak to a group - mostly elementary or middle-schoolers - please contact Events Coordinator Randy Peterson and let him know you are interested.

Remember, this is your club. It is only as good as you make it. You are encouraged to get involved. Share your thoughts and opinions (good and bad) with any member of the governing body. By communicating and working together we can continuously improve the East Valley Astronomy Club.

Classified Advertisements

12½" F5 Obsession

ServoCAT
Argo Navis with 10K encoders
Feathertouch focuser
Powered ground board
Obsession light shroud
Counterweight kit
OMI/Torus primary mirror
Tele Vue Air Chair
Telrad



The scope, including delivery, cost me \$6,846. I'm willing to take \$5,000 (firm) for everything.

Norm Rubenstein

nlr@rubensteinlaw.com 623-322-6464

Meade LXD-75 GoTo German Equatorial Mount

For sale is a virtually unused Meade LXD-75 GEM. This mount features Autostar (#497) controller with a database of 30,000 objects. The heavy duty tripod utilizes four high-precision stainless steel ball bearings (2 on each axis). HPP, PEC. Nine speeds, from a rapid slew rate of 4.5°/sec. to 1x sidereal. Illuminated polar finder. This mount can be ordered from a Meade dealer for \$799, as it is usually not stocked by retailers.

Extras included in this sale:

Meade #607 25' DC power cable

Meade #547 AC power adapter

Extra 4½ pound counterweight

Extra (long) Autostar handbox cable

20' Autostar RS232/PC cable to connect mount to planetarium software.

Most items have never been used. Mount only used about 6 times for lunar observing, so I haven't even used the GoTo capabilities of this system. I am selling this to help pay for a new trailer.

I paid about \$975 for all of this earlier this year. Will sell it all for \$600.

I'll be out of town the first week in May, but will check email daily.

Peter Argenziano news@eastvalleyastronomy.org 480-633-7479



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Advertisements for astronomical equipment or services will be accepted from current EVAC members only. Ads will be published as space permits and may be edited. Ads should consist of a brief text description and must include a current member name and phone number. You may include your email address if you wish. Ads will be published until canceled (as space allows), so please inform the editor when your item has sold.

Ads should be emailed to: news@eastvalleyastronomy.org

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May 2006

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Schedule of Events

- *May 6 - Astronomy Day at Arizona Science Center*
- *May 11 - Lindbergh Elementary Reading Under the Stars*
- *May 12 - Public Star Party at Riparian Preserve in Gilbert*
- *May 17 - Yavapai Elementary*
- *May 19 - General Meeting*
- *May 20 - Local Star Party at Boyce Thompson*
- *May 26 - RTMC Weekend*
- *May 27 - Deep Sky Star Party at Vekol Road*

Minutes of April General Meeting

Meeting date: April 21, 2006

Tom Polakis, Secretary

The meeting was attended by approximately 70 people. President Steven Aggas had visitors introduce themselves, followed by the Board members. Chuck Crawford will be replacing Dave Williams on the Board. Thanks go out to Dave for his service. Events Coordinator Randy Peterson discussed EVAC's busy public outreach schedule, which included 9 school star parties in the past several weeks. He would like to begin seeing some new faces among the volunteers. Gene Lucas gave a short talk about Astronomy Day at The Arizona Science Center, to be held on May 6. EVAC members are welcome to come out. Gene and Lou Pappas will have an exhibit set up indoors.

AJ Crayon followed by giving out awards for the Messier Marathon, which was well attended by EVAC members. Also, he gave out two EVAC Observing List awards to Peter Argenziano, who completed the galaxies and edge-on galaxies programs.

Win Pendleton gave a status report for the Riparian Observatory. The 16" telescope has been delivered. He put out a sign-up sheet for the dome assembly team and the users team.

After Wayne Thomas' treasury report, Chris Schur showed slides for his member presentation. These included images of IC 59, M33 in H-alpha light, IC 1613, and M46/M47. His widefield images are being taken with an 80mm Stellarvue refractor, touted by Chris as the best refractor available for any money.

Howard Israel announced that in future EVAC meetings, he will be hosting a 15-minute beginners' Q&A. These will begin as "free-form" sessions, and we will see how they develop.

After the break, VP Silvio Jaconelli introduced our main speaker, Dr. Rogier Windhorst from Arizona State University. He discussed the James Webb Space Telescope, a 6-meter telescope that will be placed in an L2 orbit well away from the Earth. The telescope is designed to see best in infrared regions, where it is expected to see at redshifts far beyond the capability of the Hubble Space Telescope. This will enable astronomers to understand galaxy assembly, and to probe closer to the "first light" of the Big Bang.

East Valley Astronomy Club -- 2006 Membership Form

Please complete this form and return it to the club Treasurer at the next meeting or mail it to EVAC, PO Box 2202, Mesa, Az, 85214-2202. Please include a check or money order made payable to EVAC for the appropriate amount.

IMPORTANT: All memberships expire on December 31 of each year.

Select one of the following:

- New Member
 Renewal
 Change of Address

New Member Dues (dues are prorated, select according to the month you are joining the club):

- | | |
|---|---|
| <input type="checkbox"/> \$30.00 Individual January through March | <input type="checkbox"/> \$22.50 Individual April through June |
| <input type="checkbox"/> \$35.00 Family January through March | <input type="checkbox"/> \$26.25 Family April through June |
| <input type="checkbox"/> \$15.00 Individual July through September | <input type="checkbox"/> \$37.50 Individual October through December |
| <input type="checkbox"/> \$17.50 Family July through September | <input type="checkbox"/> \$43.75 Family October through December |
- Includes dues for the following year*

Renewal (current members only):

- \$30.00 Individual**
 \$35.00 Family

Magazine Subscriptions (include renewal notices):

- \$34.00** Astronomy
 \$33.00 Sky & Telescope

Name Badges:

- \$10.00** Each (including postage) Quantity: _____

Name to imprint: _____

Total amount enclosed:

Please make check or money order payable to EVAC

- Payment was remitted separately using PayPal
 Payment was remitted separately using my financial institution's online bill payment feature

Name:

Phone:

Address:

Email:

City, State, Zip:

- Publish email address on website

URL:

How would you like to receive your monthly newsletter? (choose one option):

- Electronic delivery (PDF) *Included with membership*
 US Mail **Please add \$10 to the total payment**

Areas of Interest (check all that apply):

- | | |
|--|---|
| <input type="checkbox"/> General Observing | <input type="checkbox"/> Cosmology |
| <input type="checkbox"/> Lunar Observing | <input type="checkbox"/> Telescope Making |
| <input type="checkbox"/> Planetary Observing | <input type="checkbox"/> Astrophotography |
| <input type="checkbox"/> Deep Sky Observing | <input type="checkbox"/> Other |

Please describe your astronomy equipment:

Would you be interested in attending a beginner's workshop? Yes No

How did you discover East Valley Astronomy Club?

PO Box 2202
Mesa, AZ 85214-2202
www.eastvalleyastronomy.org

All members are required to have a liability release form (waiver) on file. Please complete one and forward to the Treasurer with your membership application or renewal.

Liability Release Form

In consideration of attending any publicized Star Party hosted by the East Valley Astronomy Club (hereinafter referred to as "EVAC") I hereby affirm that my family and I agree to hold EVAC harmless from any claims, liabilities, losses, demands, causes of action, suits and expenses (including attorney fees), which may directly or indirectly be connected to EVAC and/or my presence on the premises of any EVAC Star Party and related areas.

I further agree to indemnify any party indicated above should such party suffer any claims, liabilities, losses, demands, causes of action, suits and expenses (including attorney fees), caused directly or indirectly by my negligent or intentional acts, or failure to act, or if such acts or failures to act are directly or indirectly caused by any person in my family or associates while participating in an EVAC Star Party.

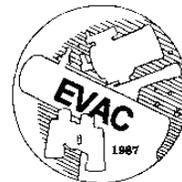
My signature upon this form also indicates agreement and acceptance on behalf of all minor children (under 18 years of age) under my care in attendance.

EVAC only recognizes those who are members or invitees and who also have a signed Liability Release Form on file as participants at an EVAC Star Party.

Please print name here

Date

Please sign name here



PO Box 2202
Mesa, AZ 85214-2202
www.eastvalleyastronomy.org

Who Wants to be a Daredevil?

by Patrick L. Barry and Dr. Tony Phillips

When exploring space, NASA naturally wants to use all the newest and coolest technologies—artificial intelligence, solar sails, onboard supercomputers, exotic materials.

But “new” also means unproven and risky, and that could be a problem. Remember HAL in the movie “2001: A Space Odyssey”? The rebellious computer clearly needed some pre-flight testing.

Testing advanced technologies in space is the mission of the New Millennium Program (NMP), created by NASA’s Science Mission Directorate in 1995 and run by JPL. Like the daredevil test pilots of the 1950s who would fly the latest jet technology, NMP flies new technologies in space to see if they’re ready for prime time. That way, future missions can use the technologies with much less risk.

Example: In 1999, the program’s Deep Space 1 probe tested a system called “AutoNav,” short for *Autonomous Navigation*. AutoNav used artificial intelligence to steer the spacecraft without human intervention. It worked so well that elements of AutoNav were installed on a real mission, Deep Impact, which famously blasted a crater in Comet Tempel 1 on July 4, 2005. Without AutoNav, the projectile would have completely missed the comet.

Some NMP technologies “allow us to do things that we literally could not do before,” says Jack Stocky, Chief Technologist for NMP. Dozens of innovative technologies tested by NMP will lead to satellites and space probes that are smaller, lighter, more capable and even cheaper than those of today.

Another example: An NMP test mission called Space Technology 9, which is still in the planning phase,

may test-fly a solar sail. Solar sails use the slight pressure of sunlight itself, instead of heavy fuels, to propel a spacecraft. Two proposed NASA missions would be possible only with dependable solar sails—L1 Diamond and Solar Polar Imager—both of which would use solar sails to fly spacecraft that would study the Sun.

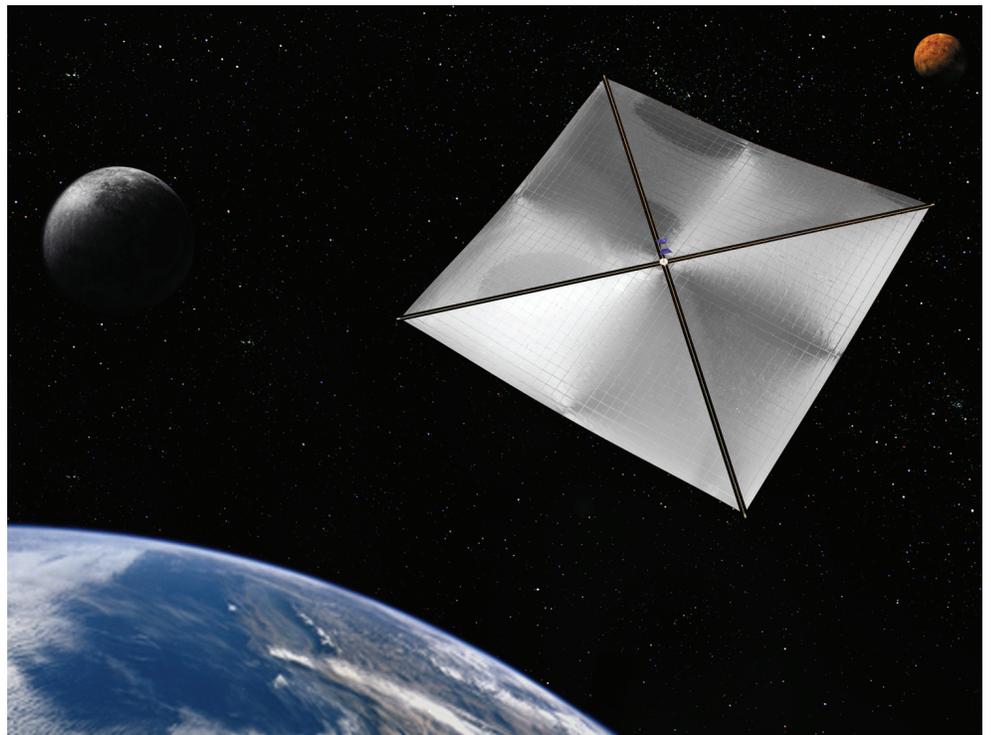
“The technologies that we validate have future missions that need them,” Stocky says. “We try to target [missions] that are about 15 to 20 years out.”

A menagerie of other cool NMP technologies include ion thrusters, hyperspectral imagers, and

miniaturized electronics for spacecraft navigation and control. NMP focuses on technologies that have been proven in the laboratory but must be tested in the extreme cold, vacuum, and high radiation environment of space, which can’t be fully recreated in the lab.

New NMP missions fly every year and one-half to two years, taking tomorrow’s space technology for a daredevil test drive.

This article was provided by the Jet Propulsion Laboratory, California Institute of Technology, under a contract with the National Aeronautics and Space Administration.



Artist's rendering of a four-quadrant solar sail propulsion system, with payload. NASA is designing and developing such concepts, a sub-scale model of which may be tested on a future NMP mission.

If it's Clear...

by *Fulton Wright, Jr.*
Prescott Astronomy Club

May 2006

Shamelessly stolen information from Sky & Telescope magazine, Astronomy magazine, and anywhere else I can find info. When gauging distances, remember that the Moon is 1/2 a degree or 30 arc minutes in diameter. All times are Mountain Standard Time unless otherwise noted.

This month we have 4 chances to see a complete transit of a Jupiter moon. Because the planet is near opposition, the entrance of the transit and the appearance of the shadow happen at nearly the same time. A similar situation holds for the exit. See May 2, 6, 10, and 13 for details.

Early this month you can see a comet in the morning sky without interference from the Moon. On May 13 the comet will be nearest the earth (only 0.08 astronomical units) and brightest (mag 3.5?) but moonlight will spoil the dark sky. See May 8 below for an interesting event. You can find more info about Comet Schwassmann-Wachmann 3 in Sky & Telescope magazine, May 2006, p. 60. and at skyandtelescope.com. This comet has several pieces and seems to be fairly active so it

is good idea to keep up with the latest on the web.

On Monday, May 1, about 8:00 PM, you can see the southeast part of the Moon at its best. With a small (3 inch) telescope look 40 degrees above the west horizon for the crescent Moon. The lower left part of the Moon is tilted toward us by libration. The viewing should be good for a day on either side of this date. There is a second chance on May 29.

On Tuesday, May 2, you can see a transit of Europa in front of Jupiter.

8:55 PM shadow falls on planet
9:01 PM satellite moves in front of planet
11:28 PM shadow leaves planet
11:30 PM satellite moves from in front of planet

On Saturday, May 6, you can see a transit of Io in front of Jupiter. Note that since we are past the May 3 opposition of the planet, the shadow now appears after the transit occurs.

9:16 PM satellite moves in front of planet
9:19 PM shadow falls on planet
11:24 PM satellite moves from in front of planet
11:29 PM shadow leaves planet

On Monday, May 8, between 3:10 AM and 4:00 AM, you can see a comet near a planetary nebula. Comet Schwassmann-Wachmann 3 (mag 4?) will be passing by M57, the ring nebula (mag 9).

Binoculars should show the fairly big comet, but you will want a small (3 inch) telescope to see the nebula. The observing window occurs between moonset and morning twilight.

On Thursday, May 11, you can see a transit of Ganymede in front of Jupiter. This happens fairly near the north pole of Jupiter.

9:56 PM satellite moves in front of planet
10:11 PM shadow falls on planet
11:19 PM satellite moves from in front of planet
12:12 AM shadow leaves planet

On Saturday, May 13, you can see a transit of Io in front of Jupiter.

11:00 PM satellite moves in front of planet
11:13 PM shadow falls on planet
1:08 AM satellite moves from in front of planet
1:23 AM shadow leaves planet

Near the end of the month Saturn is near the Beehive cluster. With binoculars or a small (3 inch) telescope look 30 degrees above the west horizon at about 9PM. The Moon will also be in the area.

 First Quarter Moon on May 4 at 22:13

 Full Moon on May 12 at 23:51

 Last Quarter Moon on May 20 at 02:21

 New Moon on May 27 at 22:26

EVAC Board of Directors Meeting - Second Quarter 2006

Meeting date: Tuesday, April 11, 2005

The meeting was opened by President Steven Aggas.

The Board meeting began with a discussion of EVAC's tax-exempt status. Peter Argenziano noted that the check to the IRS has been cashed, and he has not yet received anything back from the taxing authority.

The EVAC budget is showing that we have a membership shortfall for this time of year. In order to address this shortfall, we should be mindful of recruiting. The mailing for renewals appears to have been a success, as 19 memberships were gained.

The next subject of discussion was a brainstorming of ways for EVAC to raise capital. Peter mentioned that we need to target specific purposes for funds whenever we ask for them. Martin Thompson said that we may solicit for equipment for our outreach events. The Board should think about who has experience with writing proposals, and ask for their input. A general solicitation of the membership will appear in the next newsletter. Howard Israel will talk to Jeff Hester at ASU about fundraising in general. Peter referred to Astronomy magazines \$2500 prize for astronomy club outreach as a good start for learning how to promote the club. A fundraising committee may be formed in the near future.

Another avenue for monies for EVAC might be for-pay star parties. Recognizing that this may open a new can of worms, it was suggested that EVAC could mention that voluntary donations are welcomed without asking for a specific dollar figure.

Next up was the subject of the All-Arizona Star Party. Randy Peterson stated that he would be happy to run a minimalist star party in which we would get the Portapotties and promote it through S&T, but he would like his effort to end there. Somebody else needs to help if we want the star party to be more organized. Again, this will be mentioned in the next newsletter.

A tangent discussion about a much larger All-Arizona Star Party came up. It likely cannot happen at the current site. We need to look around for sites that are less hostile, with better daytime attractions. Howard will contact Kitt Peak about that possibility.

Dave Williams told us that he is stepping down from the Board, as he is tapped for time. We thank him for his effort. Running a beginner-friendly meeting was briefly discussed. Randy passed around an excellent EVAC FAQ that addresses the common concerns. We discussed a beginner's pre-meeting, but the room availability may be limiting. Howard said that he would do a pilot beginners Q&A for 15 minutes at the next meeting. Tom emphasized that the "meeting after the meeting" at Village Inn is an excellent place to learn the basics, and that it should be promoted more actively during the meeting.

This wonderful image of the Triangulum galaxy (M33) was captured by Jon Christensen on 10-11 September, 2005.

This galaxy is one of the largest in the Local Group, and is the second closest spiral galaxy to our own (at a distance of 3 million light years).

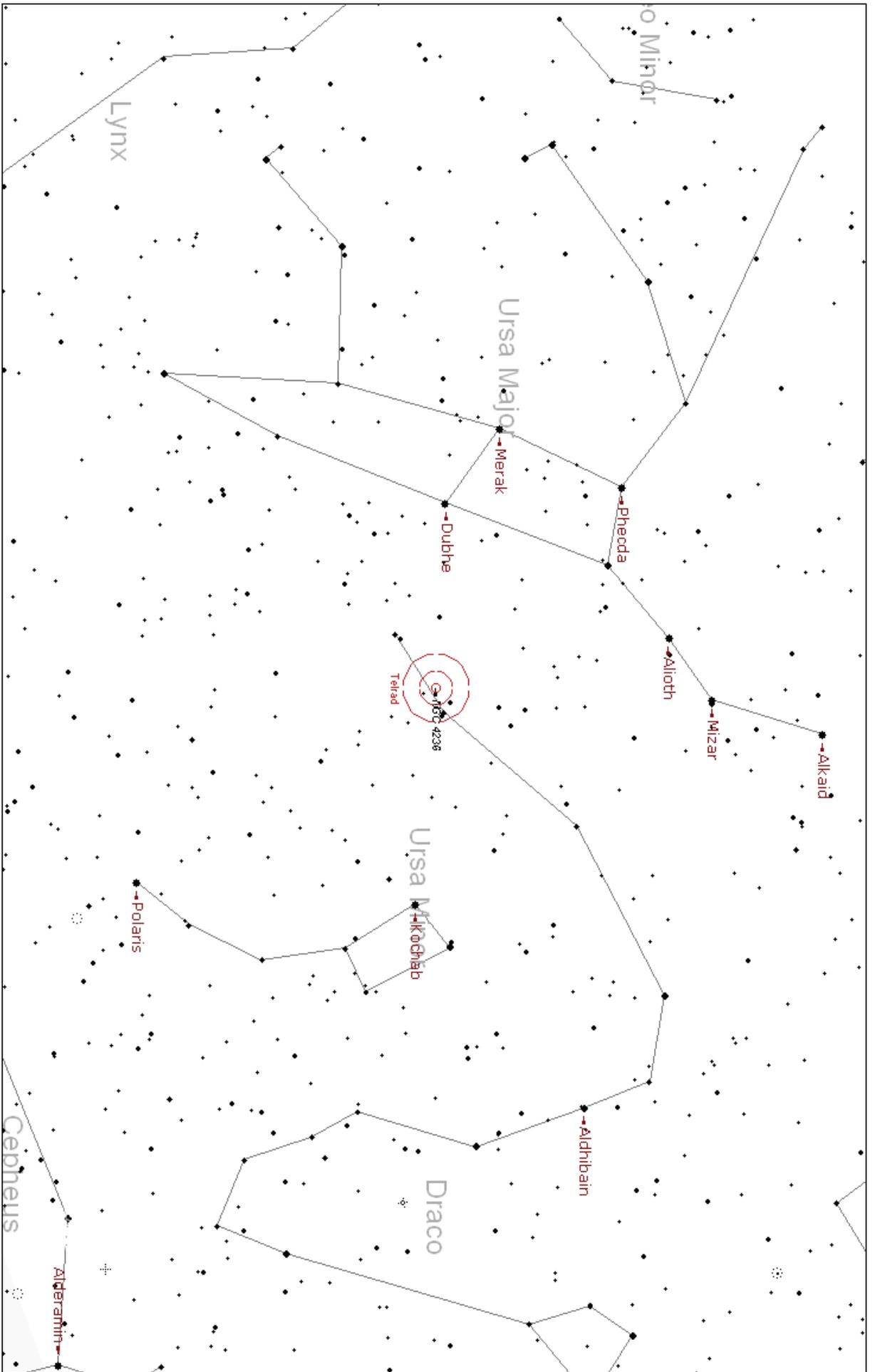
Although no supernovae have yet been detected in the Triangulum galaxy, several supernova remnants have, and were cartographed by radio astronomers with high accuracy. At least 112 variables have been discovered in M33, including 4 novae and about 25 Cepheids. A strong X-ray source is also situated in this galaxy.

12.5" RCOS RC at F9

L110, R35, G35, B35

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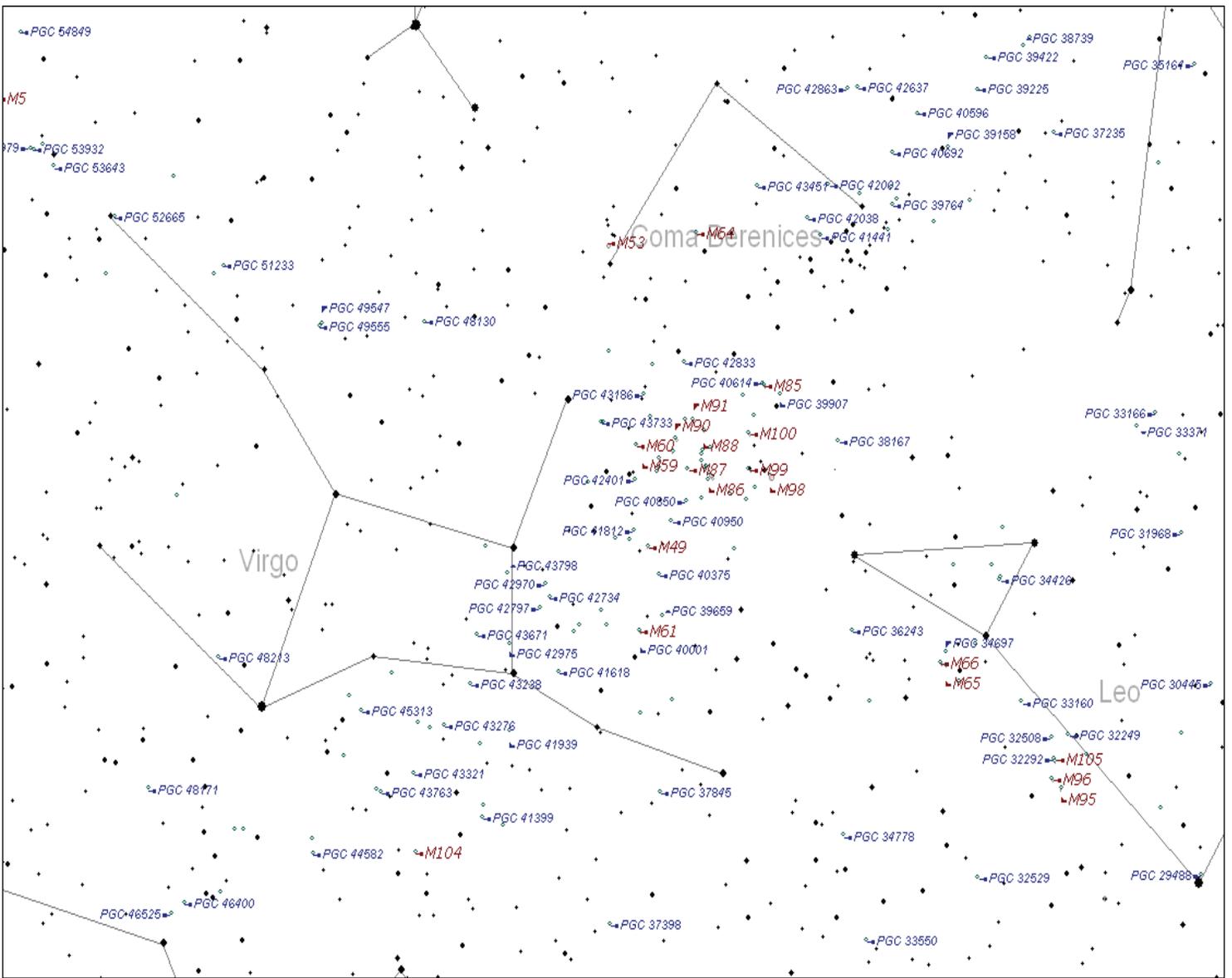




NGC 4236 Galaxy in Draco

Magnitude: 10.1 Size: 22.0' x 7.2' Surface Brightness: 15.0 PA: 162° Class: SB(s)dm
 RA 12h 16m 43.3s Dec +69° 27' 47"

Chart created with Starry Night Pro software.



The above chart contains galaxies brighter than 12th magnitude.

Chart created using *Starry Night Pro*

Coming in June... our guest speaker will be EVAC member and noted deep sky enthusiast Tom Polakis. Tom will give a presentation entitled Return of Sky Photography.

Star Party Disclaimer

The East Valley Astronomy Club (EVAC) is not responsible for the property or liability of any star party participant, nor will the club be held liable for their actions or possessions. EVAC is not responsible for any vehicular damage, theft, or mechanical difficulties that may occur while attending a star party. EVAC strongly recommends adherence to the doctrine of 'safety in numbers' when it comes to remote observing sites. In the interest of safety it is recommended that you don't go to remote sites alone and that someone knows where you have gone each time you go out observing.

The Voyager is published monthly by the East Valley Astronomy Club and made available electronically (PDF) the first week of the month. Printed copies are available at the monthly meeting.

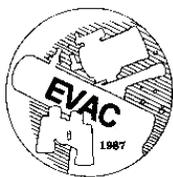
Please send your contributions, tips, suggestions and comments to the Editor (Peter Argenziano) at:

news@eastvalleyastronomy.org

Contributions may be edited.

www.eastvalleyastronomy.org

Keep Looking Up!



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