

THE OBSERVER

East Valley Astronomy Club

From the Desk of the President

by Steven Aggas

Happy New Year!!! We're at the beginning of a new year, a new decade, and, I hope everyone finds clear skies and the time to use them....

First, I'd like to thank those who've run the club in 2010; actually, I'd like to thank those who've run the club for the last four years since I was president in 2005/6. They've done a wonderful job! As you may recall, during 2005 I moved the location of the general meeting to the Gilbert Library. The next two presidents; Claude Haynes, and then David Douglass, along with the Board of

Director's and Administrative Officers, have since put together club meetings my wife and I have enjoyed attending.

I hope you all have enjoyed them as much as we have! We will continue to have great meeting speakers on a variety of topics, but, the format may change slightly as we will further encourage our members to make mini-presentations on what they are doing. If any of you have ideas for a 5 to 15 minute presentation let me know what they are and when you'd be ready to grab the microphone.

Now, in 2011, we find

there are new things on the horizon...

A new space telescope; the James Webb Space Telescope, is progressing towards completion. While HST will always have a special place in my heart as my wife Lori and I stood at the large clock with just minutes before launch of the space shuttle Discovery with HST in it bay, we look forward to updates on the new JWST orbiting observatory.

An American, non-NASA, space program! Recently SpaceX made the news with the first successful launch, orbit, and most

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UPCOMING EVENTS:

- Deep Sky Observing Night - January 1*
- Public Star Party - January 14*
- General Meeting - January 21*
- Local Star Party - January 29*

Check out all of the upcoming club events in the Calendars on page 8

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The Backyard Astronomer

Choosing a Telescope by Bill Dellinges

One of the most difficult decisions to make is choosing a telescope. Lately, several people have asked me to recommend a telescope. Thinking about it made me realize how hard it is to match a telescope to a person's needs. Why? Aren't there a gazillion telescopes out there to choose from? That's part of the problem! Add portability and budget issues and you've got a challenge.

Cost: Expect to pay at least \$300 for a decent entry-level telescope. Example: Orion Sky Quest XT 8 inch Dobsonian reflector, \$329. In the \$300

- \$1,000 range, one can choose from a number of respectable telescopes of midrange quality. Examples: the Celestron Omni XLT 102ED 4 inch refractor, \$800 or Celestron Nexstar 6SE, 6 inch Schmidt-Cassegrain (SCT) GOTO, \$800. Willing to part with \$2,000 or \$3,000? Consider the Meade LX200 ACF 8 inch (SCT) GOTO at \$2,600, Celestron CPC 11 inch (SCT) GOTO, \$2,800, or Obsession 12.5 inch Dobsonian, \$3,000.

Portability: It's sometimes said, "Buy the biggest telescope you can afford." Yes the bigger the scope, the more you'll see.

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The Backyard Astronomer

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But can you manhandle an 18" Dobsonian out of your house - even if it breaks down into manageable pieces? Will it fit in your Smartcar? Are you willing to transport said pieces to a remote dark sky site to observe? These are questions which must be taken into consideration.

Most laypersons think telescopes are pretty much the same: they are neat looking white tubes that magnify things. Well, that statement may be true. But walk into a telescope shop and look around. You'll be faced with a bewildering variety of strange looking optical instruments: refractors, reflectors, and catadioptrics. To further complicate matters, the refractors come in two versions, achromats and apochromats. The reflectors may be either Newtonian or Cassegrain types. The catadioptrics, incorporating both mirrors and lenses, may be Schmidt-Cassegrains, Schmidt-Newtonians, Maksutovs, or Maksutov-Newtonians. For brevity and simplicity, let's distill this mess into three basic choices: refractor, reflector, and Schmidt-Cassegrain (SCT). These are the most common types of telescopes found among amateur astronomers.

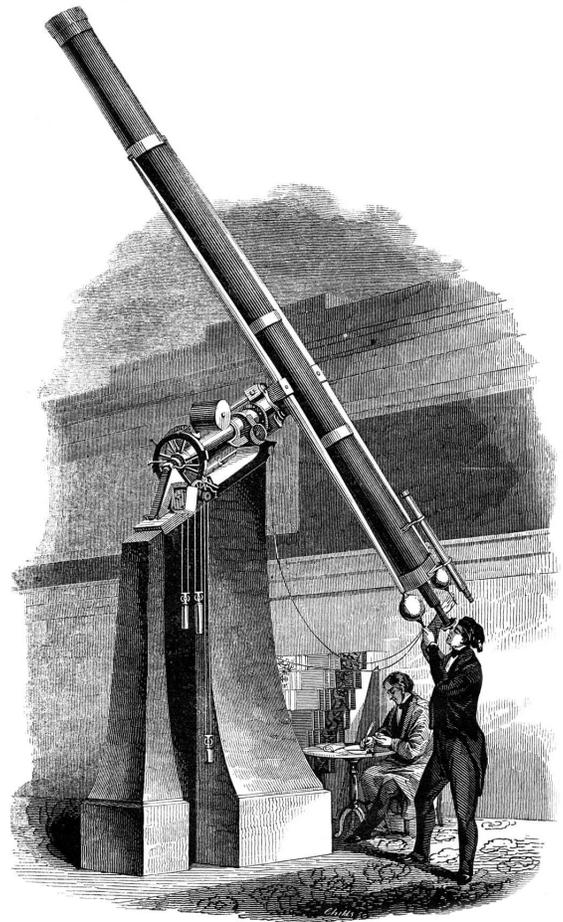
Which of these beasts you buy might depend on what kind of observing you're interested in. Generally, a refractor is an excellent choice for the planets, double stars, and the moon. A large reflector, due to its superior light gathering power, is good for pulling in fainter objects like galaxies and nebulae. A Schmidt-Cassegrain is a fine choice for general observing, kind of a "Jack of all Trades, Master of none." (No offense to you SCT folks, of which I'm one). Their short tubes make for a very transportable instrument.

One should also consider focal ratio in selecting a telescope. It's simply a ratio between the length (focal length in millimeters) and width (aperture in millimeters). For instance, the ubiquitous 8" SCT has a focal length of 2000mm and diameter of 200mm. Thus, $2000/200 = 10$ or "F-10". The lower the number, the wider fields of view you'll get with a given eyepiece compared to higher F-ratios. Today's Dobsonian mounted Newtonians run around F-4 to F-7, fine for wide field viewing. Refractors had been F-15, with long tubes and narrow fields of view until the 1980's when breakthroughs in lens development allowed for focal ratios as low as F-6 to F-9. Generally speaking, a focal ratio of F-8 is about midway between low and high focal ratio telescopes.

Before choosing one of these instruments, we must consider the mount. The choice of mount is as important as the choice of the telescope. It must be robust enough to carry the telescope without being subject to vibration. It should be tall enough to place the telescope's eyepiece at a comfortable level. Movement around the axes must be, ideally, buttery smooth. The mount is often the weak link in low end telescopes. Sometimes the mount is included with the telescope, such as the popular Schmidt-Cassegrain and Dobsonian mounted Newtonian models. These mounts are usually very good. If you buy just the telescope tube (optical tube assembly, OTA), be sure to match it with a commensurate mount. Avoid packages where the mount

looks suspiciously incapable of supporting the telescope - unfortunately, a common occurrence.

A word about GOTO's. The popularity of computer controlled telescopes, "GOTO's" (more specifically, their mounts), is such that it's difficult to find a telescope that isn't a GOTO. I think this is somewhat regrettable for several reasons. Let me count the ways: 1) the owner of such an instrument has no incentive to learn his way around the night sky as legions of budding stargazers did in years past. 2) One must learn the menu system - you can't just start observing immediately, out of the box. 3) It adds cost to the telescope. 4) It adds complexity to the system - more can go wrong (before GOTO's, a good telescope might last the owner his/her entire life without having to be returned to the factory for repair). 5) In low end models, poor performance frustrates the beginner.



So, what shall it be?! Before I open the envelope, a couple caveats. 1) Telescopes are not flawless. Even the best. I've had issues with my Questar, Astro-Physics, Televues, and Celestrons. Things happen to even top quality scopes. So don't expect a telescope, even a top-line one, to perform perfectly forever. It's just that the good ones need service less often (if ever). 2) There's no perfect all purpose-telescope. Each type has its strong and weak points regarding what it does best. 3) Technology moves fast these days. Your new scope with all the bells and whistles will likely be obsolete in a year. You can be assured that when

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The Backyard Astronomer

Continued from page 2 ordering your telescope, the manufacturer is at the moment designing the next model! 4) Do NOT buy a telescope from a department store. Buy it from only reputable company or dealer for that company advertised in Sky and Telescope or Astronomy magazine.

If you're not ready to drop a bundle on a scope right now, try binoculars on a tripod for a while. There's plenty to see out there with this simple setup. For a telescope, my favorite recommendation is the popular 8" Schmidt-Cassegrain for its versatility. This telescope will serve you well for years. It has respectable aperture combined with great portability.

Another possibility might be a low cost Maksutov import of modest aperture mounted on a light duty German Equatorial (GEM) or Alt-Az (altitude-azimuth) mount. The latter simply moves in an up/down, left/right fashion.

An inexpensive choice might be a 6" or 8" Newtonian reflector on a Dobsonian mount. They offer the greatest aperture for your money in a telescope, and simplicity of operation. One thing I've noticed about "Dobs" is that the most serious and ardent observers tend to use large aperture Dobsonians. A Newtonian reflector mounted on a driven GEM is another reflector possibility; just be sure the mount is up to the task of supporting the scope.

The classic refractor has been a long time favorite. It offers so-called permanent optics that almost never require

collimation (alignment), a closed tube, rugged construction, low maintenance, and superb resolution. Their down sides are 1) cost – inch for inch of aperture, they're the most expensive type of telescope. 2) Limited aperture – a 6" refractor is about the largest you'll see in the field due to cost and length of the tube assembly. 3) For refractors larger than about 4 inches at F-8, they require a tall tripod for the mount in order to keep the eyepiece at a comfortable position.

My final advice is to do your homework using the above tips before walking into a telescope store. Attend a club's star party and check out the scopes there. Ask the telescope owners why they chose their scope and what aspects about it they like and dislike. You'll learn a lot and be better prepared to choose your telescope.

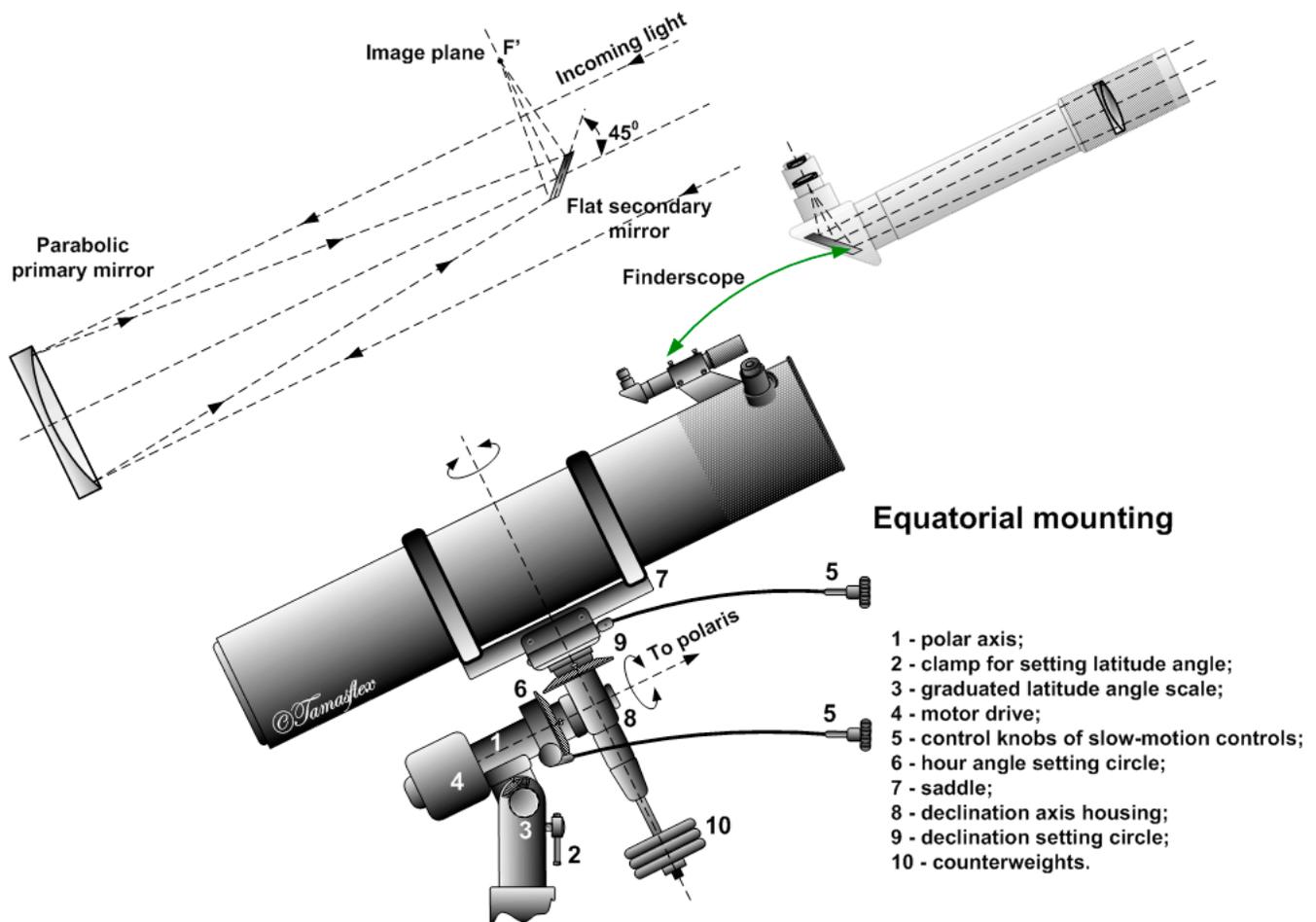


Diagram of a Newtonian telescope, courtesy of Szócs Tamás.

NASA's LRO Creating Unprecedented Topographic Map of Moon

NASA's Lunar Reconnaissance Orbiter is allowing researchers to create the most precise and complete map to date of the moon's complex, heavily cratered landscape.

"This dataset is being used to make digital elevation and terrain maps that will be a fundamental reference for future scientific and human exploration missions to the moon," said Dr. Gregory Neumann of NASA's Goddard Space Flight Center in Greenbelt, Md. "After about one year taking data, we already have nearly 3 billion data points from the Lunar Orbiter Laser Altimeter on board the LRO spacecraft, with near-uniform longitudinal coverage. We expect to continue to make measurements at this rate through the next two years of the science phase of the mission and beyond. Near the poles, we expect to provide near-GPS-like navigational capability as coverage is denser due to the spacecraft's polar orbit." Neumann will present the map at the American Geophysical Union meeting in San Francisco December 17.

The Lunar Orbiter Laser Altimeter (LOLA) works by propagating a single laser pulse through a Diffractive Optical Element that splits it into five beams. These beams then strike and are backscattered from the lunar surface. From the return pulse, the LOLA electronics determines the time of flight which, accounting for the speed of light, provides a precise measurement of the range from the spacecraft to the lunar surface. Range measurements, combined with accurate tracking of the spacecraft's location, are used to build a map revealing the contours of the lunar landscape. The five beams create a two-dimensional spot pattern that unambiguously reveals slopes. LOLA will also measure the spreading of the return pulse to get the surface roughness and the change in the transmitted compared to the return energy of the pulse to determine surface reflectance.

The new LOLA maps are more accurate and sample more places on the lunar surface than any available before. "The positional errors of image mosaics of the lunar far side, where direct spacecraft tracking – the most accurate -- is unavailable, have been one to ten kilometers (about 0.62 to 6.2 miles)," said Neumann. "We're beating these down to the level of 30 meters (almost 100 feet) or less spatially and one meter (almost 3.3 feet) vertically. At the poles, where illumination rarely provides more than a glimpse of the topography below the crater peaks, we found systematic horizontal

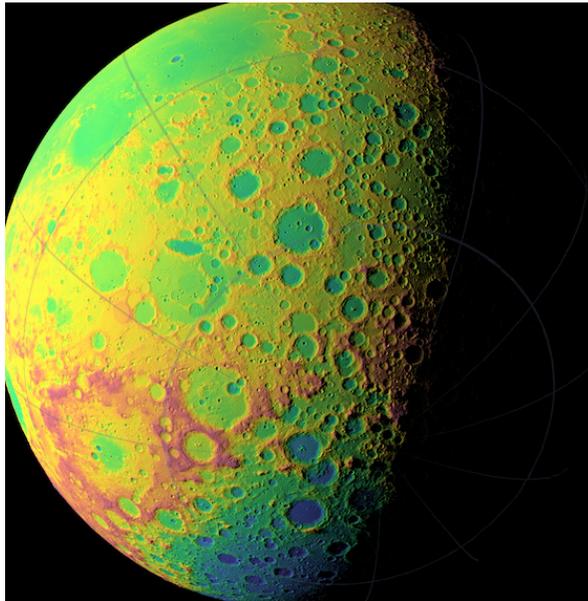
errors of hundreds of meters (hundreds of yards) as well." In terms of coverage, the nearly three billion range measurements so far by LRO compare to about eight million to nine million each from three recent international lunar missions, according to Neumann. "They were limited to a mile or so between individual data points, whereas our measurements are spaced about 57 meters (about 187 feet) apart in five adjacent tracks separated by about 15 meters (almost 50 feet)."

"Recent papers have clarified some aspects of lunar processes based solely on the more precise topography provided by the new LOLA maps," adds Neumann, "such as lunar crater density and resurfacing by impacts, or the formation of multi-ring basins."

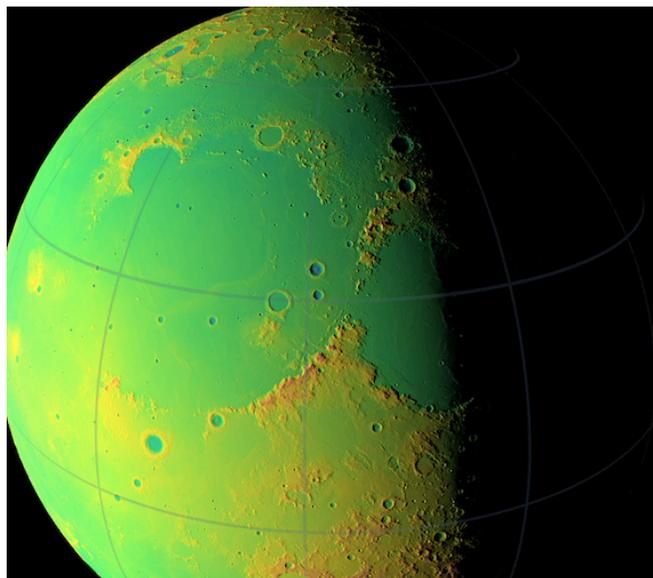
"The LOLA data also allow us to define the current and historical illumination environment on the moon," said Neumann. Lunar illumination history is important for discovering areas that have been shaded for long periods. Such places, typically in deep craters near the lunar poles, act like cold storage, and are capable of accumulating and preserving volatile material like water ice.

The landscape in polar craters is mysterious because their depths are often in shadow. The new LOLA dataset is illuminating details of their topography for the first time. "Until LRO and the recent Japanese Kaguya mission, we had no idea of what the extremes of polar crater slopes were," said Neumann. "Now, we find slopes of 36 degrees over several kilometers (several thousands of yards) in Shackleton

crater, for example, which would make traverses quite difficult and apparently causes landslides. The LOLA measurements of shadowed polar crater slopes and their surface roughness take place at scales from lander size to kilometers. These measurements are helping the LRO science team model the thermal environment of these craters, and team members are developing temperature maps



LOLA topographic map of the moon's southern hemisphere. The false colors indicate elevation: red areas are highest and blue lowest. Credit: NASA/GSFC/MIT/SVS



LOLA topographic map centered on the Apollo 15 landing site, highlighting the Apennine and Caucasus ranges and the fairly subtle wrinkling in Serenitatis. The false colors indicate elevation: red areas are highest and blue lowest. Credit: NASA/GSFC/MIT/SVS

of them."

LRO and LOLA were built and are managed by NASA Goddard. The research was funded by NASA's Exploration Systems Mission Directorate at NASA Headquarters in Washington.

January Guest Speaker: Steve Coe

Steve Coe has been an astronomer in Arizona for 34 years. For the past two years he has been travelling in his motorhome to view the sky and attend several major star parties, including the Golden State Star Party in northern California, the Table Mountain Star Party in Washington and the Oregon Star Party, his favorite. He has just finished his third book and it should be available in the spring.

Steve's presentation will be on *Wide Field Astrophotography with a DSLR*.

The talk will cover how to image the sky with a digital single lens reflex (DSLR) camera and lenses. There will be no shots taken through a telescope, that way we will keep it easy.

There will be a short discussion of cameras and lenses, along with how to mount them to the back of a telescope for best results. Most of all there will be lots of pretty pictures of the sky.



New EVAC Members in December

Corneliu Brezeanu - Mesa

○ **NEW MOON ON JANUARY 4 AT 02:03**

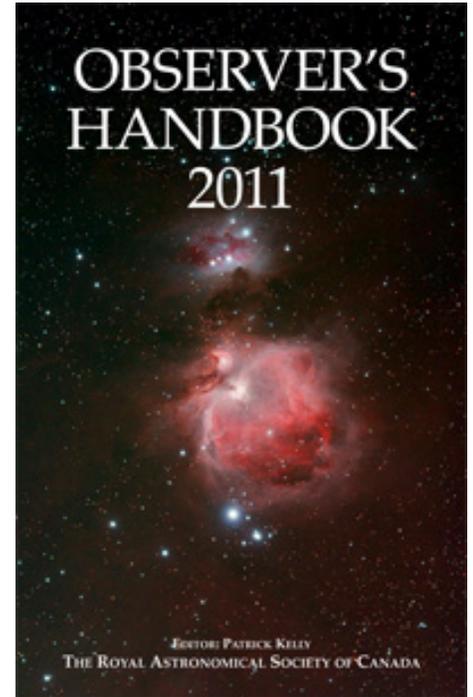
◐ **FIRST QUARTER MOON ON JANUARY 12 AT 04:32**

● **FULL MOON ON JANUARY 19 AT 14:22**

◑ **LAST QUARTER MOON ON JANUARY 26 AT 05:59**

2011 RASC OBSERVER'S HANDBOOKS NOW FOR SALE

The Observer's Handbook is a 360-page guide published annually since 1907 by The Royal Astronomical Society of Canada. Through its long tradition and the expertise of more than 50 contributors, the Observer's Handbook has come to be regarded as the standard North American reference for data on the sky. It should be on the reference shelf of every library; add one to yours for the super price of just **\$20**. Available at the January EVAC meeting.



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Upcoming Meetings

January 21
 February 18
 March 18
 April 15
 May 20
 June 17

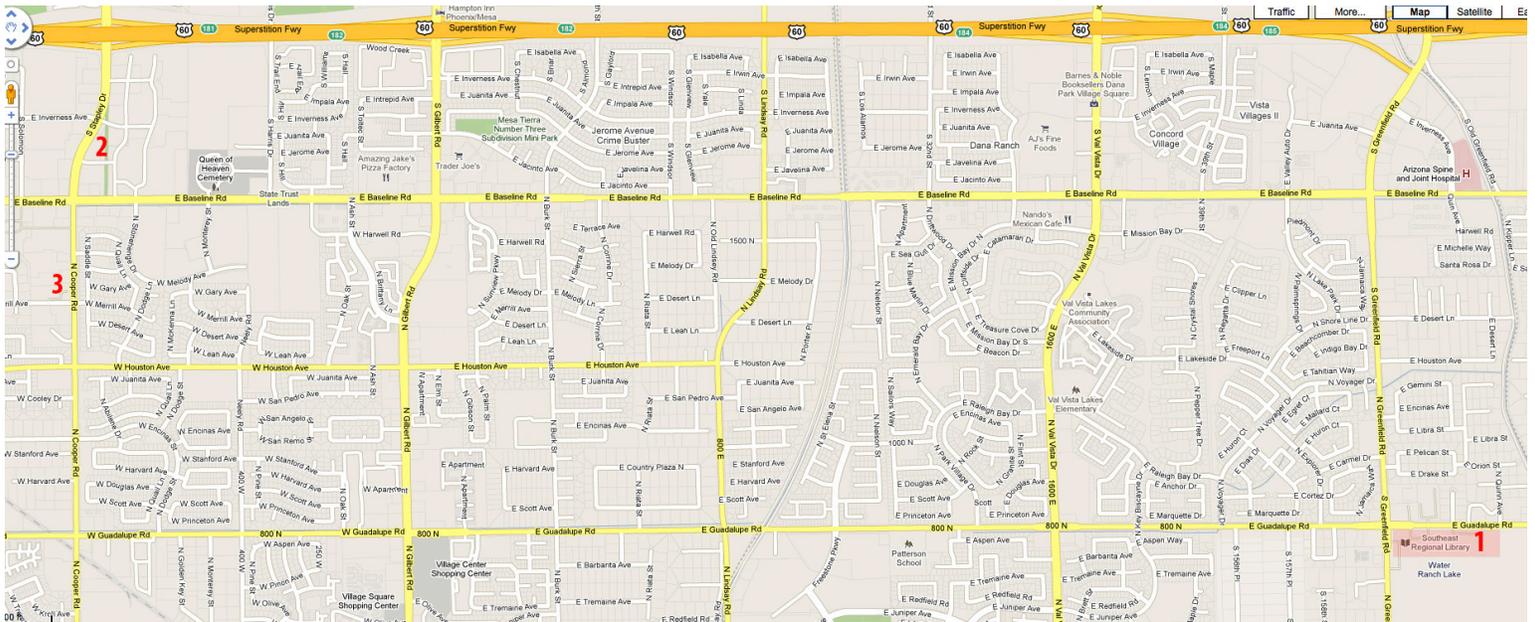
The monthly general meeting is your chance to find out what other club members are up to, learn about upcoming club events and listen to presentations by professional and well-known amateur astronomers.

Our meetings are held on the third Friday of each month at the Southeast Regional Library in Gilbert. The library is located at 775 N. Greenfield Road; on the southeast corner of Greenfield and Guadalupe Roads. Meetings begin at 7:30 pm.

All are welcome to attend the pre-meeting dinner at 5:30 pm. We meet at Old Country Buffet, located at 1855 S. Stapley Drive in Mesa. The restaurant is in the plaza on the northeast corner of Stapley and Baseline Roads, just south of US60.

Likewise, all are invited to meet for coffee and more astro talk after the meeting at Denny's on Cooper (Stapley), between Baseline and Guadalupe Roads.

Visitors are always welcome!



2 Old Country Buffet
 1855 S. Stapley Drive
 Mesa, Az. 85204

1 Southeast Regional Library
 775 N. Greenfield Road
 Gilbert, Az. 85234



3 Denny's
 1368 N. Cooper
 Gilbert, Az. 85233



JANUARY 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						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					

January 1 - Deep Sky Observing Night. Head out to your favorite dark sky site and observe!

January 7 - Mountainside Middle School Star Party

January 11 - Centennial Middle School Star Party

January 13 - Riggs Elementary School Star Party

January 14 - Public Star Party & SkyWatch at Riparian Preserve

January 18 - Salvation Army Star Party

January 20 - CTA Independence Campus Star Party

January 21 - General Meeting at SE Library

January 29 - Local Star Party at Boyce Thompson

January 27 - Navarrett Elementary School Star Party

FEBRUARY 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		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					

February 3 - Humphrey Elementary School Star Party

February 4 - Mesquite Elementary School Star Party

February 5 - Deep Sky Observing Night. Head out to your favorite dark sky site and observe!

February 10 - Canyon Rim Elementary Star Party

February 11 - Public Star Party & SkyWatch at Riparian Preserve

February 17 - Meyer Elementary School Star Party

February 18 - General Meeting at SE Library

February 26 - Local Star Party at Boyce Thompson Arboretum

East Valley Astronomy Club -- 2011 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

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.evaonline.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 I and my family 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**

Astronomers Stumble onto Huge Space Molecules

by Trudy E. Bell and Dr. Tony Phillips

Deep in interstellar space, in a the swirling gaseous envelope of a planetary nebula, hosts of carbon atoms have joined together to form large three-dimensional molecules of a special type previously seen only on Earth. Astronomers discovered them almost accidentally using NASA's Spitzer Space Telescope.

"They are the largest molecules known in space," declared Jan Cami of the University of Western Ontario, lead author of a paper with three colleagues published in Science online on July 22, 2010, and in print on September 3.

Not only are the molecules big: they are of a special class of carbon molecules known as "fullerenes" because their structure resembles the geodesic domes popularized by architect Buckminster Fuller. Spitzer found evidence of two types of fullerenes. The

smaller type, nicknamed the "buckyball," is chemical formula C₆₀, made of 60 carbon atoms joined in a series of hexagons and pentagons to form a spherical closed cage exactly like a black-and-white soccer ball. Spitzer also found a larger fullerene, chemical formula C₇₀, consisting of 70 carbon atoms in an elongated closed cage more resembling an oval rugby ball.

Neither type of fullerene is rigid; instead, their carbon atoms vibrate in and out, rather like the surface of a large soap bubble changes shape as it floats through the air. "Those vibrations correspond to wavelengths of infrared light emitted or absorbed—and that infrared emission is what Spitzer recorded," Cami explained.

Although fullerenes have been sought in space for the last 25 years, ever since they were first identified in the laboratory,

the astronomers practically stumbled into the discovery. Co-author Jeronimo Bernard-Salas of Cornell University, an expert in gas and dust in planetary nebulae, was doing routine research with Spitzer's infrared observations of planetary nebulae with its spectroscopy instrument. When

he studied the spectrum (infrared signature) of a dim planetary nebula called Tc 1 in the southern-hemisphere constellation of Ara, he noticed several clear peaks he had not seen before in the spectra of other planetary nebulae.

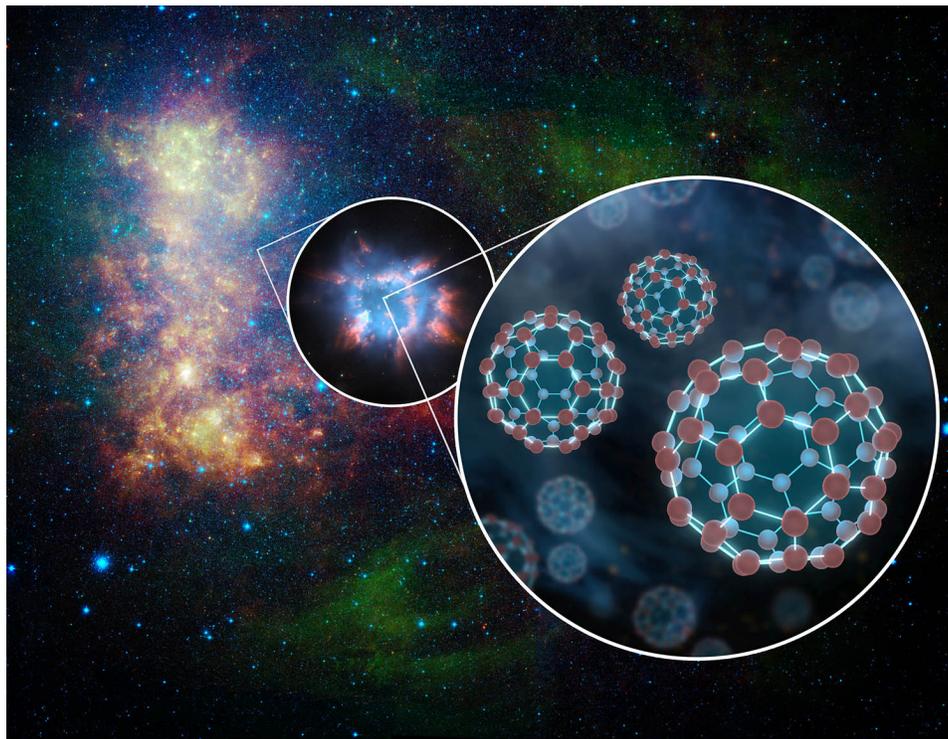
"When he came to me," recounted Cami, an astrophysicist who specializes in molecular chemistry, "I immediately and intuitively knew it I was looking at buckyballs in space. I've never been that excited!" The authors confirmed his hunch by carefully comparing

the Tc 1 spectrum to laboratory experiments described in the literature.

"This discovery shows that it is possible—even easy—for complex carbonaceous molecules to form spontaneously in space," Cami said. "Now that we know fullerenes are out there, we can figure out their roles in the physics and chemistry of deep space. Who knows what other complex chemical compounds exist—maybe even some relevant to the formation of life in the universe!"

Stay tuned!

Learn more about this discovery at <http://www.spitzer.caltech.edu>.



Superimposed on a Spitzer infrared photo of the Small Magellanic Cloud is an artist's illustration depicting a magnified view of a planetary nebula and an even further magnified view of buckyballs, which consist of 60 carbon atoms arranged like soccer balls.

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

If It's Clear...

by *Fulton Wright, Jr.*

Prescott Astronomy Club

JANUARY 2011

Celestial events (from Sky & Telescope magazine, Astronomy magazine, and anywhere else I can find information) customized for Prescott, Arizona. Remember, the Moon is 1/2 degree or 30 arcminutes in diameter. All times are Mountain Standard Time.

On Monday, January 3, it is new Moon so you have all night to hunt for faint fuzzies. This is also a good night to find Uranus (magnitude 6) which is 1/2 degree north of Jupiter (magnitude -2). Uranus is about the same brightness as Jupiter's moons.

On Saturday, January 8, about 6:30 PM, you can see the southern part of the crescent Moon at its best. Libration tips that part toward us.

On Tuesday, January 11, the Moon is at first quarter phase and sets at 12:44 AM (Wednesday).

On Wednesday, January 19, at 5:58 PM (11 minutes after sunset) the full Moon rises, spoiling any chance of seeing faint fuzzies tonight.

On Thursday, January 20, at 6:32 PM, you can see Algol at its dimmest (magnitude 3.4). During the next 5 hours, it brightens to magnitude 2.1.

On Monday, January 24, at 8:07 PM, you can see Ganymede move from in front of Jupiter. 3 minutes later, Io's shadow leaves the planet. The satellite and the shadow (from a different satellite) should be near each other before these events.

On the night of Tuesday, January 25, at 12:55 AM (Wednesday), the third quarter Moon rises.

Call for a Vote at January General Meeting

In accordance with the club's constitution and bylaws, we shall require a member vote on a business matter at the January general meeting.

Article III: Business Activities of the Organization stipulates that the following issue of the organization shall be by consent of the voting members in attendance at any general or special meeting held to vote upon the matter.

A. Acquiring or disposing of right, title, or interest in property with a valuation in excess of \$250.00.

The context for this vote is to allow the club to conduct a raffle or auction of four telescopes and an observing chair. Photographs of these items are on page 15 of this issue.

From the Desk of the President

Continued from page 1

importantly, the re-entry, thereby becoming the first commercial company in history to re-enter a spacecraft from low-Earth orbit. With the space shuttle fleet expected to be retired these new SpaceX launch vehicles will be crucial for the future of a US space program.

And, last but not least, the Riparian Institute, along with EVAC, will endeavor to create a science group of amateur astronomers generating useful data from the Gilbert Rotary Centennial Observatory! This will be a new and exciting facet of EVAC. I'll have more information on this in the coming months, but, I can tell you that I am looking for members who are interested in, or have already performed, data collection using telescopes. We'll be looking at what instruments are available, mapping member interest, and combining these into useful programs that will be generating, analyzing, and reporting observations to one of the many agencies that compile observational data, whether it's visual, infrared, occultations, asteroids, meteors, etc. If interested, contact me.

Again, a thanks goes out to all those who make this club a suc-

cess, and, a welcome to the incoming officers, as well as, new people we'll see attend our meetings this year.

Happy New Year!

Steven Aggas

EVAC President



IMPORTANT ANNOUNCEMENT

Following a discussion with the entire Executive Officer Group, and Board of Directors for EVAC, consisting of all elected members for both 2010 and 2011, it has been agreed that a change will be made in EVAC's handling of magazine subscriptions for both Astronomy and Sky & Telescope.

Effective Immediately, EVAC will no longer accept payment for magazine subscriptions to Astronomy or Sky & Telescope. All new subscriptions and/or renewals should be handled by the individual members directly with the magazine(s).

This decision and change are an administrative matter only. Any savings to members for subscribing through EVAC have been very minimal to non-existent, and in some cases are still available to members directly. The administrative burden to EVAC has been cumbersome. EVAC has not received any financial compensation from either of the magazines, nor is any desired or requested.

If you have any questions or concerns on this matter, you may contact any elected officer or board member.

Background image: Edifice of Gas and Dust in the Cone Nebula. NASA, The NICMOS Group (STScI, ESA) and The NICMOS Science Team (Univ. of Arizona)

2011 MESSIER MARATHON

The 2011 All-Arizona Messier Marathon will be held on Saturday, April 2 at the Hovatter Airstrip site. This is the same location used recently for the All-Arizona Star Party.

Moonset --- 18:23 on April 2nd

Sunset --- 18:52 on April 2nd

End civil twilight --- 19:17 on April 2nd

Begin civil twilight --- 05:52 on April 3rd

Moonrise --- 06:00 on April 3rd

Sunrise --- 06:16 on April 3rd

Phase of the Moon on April 2nd is a waning crescent with 1% of the Moon's visible disk illuminated. New Moon on April 3rd at 07:33 MST.

Stay tuned... more details coming soon.

THE DEEP SKY OBJECT OF THE MONTH

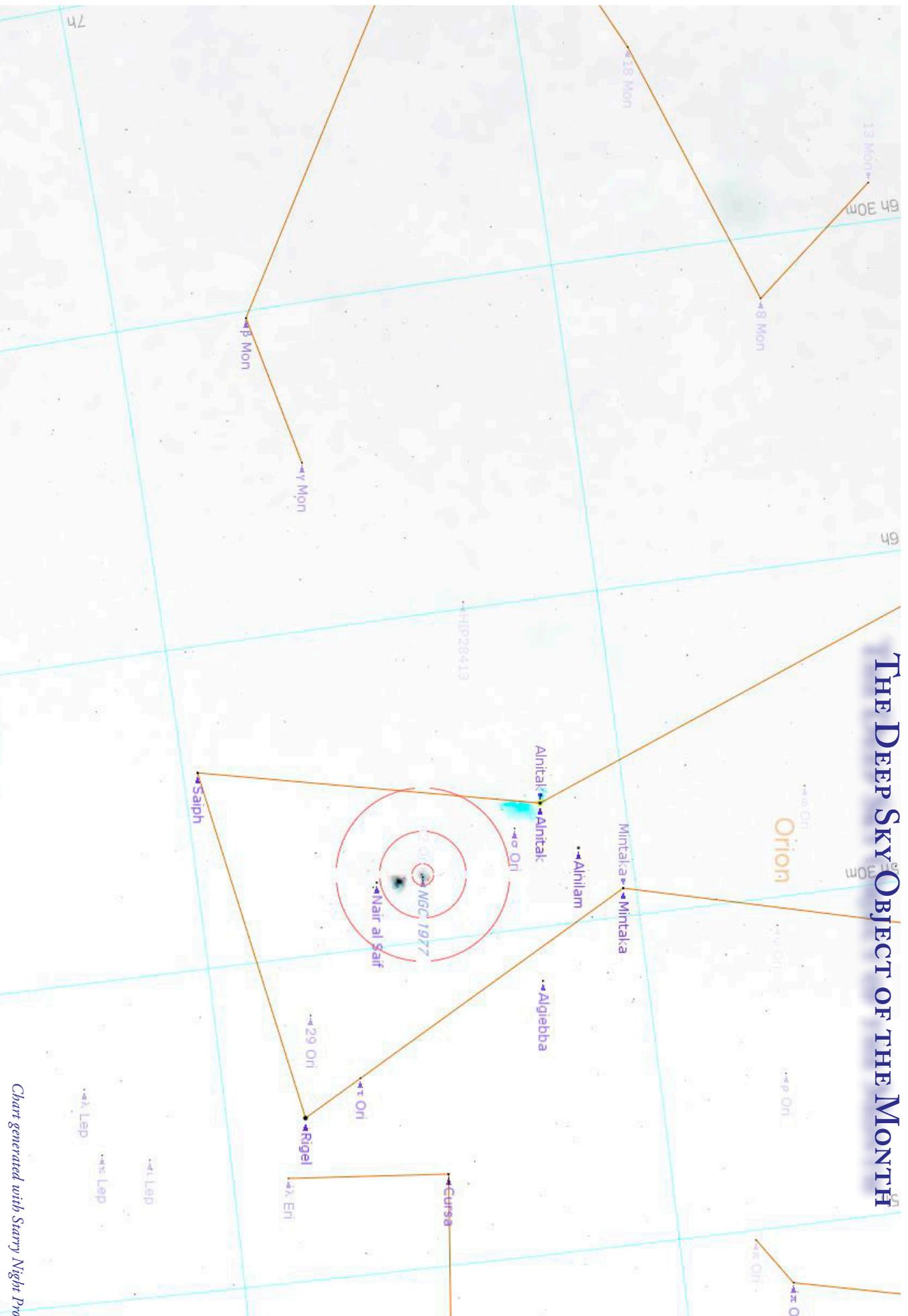


Chart generated with Starry Night Pro

NGC 1977 (OCL 525.1) Open Cluster in Orion

RA: 05h 35m 16.0s Dec: -04° 49' 12" Distance: 1600 LY Size: 20.0'



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Please send your contributions, tips, suggestions and comments to the Editor at: news@evaonline.org Contributions may be edited. The views and opinions expressed in this newsletter do not necessarily represent those of the East Valley Astronomy Club, the publisher or editor.

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