

THE OBSERVER



M44: The Beehive Cluster - APOD 04/30/2022
Image Credit and Copyright: Drew Evans

UPCOMING EVENTS:

EVAC Public Star Party - April 14th
EVAC Meeting - April 21st

Check out all of the upcoming club events in the Calendar on Page 10.

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From the Desk of the President by Claude Haynes

If April showers bring May flowers – NO! We are all looking forward to rivers of clouds not flowing our way from California. The first quarter of the year was busy. We provided telescopes for 15 school and community events. The season is winding down with sunset coming later, but we encourage your participation, if you haven't, in these sessions to create excitement and knowledge of astronomy and the night sky – for all ages. We have a few more sessions left, including a STEM presentation at a Diamond-backs game.

stayed away, but the winds showed up. The site is desert pavement and is less dusty than the airfield. It is available for personal viewing during the year and is easily accessible. Drive north on Hovatter Rd and take the right hand fork in the road. There is a convenient large sign just across from the site advertising gravel for sale. Take a hard right into the field (not down the drive to mining claim gate) and you have a large open plain to set up. We are still looking for sites on the east side, so let us know if you have a good site for group observing.

We had a fun night at the delayed Messier Marathon. The clouds

Our speaker for the April 21st meeting is Father/Dr. Christopher

From the Desk of the President

by Claude Haynes

Continued from page 1

Corbally of the Vatican Observatory and University of Arizona. The Vatican Advanced Technology Telescope 1 meter mirror on Mount Graham was the prototype for the U of A manufacturing of mirrors using spin casting techniques. Father Corbally has spoken several times at EVAC and always has an informative and entertaining presentation.

Finally, thanks for a great start to 2023. Thanks for renewing your membership and attending our meetings, either in person or via ZOOM. Thanks for volunteering at our events. Thanks for keeping EVAC a strong and vibrant organization.

Your President
Claude Haynes

EVAC ZOOM Meeting Minutes for March 17th, 2023 at 07:30 P.M. AZ Time

by James Yoder

Welcome

EVAC president Claude welcomed club members to the meeting and reviewed the agenda. New visitors were recognized and welcomed. Introduction of Officers and Board for 2023:

- President – Claude Haynes
- Vice President – Woody Sims
- Secretary – James Yoder
- Treasurer – Brooks Scofield
- Board Members: Don Wrigley, Tom Mozdzen, Steve Bradshaw, Alex Beck, David Coshow
- Property Manager: James Yoder
- Webmaster/Newsletter Editor: Marty Pieczonka
- Events Coordinator – (Position is Open)

General Business

- Events Coordinator: We are still looking for an events coordinator, if you are interested please contact Claude (president@evaonline.org).
- Membership Renewal: Reminder that it is time for members to review their annual membership.
- GRCO Volunteers: If you would be interested in volunteering to assist with the GRCO telescope during public nights please let Claude know. You don't have to be an expert in astronomy to greet folks and help with crowd control.
- Upcoming Public Events: Claude reviewed the upcoming public events (see below). Email events@evaonline.org if you would like to volunteer:
 - 03/24/23 – AS Science Center public Viewing
 - 03/25/23 – Fountain Hills Dark Sky
 - 03/26/23 – Gold Canyon Dark Skies (filled)
 - 03/29/23 – Apache Junction Govt. Center
- Fountain Hills Dark Sky Festival - Ted Blank gave a presentation describing the Fountain Hills Dark Sky Event planned on March 25, 2023 from 4pm – 9pm. The

event will be held at the Fountain Hills Community Center, 13001 N. La Montana Dr., Fountain Hills. There will be Food Trucks, Live Music, Wine and Beer Garden, Meteorite Displays, Hands-on Displays. Email tedblank@gmail.com if you would like to bring a telescope. You will receive \$20 provided for food.

Messier Marathon:

The event was delayed due to clouds. The new date has been set for Saturday 03/25. The location is North Hovatter Road (3.5 miles North of Interstate 10). See the March issue of the Observer for a map and directions.

Society for Astronomical Sciences 2023 Symposium

Presenter: Bob Buchheim (oca_bob@yahoo.com).

Date: June 22, 23, 24 (Th-Fri-Sat).

Registration (\$100/\$125) is open.

Call for abstracts: due March 30th.

More information at: www.SocAstroSci.org/Symposium.

Where: Ontario California and online.

Discussion what objects normal telescopes can observe and how we can contribute to the science effort. Double Stars, Transient Events and Asteroid light curves, represent potential objects we can provide our contributions to astronomical research. If you are interested in making a contribution to science or finding out what others are doing, you should attend this years Society for Astronomical Sciences 2023 Symposium.

Grand Canyon Star Party: North and South Rim

Dates: June 10 – 17, 2023:

North Rim Kaibab Lodge: <https://www.saguaroastro.org/kaibab-lodge-star-party>. Contact Gene Fioretti for more information.

Official GCSP South Rim Page: <http://tucsonastronomy.org/upcoming-events/grand-canyon-star-party/>.

EVAC ZOOM Meeting Minutes for March 17th, 2023 at 07:30 P.M. AZ Time

by James Yoder

Continued from page 2

Lowell Observatory & DART

Tom Polakis presented a number of exceptional time-lapse videos and photographs from the time he spent up at the Lowell Observatory from October to December. He also discussed his experience while he was working there collecting data for the DART program.

to change the orbit of Dimorphos around Didymos (the larger asteroid). The presentation addressed the three questions:

1. Why did we do DART?
2. What did we do to set up the experiment?
3. What have we found out?

Main Presentation: DART Program

Presenter: Dr. Nick Moskovitz (Lowell Observatory) nmosko@lowell.edu.

The results of this experiment were:

- Original Orbital period = 11:92 hrs.
- New Orbital Period = 11:37 hr.
- Beta is approximately 3.6

Dr. Moskovitz discussed the DART program where an object was intentionally sent to collide with the Didymos asteroid system to determine how the impact would affect Dimorphos (the smaller asteroid). The collision was able

More information on the project can be located on the Dart website: <http://dart.jhuapl.edu>.

What's Up - Some Astronomical Events of Note for April, 2023

by James Yoder

Here we make note of some interesting astronomical occurrences for the month that are visible from the Phoenix Metro area. Events we are on the lookout for include:

- [Transits](#) – When a celestial body passes directly between a larger body and the observer. For example when one of the inner planets such as Venus passes in front of the Sun ([image](#)).
- [Eclipses](#) – Specifically we are focused on [Lunar Eclipses](#) (where the Earth passes between the Sun and the Moon) and [Solar Eclipses](#) (where the Moon passes between the Sun and the Earth).
- [Comets](#) – For the comets we are focused on bright comets ([image1](#), [image2](#)) or ones that may have a near miss with other astronomical objects such as globular clusters, planets, nebula, etc ([image](#)).
- Planet Activity – [Oppositions](#), [Conjunctions](#) ([image1](#)) and [Occultations](#) ([image2](#)) of note that may be an opportunity for observation or photography. For Jupiter, we also note when multiple moon shadow transits are visible.
- Visually Interesting astronomical alignments such as Moon & planets arrangement in the morning or evening sky ([image1](#)).

Equipment Requirements are noted as follows:

- NE – **N**aked **E**ye event, no equipment needed to appreciate this.
- BI – A decent pair of **B**inoculars are recommended.
- CT – **C**amera on a **T**ripod can be used to capture this event.
- TS – **T**elescope required to view this event

Date	Event	Time	Equipment	Images	Ref	Comments
04/06	Full Moon					
04/20	New Moon					
04/22	Lyrids Meteor Shower	All night	NE			Active from 04/16 to 04/25 Max @6pm ZHR=20 D=1.3

These events and others throughout the year can be viewed on my webpage [here](#), Happy hunting!

The Backyard Astronomer

by Bill Dellenges

A New Catalog of Stellar Rich-Fields for Binoculars (Part Two)

This is the second installment on this unique catalog of bright star fields for binoculars. Part One was published in the September 2022 EVAC newsletter, the Observer. It featured three star fields in Aquila and Cygnus (Del 1, 2 and 3). In the article I stated it might be fun to create a catalog of some of the beautiful star fields I have stumbled across while cruising through the night sky with binoculars. As pointed out in Part One of this series, my criteria is simply 1) They should be impressively bright and fill an 8 degree binocular field. 2) They must have not been previously included in any astronomical catalog, thus for example, beauties such as the Pleiades, Hyades or the Beehive Cluster, etc., much to my chagrin, are off limits. Allow me to introduce the eponymous Del 4, Del 5 and Del 6 objects.

Del 4: Auriga: Del 4 is centered around RA 5h 20m and DEC +35° (Just right center within in its "Pentagon"). There you will find a string of 4th magnitude stars that point north to the star cluster M38, with M36 3° below it. Both clusters are faint wisps in an 8x42 binocular. But they add a little pizzazz to the gaggle of background stars here. Between the two clusters, a curved string of faint stars reminded me of a smiling cat looking back at me. Reference star charts: Sky Atlas 2000, Chart 5. Bright Star Atlas, Chart 4, S&T Pocket Sky Atlas, Chart 12.

Del 5: Lynx: RA 6h 40m DEC +58°. The northern tip of this constellation represents the head of the Lynx and makes for an impressive stellar sight. I counted 47 stars within

my 8.3° binocular field. The brightest seven stars, about 4th and 5th magnitude, stand out because they form an interesting pattern that captures the eye. On one side the field three stars make a bent line, on the other side four stars form a "C". It may be hard to find this hidden splash of stars because it's in the middle of nowhere, a huge stellar void. Consult an atlas before going after this gem. Note it lies midway between Capella in Auriga and Omicron Ursae Majoris, the nose of the Great Bear. I have seen this group of stars naked eye in my semi-light polluted sky, given a little time to get dark adapted. Sky Atlas 2000, Chart 1, Bright Star Atlas, Chart 1. S&T Pocket Atlas, Chart 23.

Del 6: Canis Major: RA 7h 10m DEC -27°. In southern Canis Major, find the bright star Wezen (Delta C. Maj.) signifying the Dog's hip. Center that star in your binocular. That's it, you're right where you need to be, enjoy the vista. At the bottom of your field you'll see two other bright stars, Aludra (Dog's tail) and Adhara (Dog's rear leg). I counted about 50 obvious stars in the background, but since the winter Milky Way runs through the area, your gas mileage may vary. I split the wide double star Aludra in the 8x binocular. It has a magnitude 6.8 companion 170" away at position angle 286°. Sky Atlas 2000, Chart 19. Bright Star Atlas, Chart 4. S&T Pocket Atlas, Chart 27.

Binoculars are a wonderful instrument for astronomical observation. Its wide field can do things a telescope can't. As you take on these objects, I encourage you to roam a little beyond the above objects, who knows what you'll find. Be adventurous. It can pay off!

FULL MOON ON APRIL 5 AT 09:34

LAST QUARTER MOON ON APRIL 13 AT 02:11

NEW MOON ON APRIL 19 AT 21:12

FIRST QUARTER MOON ON APRIL 27 AT 14:19

Deep Sky Imaging Target Highlights for April

by James Yoder

The average low [temperature](#) for April in the Phoenix metro area is 60° F. April 20th is a new moon with Astronomical dusk at 8:33 pm and Astronomical dawn at 04:20 am, giving us 7:47 hours of imaging time.

In this month's list there are over 108 object/configuration combinations provided of just about every class of deep sky object including 17 Globular Clusters, 1 Open Cluster, 10 Planetary Nebulas, 4 Nebula, 7 Dark Nebula, and 69 Galaxies/Galaxy Clusters. The galaxies make the majority of the deep sky objects.

The [Prospective Imaging Objects Guide](#) (PDF download) covers objects that reach their highest point in the sky and cross the meridian (aka Transit) sometime between Astronomical Dusk to Dawn. We will be highlighting objects that transit roughly between 10pm and 2am. This ensures maximum imaging time over the month.

Happy Hunting!

Some Highlighted Targets for January

Configuration	Page	Object(s)	Type	ImageLink
Hyperstar	6	M108 & NGC3587 (Owl and Cigar)	PN & Galaxy	147 min
Hyperstar	30	SH 2-1 (Blue Horsehead Nebula)	Bright Nebula	140 min
Focal Reducer	20	NGC4631 & NGC4556	Galaxies	155 min
Focal Reducer	39	B-72 (Snake Nebula)	Dark Nebula	125 min
Primary Focus	32	Abell-39 (Perfect Planetary Nebula)	Planetary Nebula	150 min
Primary Focus	28	M-5	Globular Cluster	178 min

Resources:

- [ArtCentrics.com](#) – [April Potential Targets Guide](#) (PDF download)
- [Telescopius](#) – Lookup objects, plan imaging session.
- [Field of View Calculator](#) – Test Different Telescope, camera & eyepiece combinations.
- [Astrometry.net](#) – Solve images captured by your system. Get image RA/DEC, pixel scale, image size, orientation of the image you have taken.

EVAC Outreach Events

by Claude Haynes

April Outreach Events:

- Wednesday, March 29 – Apache Junction Government Center.
- Thursday, April 13 – Barney Farms Community Association.
- Friday, April 14 – 2nd Friday Riparian Star Party.
- Sunday, April 23 – STEM Day at Diamondbacks.

Details can be found on the EVAC website. Just go to www.evaconline.org/events-meetings. Click on the calendar entry for location and times. Contact Claude Haynes (interim Events Coordinator) if you can volunteer at an event. It is helpful to know who is coming so we can inform you of where the observing field is located and how to gain access.

Monthly Meetings will be held in person and also presented live online using Zoom. See the EVAC Website for updates.

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 normal in-person monthly meetings have resumed. Also, the meetings will continue to be available online via Zoom.

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.

Visitors are always welcome!



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



Find Out What's Happening – Join EVAC-Announce List

If you would like to receive email announcements about EVAC meetings and activities, please join the EVAC–Announce mailing list. Click on the link below to subscribe. Enter your full email address in the box titled User Options and press OK. You will receive a confirmation email. Your privacy is respected by EVAC and we will never sell your email address, or use it for non-club relevant solicitations. This mailing list is designed for communication from EVAC, and does not enable users to respond to the message. If you wish to contact club officers, please use the list in the Contact-Us area on the Home page of our EVAC website. To subscribe to the EVAC–Announce mail group click: <http://www.freelists.org/list/evac-announce>. To unsubscribe use the same link, enter your email address and select Unsubscribe from the “Choose An Action” list. Another list to consider is AZ-Observing@groups.io, simply click on this link <https://groups.io/g/AZ-Observing> and follow the instructions on the page. EVAC also has a Facebook Group where members may share ideas, photos, and Astronomy related information. To join: EVAC Facebook [Group](#).

The Gilbert Rotary Centennial Observatory (GRCO) also has a Facebook Group where members may share ideas, photos, and Astronomy related information. To visit, please click on Gilbert Rotary Centennial Observatory - GRCO.

Gilbert Rotary Centennial Observatory is open on Friday and Saturday from sunset until 9:30pm. We need volunteers. Training is provided. Help us engage the community in the wonders of the night sky. Email grco@evaonline.org for information.

Beginners Guide to Small Telescopes Class Offered in April

The East Valley Astronomy Club (EVAC) is offering an introductory class targeted to persons who are considering purchasing a telescope, or who have a telescope and would like to learn how to use it. The class covers topics such as the different types of telescopes, telescope mounts, accessories and considerations for purchasing a telescope. It also covers basic concepts useful for amateur astronomers including what to expect from your telescope, appropriate objects for viewing, understanding the night sky, planning an observing session and techniques used for locating objects. Classes will be held via ZOOM on Tuesday evenings and will be recorded.

Labs are hands-on and involve utilization of a small telescope (Bring your own, or one will be supplied). The intent of the labs is to ensure students are comfortable with using a telescope and to teach basic techniques used to locate and view various objects. Labs will be scheduled for Saturday evenings.

Class cost is \$10 for EVAC members and \$25 for everyone else. Class consist of an initial Assessment session, 5 Zoom classes (on Tuesday nights) and 5 Labs (On Saturday nights). First class starts on Tuesday, April 18th. More information can be located online here. or email James Yoder (jty.Astro@ArtCentrics.com) Class size is limited, and tends to fill fast.



SkyPi Remote Observatory

The darkest, most Pristine, sky in the continental U.S. !

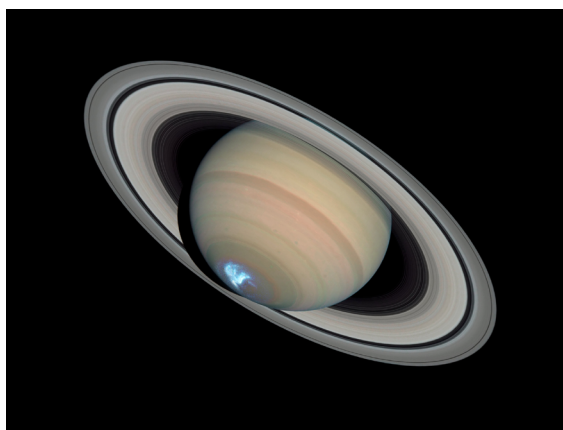
At the site: Bathroom facilities, running water, 5 pads w110v, wifi, acres of grassy camp sites.

From the site: Very Large Array 42mi E, The Astronomical Lyceum 55mi E, MRO Observatory 80mi E

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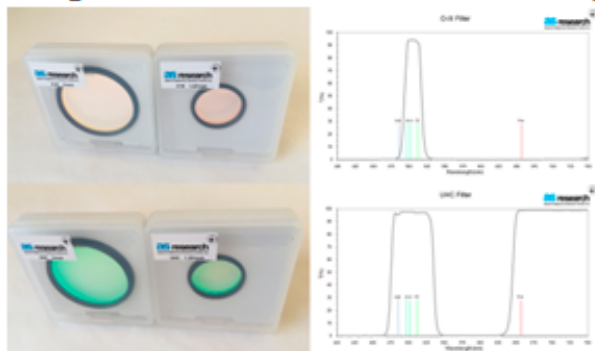
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MARCH 2023

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	

March 4 - Superstition Sleepover at Prospector Park in AJ

March 7 - Pomeroy Elementary

March 7 - Playa Del Rey Elementary

March 10 - EVAC Riparian Star Party

March 17 - EVAC Monthly Meeting

March 20 - Ironwood Crossing Community Association

March 22 - Viewpoint Community Association

March 25 - Fountain Hills Dark Sky Festival

March 26 - Peralta Regional Park

March 29 - Apache Junction Government Center

APRIL 2023

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

April 7 - EVAC Riparian Star Party

April 14 - EVAC Monthly Meeting

East Valley Astronomy Club - 2023 Membership Form

Member Dues (Based on the month you are joining the club)			
	Individual	Family	Student (18yr+ with ID)
January - June	\$30.00	\$35.00	\$20.00
July - December (<i>Renew in January</i>)	\$15.00	\$20.00	\$10.00
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Renewal Dues (Current Members Only)			Astronomical League: \$7.50 Annually: <input type="checkbox"/>
Individual	Family	Student (18yr+ with ID)	
\$30.00	\$35.00	\$20.00	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Name Badges: Quantity: _____

\$10.00 Each

Name to imprint: _____

Total amount enclosed:

Please make check or money order payable to EVAC.
Payment will be made using PayPal:

Name: <input style="width: 95%;" type="text"/>	Phone:	<input style="width: 95%;" type="text"/>
Address: <input style="width: 95%;" type="text"/>	Email:	<input style="width: 95%;" type="text"/>
City State Zip	URL For website	<input style="width: 95%;" type="text"/>

Would you be interested in our outreach program? Yes No

How did you discover East Valley Astronomy Club?

Liability Release Form

In consideration of attending any publicized Star Party hosted by the East Valley Astronomy Club (hereinafter referred to as "EVAC"), the receipt and sufficiency of which is hereby acknowledged, I hereby affirm that I and any related entities, predecessors, successors, affiliates, attorneys, guarantors, insurers, transferees, assigns, parents, spouses, children, subsidiaries, accountants, officers, directors, employees, agents, shareholders, members, and trustees, past and present, hereby forever release, acquit and discharge to hold EVAC and its related entities, predecessors, successors, affiliates, attorneys, guarantors, insurers, transferees, assigns, parents, spouses, subsidiaries, accountants, officers, directors, employees, agents, shareholders, members, and trustees, past and present, from any and all causes of action, claims, losses, damages, liabilities, expenses (including attorneys' fees) and demands of any nature whatsoever, known or unknown, that in any way relate to, arise out of, or concern EVAC and/or my presence on the premises of any EVAC Star Party and related areas, whether or not those causes of action, claims, damages, liabilities, and demands are part of the specific subject matter of EVAC or any EVAC Star Party. This release is intended to and does cover all injuries and damages, and the consequences thereof, whether known or unknown at the time of the execution of this release, which have occurred or may hereafter occur or which may hereafter be discovered, and which may have been caused or may be claimed to have been caused by the said incident, and specifically includes, but is not limited to, bodily injuries, mental and emotional injury, pain and suffering, medical treatments, and loss of earnings or income.

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.

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The East Valley Astronomy Club is a 501(c)(3) nonprofit charitable organization.

www.evaonline.org

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