

San Diego Astronomy Association

Celebrating Over 50 Years of Astronomical Outreach



April 2021

SDAA Update

<https://www.sdaa.org/>
A Non-Profit Educational Association
P.O. Box 23215, San Diego, CA 92193-3215

Next SDAA Business Meeting

April 13th at 7:00pm
10070 Willow Creek Rd
San Diego, CA 92131
Via Zoom

Next Program Meeting

April 19th at 7:00pm
Live Stream

SDAA is now actively using online facilities like Zoom and YouTube to provide access to club meetings, events, and outreach programs in keeping with state and local mandates regarding physical distancing requirements during the COVID-19 pandemic. In-person events will start again in 2021 as soon as allowed by said mandates. Look for updates on the Lipp telescope.

Since TDS is private space there is no reason to lock down the facility but there are actions you can take to help keep the site safe for all of us. If you plan to visit and use the facility, please bring along some disinfectant wipes or disinfectant spray cleaner. When you finish using the restrooms or the warming room, please wipe down the areas that you touched in order to help prevent the spread of any viruses. As much as we love sharing the views of the night sky, try to maintain the recommended 6-foot physical distance guideline.

Additionally, we want to thank all of you who participated in and donated at our annual fundraiser. Your funds are used, in part, to maintain TDS and we have used this past year to perform a lot of maintenance around the site. Your donations have offset the costs of repairing the warming room, mitigating erosion and ensuring our facilities are in good working order.

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April 19th Program Meeting

Speaker: Dr. Xiaohui Fan – Steward Observatory
Topic: Dark Energy Spectroscopic Instrument (DESI)



Dr. Fan is an observational cosmologist. Answering questions such as: When did the first luminous objects appear in the Universe? How did the first generation galaxies & quasars heat up the intergalactic gas, re-ionize the Universe and end the cosmic dark ages with facilities such as ALMA and HST. He also is studying spectroscopic properties of the first generation galaxies, using LBT, HST, and soon with JWST. In addition, he is working on a project called “MAMMOTH”, a novel survey of the most massive large scale structure and protocluster environments at the peak of cosmic star formation.

Note that the date is the third Monday instead of our usual third Wednesday.

You can register in advance for the meeting at the following link. After registering, you will receive a confirmation email containing information about joining the meeting.

<https://us02web.zoom.us/j/89298162225?pwd=TVZsTTg3dzRXcERDY0tXcHErVXArQT09>

Newsletter Deadline
The deadline to submit articles
for publication is the
15th of each month.

[Link to SDAA Merchandise Store](https://sdAA28.wildapricot.org/SDAA-Store) <https://sdAA28.wildapricot.org/SDAA-Store>

[Link to Outreach Calendar](https://calendar.google.com/calendar/embed?src=g-calendar@sdaa.org&ctz=America/Los_Angeles) https://calendar.google.com/calendar/embed?src=g-calendar@sdaa.org&ctz=America/Los_Angeles



San Diego Astronomy Association

San Diego Astronomy Association Board of Directors Meeting

March 9, 2021 – Unapproved and subject to review

1. Call to Order

The meeting was held via Zoom and was called to order at 7:03pm with the following board members in attendance: Dave Wood, President; Melany Biendara, Treasurer; Gene Burch, Recording Secretary; Alicia Linder, Corresponding Secretary; Dave Decker, Director; Hiro Hakozaiki, Director; Pat Boyce, Director, Scott Dixon; AISIG chairman.

2. Priority / Member Business

None

3. Approval of Last Meeting Minutes

The February meeting minutes approved.

4. Treasurers & Membership Report

Mel reported that the Banquet was a big success with a net profit of \$13,213.

5. Standard Reports

a. Site Maintenance Report:

The septic tank was cleaned and appears to be in good condition and will probably need to be cleaned again in about 7 years. The water tank was refilled to capacity. Brian fixed the electrical on Pad 38.

b. Observatory/Loaner Scope Report:

Observatory:

The condition of the Lipp telescope remains excellent. No star parties are planned for March or April. Trained hosts continue to utilize it for private observing. I have had multiple requests for training which I have put off based upon COVID-19. The board recently awarded Igor von Nyssen a night of viewing with the Lipp, and he has requested the award be substituted with earlier training. COVID-19 numbers are again on the decrease. I have had my shots. Warmer weather is on the horizon. Training is a one-on-one process. As an intervening step towards re-opening the Lipp, I plan to begin Lipp training in April. The approved procedures will be employed. Igor and his two family (only) members will be the largest strain upon facility and can be accommodated within the four walls of the Lipp.

Loaner Scopes:

We continue to have had a lot of activity in the loaner program. Members have been pretty good at returning on time. We now have a waiting list for beginner scopes.

c. Private Pad Report:

We have 3 free pads and 14 people on the waiting list (4 were added in the last week). Two of the people on the waiting list are current pad holders looking to upgrade and one is willing to share a pad so I'm going to look for an underutilized pad to try to partner him with.

Pad 5 is due to be returned to the club this month and I believe that it will be leased fairly quickly. I also believe that Pad 14 will be leased fairly quickly once we decide it is safe.

Pad 8 is in the early stages of planning a structure on the pad. No action for the BOD yet as they are still deciding exactly what they want and what they want to use it for.



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d. Program Meetings Report:

17 Feb 2021 Speaker / Topic:

- Speaker: Jimmy Lilly - Steward Observatory
- Presentation: Identifying Prestellar Cores in Molecular Clouds
- Attendees: 43

Current Program Meeting Petty Cash as of 6 Aug 2020 = \$524

Expenses Since 6 Aug 2020 Report – None

e. AISIG Report:

The Zoom Meeting with Gary Hawkins speaking on Electronically Assisted Astronomy (EEA) was very well received. March meeting will feature Stuart Forman reviewing processing techniques in Pixinsight.

f. Newsletter Report:

Current issue looks good – nothing new to report.

g. Website Report:

Webmaster report: GoDaddy deleted the old website after a month as planned, but also deleted all of our forwarding addresses, which was not planned. I have recreated them. Sdaa_official@sdaa.org goes to all Board members. sdaa@sdaa.org catches everything sent to sdaa.org that doesn't forward to another address and forwards to Gene.

h. Social Media:

People are continuing to visit our YouTube channel and we currently have 430 subscribers.

i. Outreach Report:

On February 18, Gary Hawkins and I hosted another YouTube live stream event from Oak Oasis County Preserve. This event featured insights into the life of Sir Patrick Moore, and his Caldwell objects list. The event was rescheduled from February 13, due to weather. Event analytics show 38 concurrent live viewers, with 248 total views since. Details are available to managers on the SDAA YouTube channel. Hopefully we will continue to have the support of the County Parks for these virtual programs.

On February 24, Gary presented to the AISIG Zoom meeting regarding the basic EAA and broadcasting procedures we have been using for outreach. That video has since been uploaded to YouTube and has 145 views to date.

We are planning another event for March; program details and schedule pending.

Future Outreach events also include another partnership with Timeanddate.com to support their live stream event covering another lunar eclipse. Graham Jones, Time and date Astronomer, viewed our Sir Patrick Moore live stream event, and then invited us to join them in May. The format would be similar to our last event with them, where we provide live video with SDAA credit and they provide the studio mix and narration.

Kin Searcy is coordinating our judging team for the Science Fair (GSDSEF). Even though this is not posted as an outreach event, it has a strong outreach impact to high school students interested in science, and I am also involved. The board approved increasing the Science Fair awards to \$3,000 since the quality of entries and the investment in equipment required to compete has increased dramatically in recent years.

j. TARO Report:

TARO is operational and is accepting DSO target imaging requests. We have several projects underway at the request club members.

k. Cruzen Report:

Gene needs to get with Ed to finish the operations manual for the TAK/Gemini II and do the final set up of the mount.



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- l. Merchandise Report:
Uploaded some TARO images to the Wild Apricot Store so members can order them.
 - m. Astronomical League Report:
Nothing new to report for February. We currently have 45 SDAA members who have joined AstroLeague through the club.
 - n. JSF Report:
The county is not issuing event permits at this time. We are going to try one more time to submit for a permit in April. If there is no change in response, we will need to cancel the 2021 event and regroup for 2022. Sandy and I will visit the winery next weekend to secure a 2022 date for JSF.
- 6. Old Business:**
- a. Observatory/Warming room drywall has been finished, many thanks to member Wayne Hall, and we'll wait for a bit warmer weather to paint.
 - b. Downing Observatory donation is still being developed. Dave, Mike, Scott Dixon and Pat Boyce are working with Mr. Downing to figure out how to best use it.
 - c. Mike Chasin is still working on the Software Assets project.
 - d. We still need to find a way to repair the Northwest chain link fence where the ground has eroded, exposing several inches of the cement bases for several posts.
 - e. Other old business – None
- 7. New Business:**
- a. None
- 8. Adjournment:** The meeting was adjourned at 9:22pm.

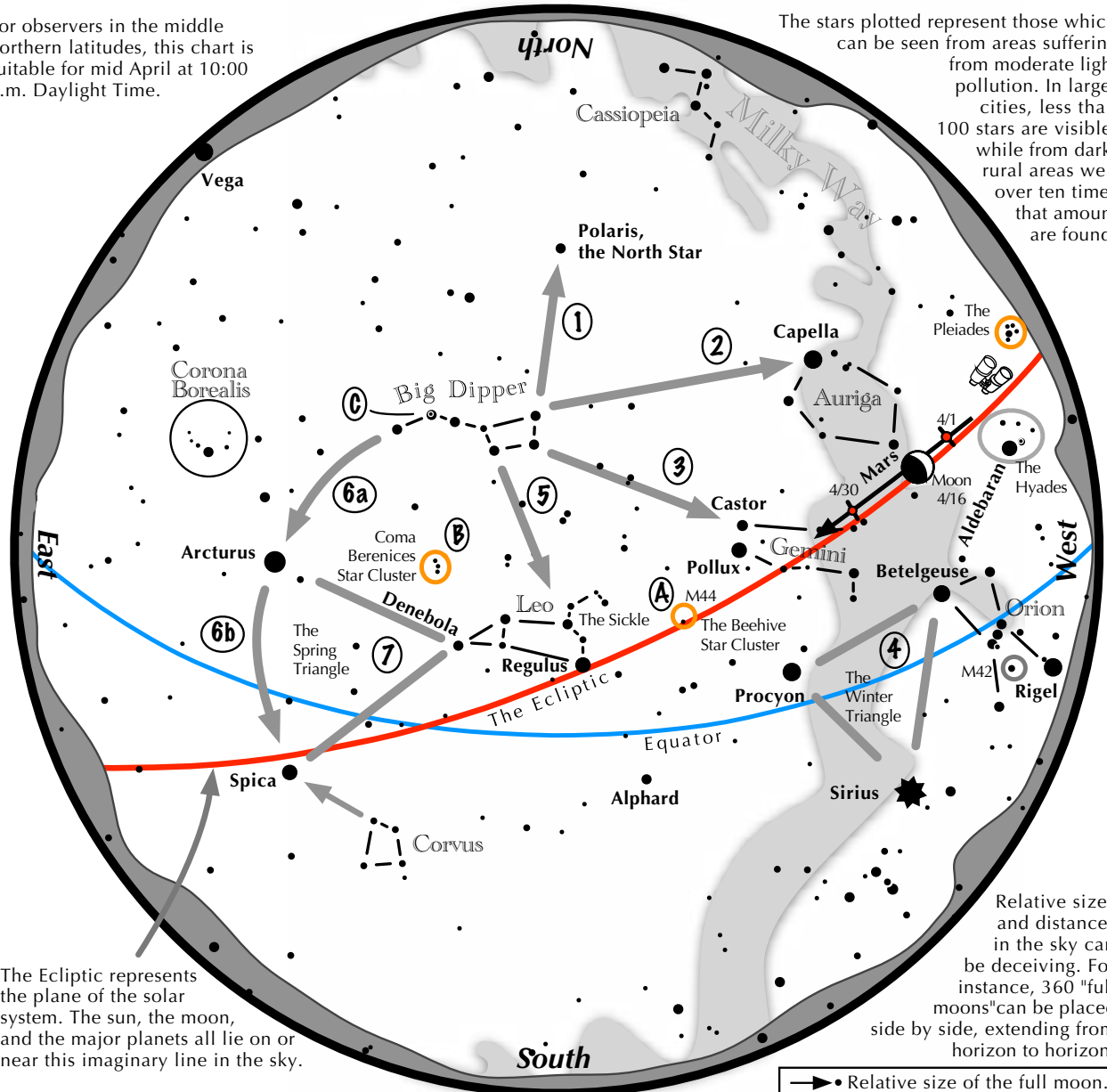


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Navigating the April Night Sky, Northern Hemisphere

For observers in the middle northern latitudes, this chart is suitable for mid April at 10:00 p.m. Daylight Time.

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Relative sizes and distances in the sky can be deceiving. For instance, 360 "full moons" can be placed side by side, extending from horizon to horizon.

→• Relative size of the full moon.

Navigating the April night sky: Simply start with what you know or with what you can easily find.

- 1 Extend an imaginary line north from the two stars at the tip of the Big Dipper's bowl. It passes Polaris, the North Star.
- 2 Draw another imaginary line west across the top two stars of the Dipper's bowl. It strikes Capella low in the northwest.
- 3 Through the two diagonal stars of the Dipper's bowl, draw a line pointing to the twin stars of Castor and Pollux in Gemini.
- 4 Look in the west-southwest for the bright Winter Triangle stars of Sirius, Procyon, and Betelgeuse.
- 5 Directly below the Dipper's bowl reclines the constellation Leo with its primary star, Regulus.
- 6 Follow the arc of the Dipper's handle. It first intersects Arcturus, then continues to Spica.
- 7 Arcturus, Spica, and Denebola form the Spring Triangle, a large equilateral triangle.

Binocular Highlights

- A: M44, a star cluster barely visible to the naked eye, lies to the southeast of Pollux.
- B: Look nearly overhead for the loose star cluster of Coma Berenices.
- C: In the Big Dipper's handle shines Mizar next to a dimmer star, Alcor.



Astronomical League
www.astroleague.org/outreach

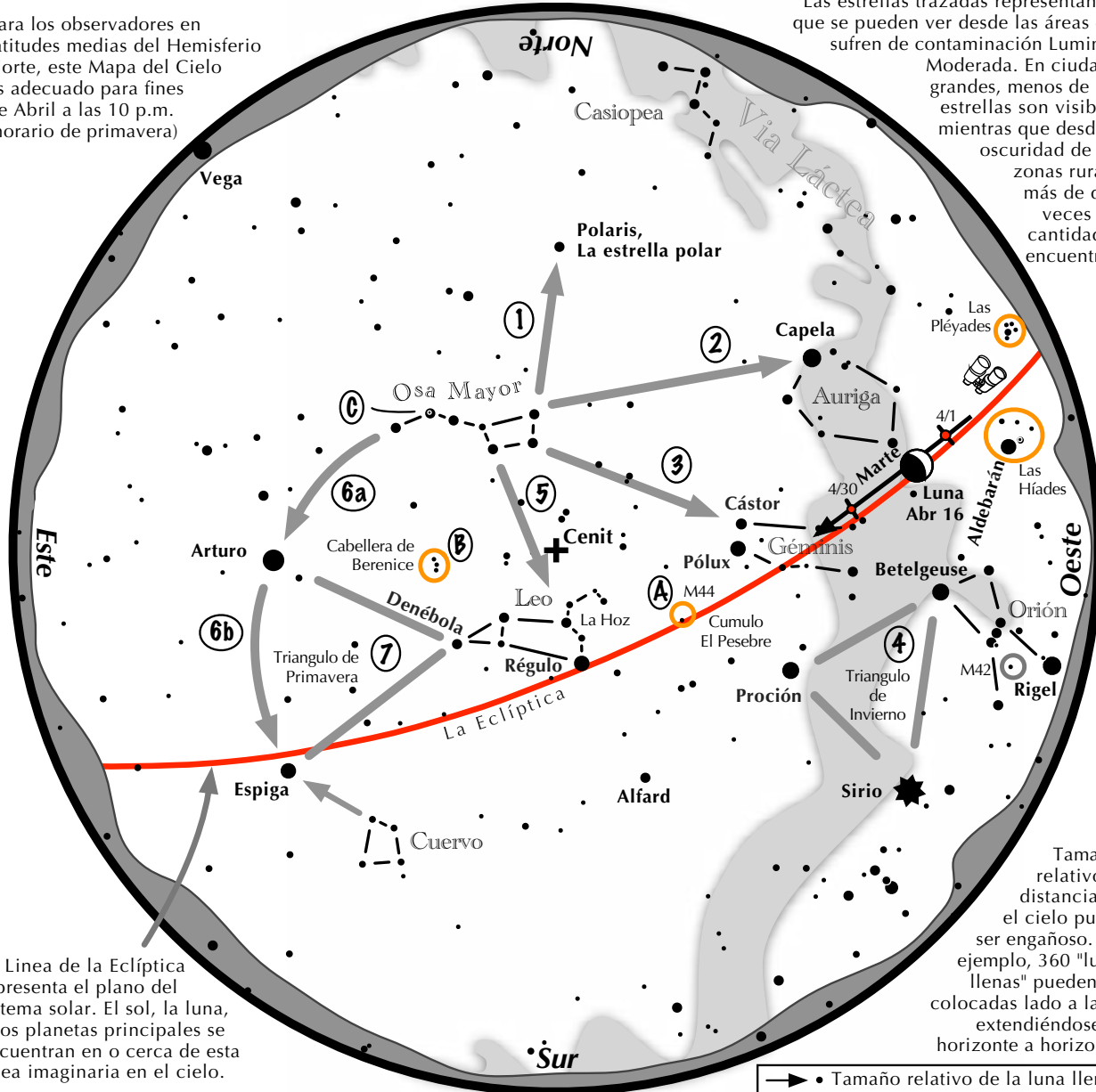


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Navegando por el cielo nocturno de Abril

Para los observadores en latitudes medias del Hemisferio Norte, este Mapa del Cielo es adecuado para fines de Abril a las 10 p.m. (horario de primavera)

Las estrellas trazadas representan las que se pueden ver desde las áreas que sufren de contaminación Luminica Moderada. En ciudades grandes, menos de 100 estrellas son visibles, mientras que desde la oscuridad de las zonas rurales más de diez veces esa cantidad se encuentran.



La Línea de la Eclíptica representa el plano del sistema solar. El sol, la luna, y los planetas principales se encuentran en o cerca de esta línea imaginaria en el cielo.

Tamaños relativos y distancias en el cielo puede ser engañoso. Por ejemplo, 360 "lunas llenas" pueden ser colocadas lado a lado, extendiéndose de horizonte a horizonte.

→ • Tamaño relativo de la luna llena.

Navegando por el cielo nocturno: simplemente comience con lo que sabe o con lo que puede encontrar fácilmente.

- 1 Haz una línea hacia el norte desde las dos estrellas en la punta de la Osa Mayor. Pasa por Polaris, la estrella polar.
- 2 Haz una línea a través de las dos estrellas superiores de la punta del tazón de la Osa Mayor. Llegaras a Capela en el noroeste.
- 3 A través de las dos estrellas diagonales de la Osa Mayor, dibuja una línea que apunta a las estrellas gemelas de Cástor y Pólux en Géminis.
- 4 Busque en el oeste-suroeste las brillantes estrellas del Triángulo de Invierno de Sirio, Proción y Betelgeuse.
- 5 Directamente debajo del tazón de la Osa Mayor se encuentra Leo con su estrella principal, Régulo.
- 6 Siga el arco del mango del tazón de la Osa Mayor. Primero cruza Arturo, luego continúa hacia Espiga, luego Cuervo.
- 7 Arturo, Espiga y Denébola forman el triángulo de primavera, un gran triángulo equilátero.

Puntos destacados con binoculares

- A: M44 (Cumulo El Pesebre), un cúmulo de estrellas apenas perceptible a simple vista, se encuentra al sureste de Pólux.
- B: Mira alto en el este para ver el cúmulo de estrellas perdidas de Cabellera de Berenice.
- C: Mizar brilla junto a una estrella más tenue, Alcor.





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AAVSO How-To Hours

Nearly every Saturday at 11:00 AM this year, the AAVSO will have a **free Zoom webinar** to introduce you to a specific practical aspect of variable star astronomy. Each hour starts out with a 30-minute talk, followed by a roughly 30-minute Q & A period. Topics are selected based on the feedback from the citizen science community on past webinars.

Here are the speakers and topics for April and May.

April		
Saturday's Date	Presenter(s)	Webinar Title(s)
3	How-to with Lauren Herrington	Spectrography on a Budget
10	AAVSO Short Period Pulsator Observing Section	AAVSO Short Period Pulsator Observing Section Webinar
24	1) Dr. Adam Burgasser 2) Dr. Boris Gänsicke	1) Stormy with a Chance of Iron: Weather and the Dynamic Atmospheres of Cold Stars and Brown Dwarfs 2) The end of the worlds
May		
Saturday's Date	Presenter(s)	Webinar Title(s)
1	How-to with Bob Buchheim	How to start with CCD photometry
8	1) Dr. Christian Knigge 2) François Cochard	1) TBA 2) Spectroscopy: which hardware for which observations?
22	1) Trevor Dorn Wallenstein 2) Dr. Burçin Mutlu-Pakdil	Solving the Red Supergiant Problem with a New Class of Pulsators The Faintest and Smallest Galaxies

See the abstracts and speaker bios as well as register on the AAVSO website here:

<https://www.aavso.org/2021-webinars>



San Diego Astronomy Association

SBIG ST-7E CCD Camera and CFW-8 Filter Wheel (FREE)



Presale price of **Free** for Contributing Members only.
Cloudy Nights & Astromart pricing will be **shipping**.

This lot was donated by the same gentleman that gave us a Meade 10" LX200 Classic. The telescope was magnificent and while this lot has not been tested, we suspect it is in similar condition – excellent.

The gear was top of the line back in 2000. The ST-7E is dual chip with enhanced coatings – a significant improvement over the ST-7. We don't know if it is the ABG model or not. The CFW-8 was shipped with five standard thread 1¼" filters – we have not verified but suspect they are still inside. Two ELPAC power supplies for 12 VDC and 115 VAC are included, as are the instruction manuals, software, cabling, misc. hardware, and a nice case. Please be forewarned that this is old technology – parallel and serial ports are required.

This lot is offered "as-is."

Ed Rumsey
858.722.3846
observatory@sdaa.org



San Diego Astronomy Association

NexStar 6SE (f10) FL=1500mm



Presale price of **\$340** for Contributing Members only.
Cloudy Nights & Astromart pricing will be **\$400** plus shipping.

How about a nice grab-and-go scope at an attractive price. Perfect for a camping trip or spur of the moment excursion to your backyard. The scope is circa 2006, lightweight, clean, and fully functioning. StarBright XLT coatings are included. The NexStar hand controller is bright and provides full access to a wide variety of functions and speeds. The catalogs vastly exceed the scope's capabilities. Included with the package are a red dot finder, Celestron X-Cel 25mm & Meade 15mm eyepieces, 1¼" diagonal, and a Parkes 2x Barlow lens. No case. It has a few cosmetic issues but no apparent problems with the OTA or mount/tripod.

For comparison, a new Celestron NexStar 6SE, with slightly improved hand controller, is priced at \$799 plus nearly \$60 of taxes, if you can find it in stock. OPT is projecting a four to six month back order.

Selling "as is." We don't think you will be disappointed. Respond quickly.

Dave Decker
(619) 972-1003
outreach@sdaa.org



San Diego Astronomy Association

Meade 8" LX200 Classic OTA (f10) FL=2032mm



Presale price of **\$200** for Contributing Members only.
Cloudy Nights & Astromart pricing will be **\$250** plus shipping.

Are you an imager and want to dabble with longer focal length before you pull the trigger on the next large purchase? Add a dovetail and a 6.3 focal reducer (<\$200) and you have a 1280mm imaging system. A great intermediate step from your refractor to deep field imaging. Get your feet wet and see if the rigors of deep field is for you.

Want to do visual on a budget? Astromart often offers complete GEM's in the \$250 to \$700 range.

The OTA comes with a travel case, cover, manual, and finder in excellent condition. Optics look good with dust on the corrector plate. Focuser is smooth to the touch. Double sided tape from removal of a telrad remains – should be easily removed. No obvious damage other than the electronics. Fork is included.

Selling as-is.

Ed Rumsey
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San Diego Astronomy Association

SDAA Contacts

Club Officers and Directors

President	Dave Wood	President@sdaa.org	(858) 735-8808
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Field Trips	-Vacant-	FieldTrips@sdaa.org	
Grants/Fund Raising	-Vacant-	Grants@sdaa.org	
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Governing Documents	TBD		
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Amateur Telescope Making	-Vacant-		
ALCOR (Astronomical League Correspondent)	Dave Decker	ALCOR@sdaa.org	(619) 972-1003

SDAA Editorial Staff

Editor - Andrea Kuhl

newsletter@sdaa.org

Assistant Editor: Craig Ewing

Have a great new piece of gear? Read an astronomy-related book that you think others should know about? How about a photograph of an SDAA Member in action? Or are you simply tired of seeing these Boxes in the Newsletter rather than something, well, interesting?

Join the campaign to rid the Newsletter of little boxes by sharing them with the membership. In return for your efforts, you will get your very own byline or photograph credit in addition to the undying gratitude of the Newsletter Editor. Just send your article or picture to Newsletter@SDAA.Org.



San Diego Astronomy Association

NASA Night Sky Notes

April 2021



This article is distributed by NASA Night Sky Network

The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

Watch the Lion: Celestial Wonders in Leo

David Prosper

Leo is a prominent sight for stargazers in April. Its famous sickle, punctuated by the bright star Regulus, draws many a beginning stargazer's eyes, inviting deeper looks into some of Leo's celestial delights, including a great double star and a famous galactic trio.

Leo's distinctive forward sickle, or "reverse question mark," is easy to spot as it climbs the skies in the southeast after sunset. If you are having a difficult time spotting the sickle, look for bright Sirius and Procyon - featured in last month's article - and complete a triangle by drawing two lines to the east, joining at the bright star Regulus, the "period" in the reverse question mark. Trailing them is a trio of bright stars forming an isosceles triangle, the brightest star in that formation named Denebola. Connecting these two patterns together forms the constellation of Leo the Lion, with the forward-facing sickle being the lion's head and mane, and the rear triangle its hindquarters. Can you see this mighty feline? It might help to imagine Leo proudly sitting up and staring straight ahead, like a celestial Sphinx.

If you peer deeper into Leo with a small telescope or binoculars, you'll find a notable double star! Look in the sickle of Leo for its second-brightest star, Algieba - also called Gamma Leonis. This star splits into two bright yellow stars with even a small magnification - you can make this "split" with binoculars, but it's more apparent with a telescope. Compare the color and intensity of these two stars - do you notice any differences? There are other multiple star systems in Leo - spend a few minutes scanning with your instrument of choice, and see what you discover.

One of the most famous sights in Leo is the "Leo Triplet": three galaxies that appear to be close together. They are indeed gravitationally bound to one another, around 30 million light years away! You'll need a telescope to spot them, and use an eyepiece with a wide field of view to see all three galaxies at once! Look below the star Chertan to find these galaxies. Compare and contrast the appearance of each galaxy - while they are all spiral galaxies, each one is tilted at different angles to our point of view! Do they all look like spiral galaxies to you?

April is Citizen Science Month, and there are some fun Leo-related activities you can participate in! If you enjoy comparing the Triplets, the "Galaxy Zoo" project (galaxyzoo.org) could use your eyes to help classify different galaxies from sky survey data! Looking at Leo itself can even help measure light pollution: the Globe at Night project (globeatnight.org) uses Leo as their target constellation for sky quality observations from the Northern Hemisphere for their April campaign, running from April 3-12. Find and participate in many more NASA community science programs at science.nasa.gov/citizenscience. Happy observing!



San Diego Astronomy Association

NASA Night Sky Notes

April 2021



The stars of Leo: note that you may see more or less stars, depending on your sky quality. The brightness of the Leo Triplet has been exaggerated for the purposes of the illustration - you can't see them with your unaided eye.

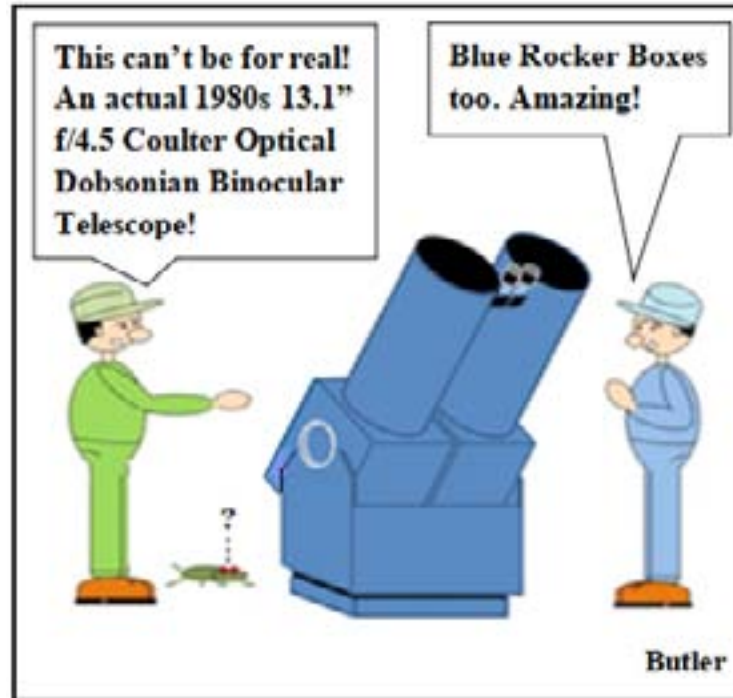


Your view of the three galaxies in the Leo Triplet won't look as amazing as this image taken by the VLT Survey Telescope, unless you have a telescope with a mirror 8 feet or more in diameter! Still, even a small telescope will help your eyes pick up these three galaxies as "faint fuzzies": objects that seem blurry against a background of pinpoint stars. Let your eyes relax and experiment with observing these galaxies by looking slightly away from them, instead of looking directly at them; this is called averted vision, a handy technique that can help you see details in fainter, more nebulous objects.

Image Credit: ESO, INAF-VST, OmegaCAM; Acknowledgement: OmegaCen, Astro-WISE, Kapteyn I.



San Diego Astronomy Association



AmazonSmile Donations

The SDAA board wants to thank members for using the AmazonSmile donation link as you've helped us raise over \$300 in 2020 at no cost to you. This is three times the amount we received in 2019. Our URL is smile.amazon.com/ch/51-0183640 and, if you are an Amazon user, we hope you will encourage your family to use this option.

MEMBERSHIP INFORMATION

Send dues and renewals to P.O. Box 23215, San Diego, CA 92193-3215. Include any renewal cards from Sky & Telescope or Astronomy magazine in which you wish to continue your subscription. The expiration date shown on your newsletter's mailing label is the only notice that your membership in SDAA will expire. Dues are \$60 for Contributing Memberships; \$35 for Basic Membership; \$60.00 for Private Pads; \$5 for each Family membership. In addition to the club dues the annual rates for magazines available at the club discount are: Sky & Telescope \$32.95 and Astronomy \$34. Make checks payable to S.D. Astronomy Assn. PLEASE DO NOT send renewals directly to Sky Publishing. They return them to us for processing.