

San Diego Astronomy Association

Celebrating Over 50 Years of Astronomical Outreach



December 2021

SDAA Update

SDAA is now actively using online facilities like Zoom and YouTube to provide access to club meetings and special events. While our public outreach events have restarted in some San Diego County facilities, most events in city owned facilities are still undergoing review.

Public outreach events have restarted at The Lipp telescope. The Lipp hosts will limit the amount of people inside the observatory when the telescope is operational. Please observe masking and social distancing guidelines if you are unvaccinated.

As the pandemic remains a part of our lives, please continue to observe safe practice guidelines while at TDS.

No Program Meeting for December Next is January 19th 2022

Speaker: Zoltan Levay

Topic: Creating the Pillars: Visualizing Hubble's Colorful Universe

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>

<https://www.sdaa.org/>

A Non-Profit Educational Association
P.O. Box 23215, San Diego, CA 92193-3215

Next SDAA Business Meeting

December 14th at 7:00pm
10070 Willow Creek Rd
San Diego, CA 92131
Via Zoom

Next Program Meeting

January 19th at 7:00pm
Live Stream

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Newsletter Deadline

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

[Link to SDAA Merchandise Store](https://www.sdaa.org/) <https://sdaa28.wildapricot.org/SDAA-Store>

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



San Diego Astronomy Association

San Diego Astronomy Association Board of Directors Meeting

November 9, 2021 – Unapproved and subject to revision

1. Call to Order

The meeting was held via Zoom and was called to order at 7:01pm with the following board members in attendance: Dave Wood, President; Melany Biendara, Treasurer; Kin Searcy, Vice President; Gene Burch, Recording Secretary; Alicia Linder, Corresponding Secretary; Hiro Hakozaki, Director; Dave Decker, Director; Mike Chasin, Director; Pat Boyce, Director; and members Steve Myers, Dan Kiser and Jeniene Knight.

2. Priority / Member Business

Member Jeniene Knight has offered to become the Governing Documents chairperson and will begin the process of collecting, organizing and storing all of the club's documents.

3. Approval of Last Meeting Minutes

The October meeting minutes were approved.

4. Treasurers & Membership Report

Purchased additional liability insurance to meet requirements for MTRP. We've reclaimed 3 grandfathered pads and our yearly taxes have been filed.

5. Standard Reports

a. Site Maintenance Report:

There was a large hole dug under the fence at the northwest corner of the property; looks like it was dug with a shovel. We filled it in and piled concrete and rubble on top. It looks like the shower is becoming a repository for dirty towels. If they're still there next time I'm out I'll toss them.

Ben Grunbaum has agreed to take on the position of Site Maintenance Chairman.

b. Observatory/Loaner Scope Report:

Observatory:

The approved 2022 schedule has been posted on the calendar and newsletter. Observatory has been running well. We have excellent host participation and attendance. Filling the 2022 host schedule now.

Loaner Scopes:

Thank you for approving the transition plan. Program continues to run smoothly with a lot of usage. One more issue and two returns this month.



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c. Private Pad Report:

We have 6 people on the waiting list and 4 free pads (soon to be 5). I'm still working on getting the people on the waiting list hooked up with pads (they were down the list and many didn't initially make choices).

The new lessee of Pad 62 is putting together a nice proposal to develop the pad. That will be nice as it is only of the 3 remaining pads with no improvements at all (including electricity).

d. Program Meetings Report:

Still casting a net for the banquet speaker. I want to get someone who can be in-person. Kin is lining up speakers for next year.

e. AISIG Report:

The October AISIG ZOOM featured Dave Rowe from Planewave Instruments. Dave is the Chief Technical Officer at Planewave and has an impressive background in telescopes and astronomy. He talked about new telescope technology, science with small telescopes, and Astro-imaging. His background and style made for an interesting presentation. You can view it on the SDAA YouTube channel.

f. Newsletter Report:

All looks great – Thanks Andrea!

g. Website Report:

The TDS All Sky Cam working on the website again.

h. Social Media:

No Report.

i. Outreach Report:

Below is a summary of outreach event participation with numbers for October and for Year to Date.

2021	October	YTD
Events Completed	7	20
Events Cancelled	3	49
Total Attendance	406	1030

Kin has confirmed that two Mission Trails Regional Park events, MTRP Kumeyaay Lk, and West Sycamore, have been restored beginning in November. Dennis Ammann has assurance from The Fleet that we will be able to return to Balboa Park the first Wednesday in December. With these additions to our schedule, we have restored all of our previous monthly events.



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In October we also completed another Dixon Lake event, the Webelos Woods Scouting event at Camp Mataguay, and our joint venture live stream with the Tucson Amateur Astronomy Association.

For November, we have scheduled another lunar eclipse, live streaming program with Timeanddate.com, on the 18th and 19th.

j. TARO Report:

The primary server for TARO went offline on October 7th. The entire mainframe had to be replaced and the system rebuilt from scratch. TARO is now operational and is accepting DSO/EXO target imaging requests, weather permitting.

k. Cruzen Report:

Trained two members on the use of Cruzen and got some good feedback.

l. Merchandise Report:

Sold a hat and sweatshirt.

m. Astronomical League Report:

Nothing new to report.

n. JSF Report:

We have initiated planning for the 2022 JSF (August 25 - 28). We are starting to reach out to vendors and sponsors. Dan K presented a preliminary budget and finances are expected to be similar to prior years.

o. Primary Grid Rebuild Planning report:

Steve Myers completed a primary visual inspection of the compound and updated the drive/photos share. The inspection covered most member accessible areas the only known areas NOT checked were inside the Club observatory (Lipp/Warming Room) and I did not check inside private or club observatories.

Will be presenting a preliminary report of prioritized issues that should be addressed initially at the board meeting. The overall recommendation from this inspection will be to replace most if not all of the underground power sections/feeders for both the pads and observatories and "street" located outlets in the private pad area.

A detailed design for the replacement will be worked on and initial drafts may be available for review hopefully by the January board meeting dependent on personal commitments over the holiday seasons.

There are several issues which need to be dealt with sooner than later and Steve, Dave W and Mark Smith will work on letters to be sent out to the involved pad lessors.



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6. Old Business:

- a. Annual Banquet Update: Chasin/Wood/Biendara/All
We're tentatively planning on a more informal, afternoon/evening event where members can attend in person or virtually.
- b. Nomination Committee: All
The nominating committee of Ben Grunbaum, Dorothy Wood and Gene Burch recommended that Gene and Mel retain their current positions as Recording Secretary and Treasurer.
- c. Patio Cover Rebuild: Wood
We're going to seek bids to replace the existing patio cover.
- d. Neighbor Light Trespass: Wood
Gene talked with the neighbor directly across Tierra de Luna Road (west) and he's willing to work with us to mitigate the light intrusion from his property. Gene, Mike C and Dave W will follow-up with him.
- e. Other Old Business: Wood
Dave W and Mike C are still in discussions with John Downing regarding the donation of his observatory to the club.

7. New Business:

- a. SDGE Brush Clearing: Biendara
SDGE is proposing brush clearing around power lines, which seems prudent, the board is asking for more information from SDGE on location and extent of clearing.
- b. Other New Business: Wood
None

8. Adjournment: The meeting was adjourned at 8:50pm.

2021 TDS Star Party Schedule

Date	Type	Sunset	Astro. Twi.	Moonrise(set)	Illumination
Dec-04	Private	4:42 PM	6:09 PM	(5:12 PM)	0%

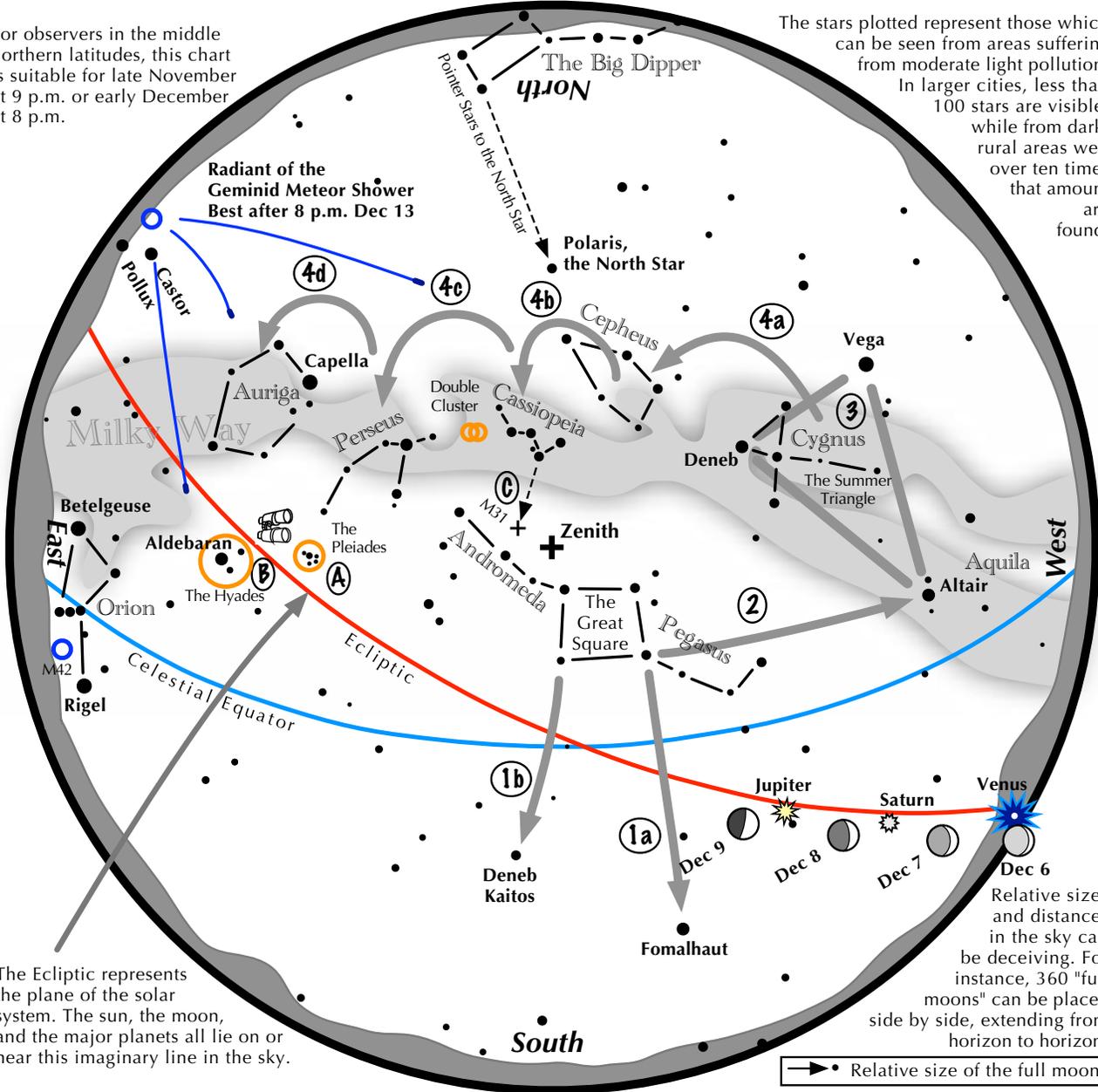


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Navigating the December Night Sky

For observers in the middle northern latitudes, this chart is suitable for late November at 9 p.m. or early December at 8 p.m.

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 size of the full moon.

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

- 1 Face south. Almost overhead is the "Great Square" with four stars about the same brightness as those of the Big Dipper. Extend an imaginary line southward following the Square's two westernmost stars. The line strikes Fomalhaut, the brightest star in the southwest. A line extending southward from the two easternmost stars, passes Deneb Kaitos, the second bright star in the south.
- 2 Draw another line, this time westward following the southern edge of the Square. It strikes Altair, part of the "Summer Triangle."
- 3 Locate Vega and Deneb, the other two stars of the "Summer Triangle." Vega is its brightest member while Deneb sits in the middle of the Milky Way.
- 4 Jump along the Milky Way from Deneb to Cepheus, which resembles the outline of a house. Continue jumping to the "W" of Cassiopeia, to Perseus, and finally to Auriga with its bright star Capella.

Binocular Highlights

- A and B:** Examine the stars of the Pleiades and Hyades, two naked eye star clusters.
- C:** The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval.
- D:** Sweep along the Milky Way from Altair, past Deneb, through Cepheus, Cassiopeia and Perseus, then to Auriga for many intriguing star clusters and nebulous areas.



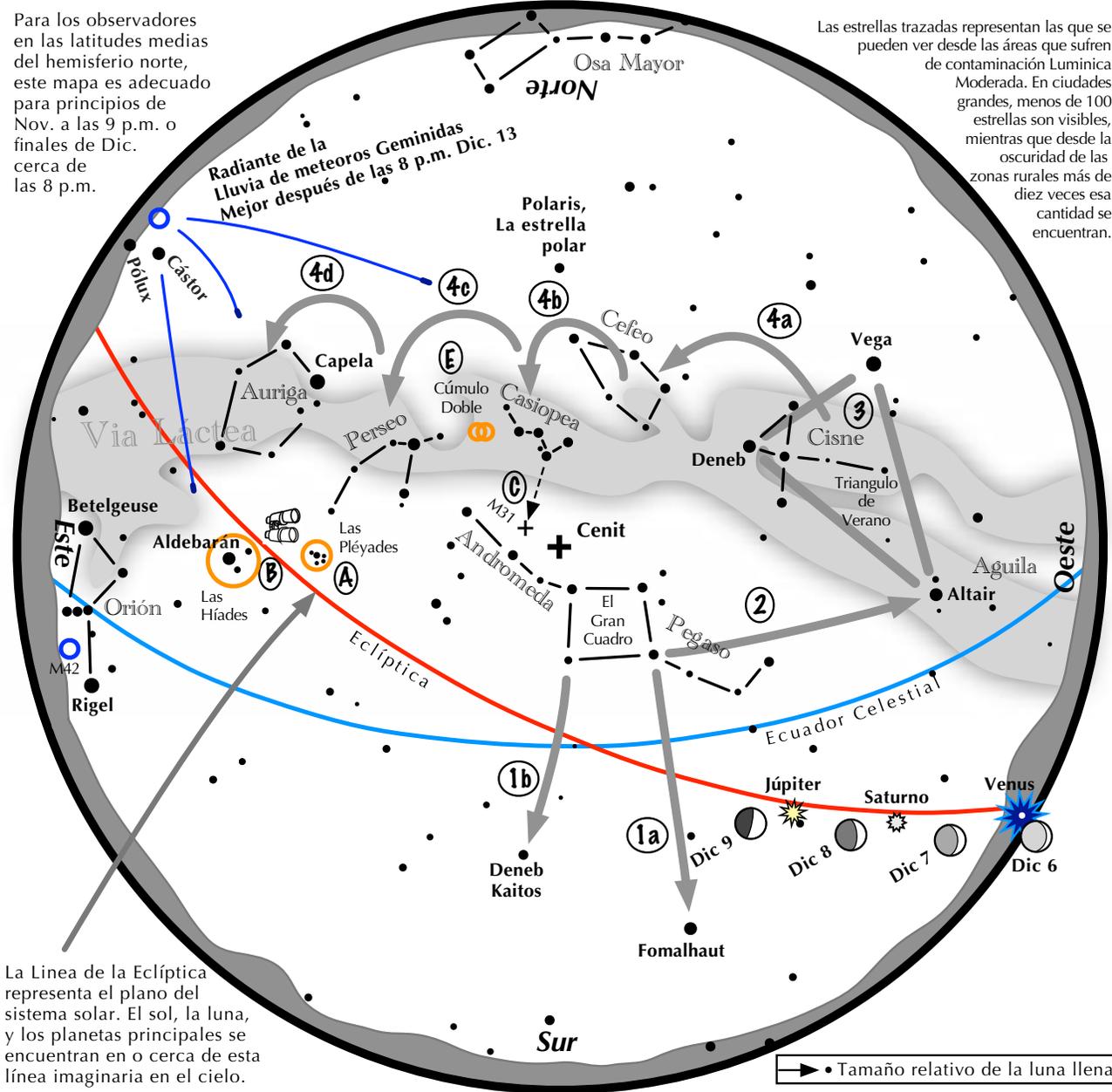


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Navegando por el cielo nocturno de Diciembre

Para los observadores en las latitudes medias del hemisferio norte, este mapa es adecuado para principios de Nov. a las 9 p.m. o finales de Dic. cerca de las 8 p.m.

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.

→ • Tamaño relativo de la luna llena.

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

- Hacia el sur. Casi arriba está el "Gran Cuadro" con cuatro estrellas con el mismo brillo que las de la Osa Mayor. Extiende una línea imaginaria hacia el sur siguiendo las dos estrellas más occidentales del Gran Cuadro. La línea lleva a Fomalhaut, la estrella más brillante del sur. Una línea que se extiende hacia el sur desde las dos estrellas más orientales, lleva a Deneb Kaitos, la segunda estrella más brillante del sur.
- Dibuja otra línea, esta vez hacia el oeste siguiendo el borde sur del Gran Cuadro. Lleva a la estrella Altair.
- Ubique a Vega y Deneb, las otras dos estrellas del "Triángulo de verano." Vega es su miembro más brillante, mientras que Deneb se localiza en el medio de la Vía Láctea.
- Salta a lo largo de la Vía Láctea desde Deneb hasta Cefeo, que se asemeja al contorno de una casa. Continúa saltando a la "W" de Casiopea, a Perseo y finalmente a Auriga con su brillante estrella Capela.

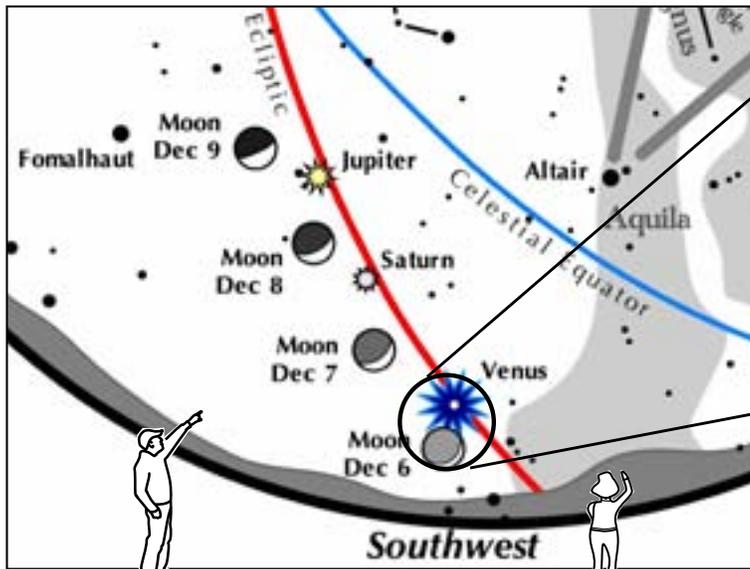
Destacan con Binoculares. A y B: examina las estrellas de las Pléyades y las Híades, dos cúmulos de estrellas a simple vista. **C:** Las tres estrellas más occidentales de la "W" de Casiopea apuntan hacia el sur hasta M31, la Galaxia de Andrómeda, un óvalo "borroso." **D:** Barrer a lo largo de la Vía Láctea desde Altair, pasar Deneb, a través de Cefeo, Casiopea y Perseo, y luego a Auriga para visualizar muchos intrigantes cúmulos de estrellas y áreas nebulosas. **E:** Cúmulo Doble de Perseo.



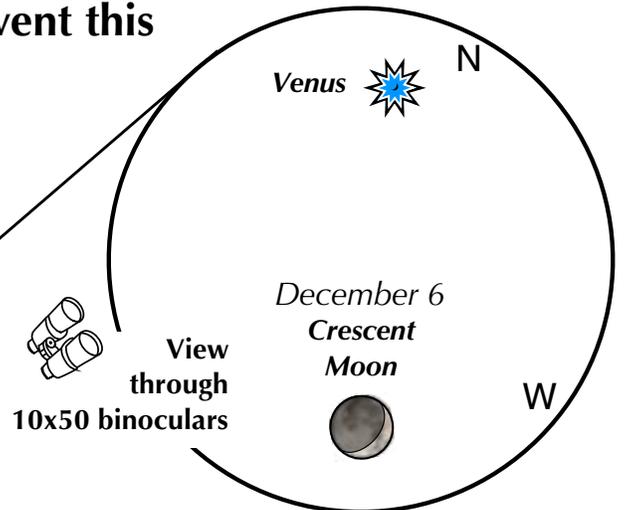


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If you can observe only one celestial event this month, consider this one:



Southwest 60 minutes after sunset in early December



Crescent Moon slides under crescent Venus

Look to the southwest 60 minutes after sunset during the first week of December.

- The planets Venus, Saturn, and Jupiter will be evenly spaced with Venus nearest the horizon.
- On December 6, Venus will be at its most brilliant.
- On December 6, the thin crescent Moon lies under Venus. Look at them through binoculars. Venus will show a tiny thin crescent, looking like a miniature Moon. The Moon will reveal its night side due to the magical light of Earthshine.
- For the next three nights, the Moon seems to slide up an invisible celestial necklace, first passing Saturn, then Jupiter.



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2022 TDS Star Party Schedule

Date	Type	Sunset	Astro. Twi.	Moonrise(set)	Illumination [†]	Notes
Jan-1	Member	4:53 PM	6:21 PM	6:59 AM	2%	Quadrantids peak night of Jan 2/3 (ZHR ^{††} 120)
Jan-29	Public	5:18 PM	6:43 PM	5:42 AM	9%	
Feb-5	Public	5:25 PM	6:49 PM	(10:20 PM)	26%	
Feb-26	Member	5:43 PM	7:05 PM	4:27 AM	21%	Mercury Greatest Western Elongation - Feb 16 (AM)
Mar-5	Public	5:49 PM	7:10 PM	(9:04 PM)	12%	
Mar-26	Member	7:04 PM	8:27 PM	4:13 AM	34%	
Apr-2	Public	7:09 PM	8:33 PM	(8:49 PM)	3%	
Apr-30	Member	7:29 PM	9:00 PM	6:32 AM	0%	Mercury Greatest Eastern Elongation - Apr 29 (PM)
May-21	Public	7:44 PM	9:21 PM	1:37 AM	64%	
May-28	Member	7:49 PM	9:28 PM	5:06 AM	3%	Memorial Day Weekend
Jun-18	Public	7:59 PM	9:40 PM	12:11 AM	78%	Mercury Greatest Western Elongation - Jun 16 (AM)
Jun-25	Member	8:00 PM	9:42 PM	3:43 AM	10%	
Jul-23	Public	7:53 PM	9:29 PM	2:22 AM	22%	
Jul-30	Member	7:48 PM	9:22 PM	(9:25 PM)	5%	S. delta Aquariids peak night of Jul 29-30 (ZHR ^{††} 16)
Aug-20	Public	7:27 PM	8:55 PM	1:01 AM	37%	Saturn at Opposition on Aug 14
Aug-27	Member	7:19 PM	8:45 PM	7:30 AM	0%	Mercury Greatest Eastern Elongation - Aug 27 (PM)
Sep-17	Public	6:51 PM	8:14 PM	11:40 PM	54%	Neptune at Opposition on Sep 16
Sep-24	Member	6:42 PM	8:04 PM	6:20 AM	2%	Jupiter at Opposition on Sep 26
Oct-15	Public	6:15 PM	7:37 PM	10:21 PM	71%	Mercury at Greatest Western Elongation - Oct 8 (AM)
Oct-22	Member	6:07 PM	7:29 PM	5:06 AM	8%	Orionids peak night of Oct 20-21 (ZHR ^{††} 20)
Nov-19	Public	4:45 PM	6:11 PM	2:50 AM	21%	Leonids peak night of Nov 17-18 (ZHR ^{††} 15)
Nov-26	Member	4:43 PM	6:09 PM	(7:31 PM)	12%	Thanksgiving Weekend
Dec-17	Public	4:44 PM	6:13 PM	1:34 AM	38%	Geminids peak night of Dec 13-14 (ZHR ^{††} 150)
Dec-24	Member	4:48 PM	6:16 PM	(6:21:PM)	3%	Ursids peak night of Dec 21-22 (ZHR ^{††} 10)

[†] Illumination at meridian crossing.

^{††} Published *zenithal hourly rate(s)* ZHR vary widely between sources.



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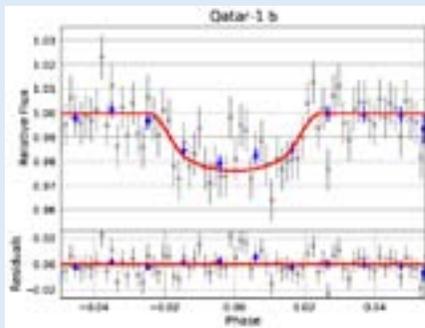
Explorer Seminar – January 5+

Do exoplanet observations and learn photometry. In this seminar, you will learn how to observe and measure exoplanets, discover the many fields of variable star research, gain experience for taking American Association of Variable Star Observers (AAVSO) Choice courses, and get into the JPL/NASA Exoplanet Watch program. Boyce-Astro will provide you opportunities to start your own exoplanet or variable star observation projects including the telescope time, computing tools, and support for publication.



BOYCE-ASTRO ONLINE SEMINARS			
January / February 2022			
EXPLORER™ Program - An Introduction to Photometry and Exoplanets Seminar			
MODULE	DATE	CLASS TOPIC	ASSIGNMENT FOR NEXT CLASS
1	1/5/2022	Seminar Orientation and Photometry Overview Variable stars, exoplanets, NASA and other programs	Videos about photometry and exoplanet research Get AAVSO Observer Code, EW Slack, download tools
2	1/12/2022	Aperture and differential photometry review The transit method and model and what it tells us	Calculate exoplanet characteristics from a sample light curve Find a target and comp star in an image
3	1/19/2022	Factors affecting measurement and EXOTIC / CoLab Databases, Tools, and How to run EXOTIC	Do a new exoplanet light curve using JPL's EXOTIC (an unexpected observation will be provided to submit)
4	1/26/2022	What your results mean How to edit/report your observation results to AAVSO	Compare your results with the current data
5	2/2/2022	How to target an exoplanet observation Introduction to Astromager (AI)	Submit your EXOTIC results to AAVSO / JPL (submit the data from Module 3)
6	2/9/2022	Where to go next for exoplanet or variable star research Equipment needed for observations	Submit an observation plan including configuration Post class, do your observation with Boyce-Astro on LCO or BAFO (at your option)
ALL CLASSES ARE HELD ON WEDNESDAY NIGHT AT 8:00 TO 9:30 PM ON ZOOM			
Weather and time permitting, students may stay after 9:30 for a virtual star party following class.			
Some post-seminar options:		Do LCO or BAFO exoplanet observations	Post observations to the AAVSO/Exoplanet Watch Program
		Do an AdvancedSTARS™ project in variable stars	Public or do a poster from your exoplanet or variable star research
		Do the AAVSO Exoplanet Observers course	Join TESS SGL exoplanet observation team

Prerequisites: Students must have completed the DoubleSTARS™ seminar **or pass the IntroSTARS™ Quiz**. IntroSTARS™ is our self-paced online introductory course in stellar astronomy. It takes 1 to 2 weeks depending on your experience and knowledge. Register below and then go to <http://boyce-astro.org/introstars-your-step-1/> to sign up to do the course on your own schedule. The 20 question IntroSTARS™ Quiz will be sent in late December and due no later than January 2.



Class size is limited to 15 students. Some advance materials will be provided to all who register. If more than 15 register, preference will be given to DoubleSTARS™ graduates followed by those having the highest score on the IntroSTARS™ Quiz. The **fee of \$49** will be due before the second class. Please register now and get started on IntroSTARS™ as soon as you can. Advance materials will be provided to all who register.

Register now at: <http://boyce-astro.org/explorer-signup/>

ONLINE - STARTS January 5, 2022



San Diego Astronomy Association

42nd Annual TEXAS STAR PARTY

The great tradition of dark sky observing continues with the 42nd Annual TEXAS STAR PARTY, April 24 to May 1, 2022! near Ft Davis, Texas

Greetings from the Texas Star Party!

Hello Everyone!

It is that time of the Year!

On Wednesday November 24, 2022., TSP Management is opening the Application Page for you to apply for TSP 2022. WE ARE LIVE! THE APPLICATION FORM IS NOW OPEN!
Please log in to your TSP account.

Download the TSP Covid-19 Waiver/General Liability Release and the Covid-19 Mitigation Protocols, Rules, Policies Document.

Documents must be completed, signed and uploaded to be able to complete and submit your Application to Attend.

Have everyone applying to attend who is 18 and older sign in the spaces provided.
Scan the completed and signed documents, and use the upload features built into the Application Form to upload each signed document to our TSP Website.

TSP Management respects your right to not receive Covid-19 Vaccinations. That is your choice. We strongly recommend that our attendees are vaccinated but it is not a requirement to attend TSP 2022.

TSP Management does require that you get tested for a possible active Covid-19 infection within 72 hours before arriving at the Ranch. You are required to provide a Negative Covid-19 molecular PCR test result to enter TSP 2022. Instructions on how to provide your mPCR Test results are in the Application Form instructions.

If you test Positive, please stay home.

You and any family member attending with you will need to be Screened for possible Covid-19 infection and have your Registration confirmed with a current Photo ID. performed by a member of the Front Gate Team before you can enter the Ranch property and attend TSP 2022.

In lieu of the Negative mPCR test results, you can provide your CDC Proof of Vaccinations Card. This is an option you make. It is not a requirement of TSP Management.

If you decide to voluntarily provide your CDC Proof of Covid-19 Vaccinations Card, you can upload your proof of vaccinations using the Application Form's built in upload feature.

We are all looking forward to TSP 2022
Have a Happy and Safe Thanksgiving.

Rgds
TSP Management and Volunteer Staff.



San Diego Astronomy Association

Important Information.

The Deadline to submit your application to attend TSP 2022 and to be entered into our Random Drawing for Housing Accommodations is January 5, 2022. You must be entered to Attend!

TSP is one of the top star parties held anywhere, and we regularly have people from around the world in attendance. After two years off due to COVID, we are excited that TSP will once again be held on the Prude Ranch, Fort Davis Texas April 24th to May 1st 2022! Please join us!

Southwest Region of the Astronomy League will host its meeting at TSP 2022 on Friday April 29, 2022 at 10am in the Meeting Hall.

Please be Advised! You must Apply, be Selected and then Register and pay Registration Fee(s) to attend TSP 2022 before April 15, 2022. Unregistered people who arrive at the ranch will not be allowed to enter the ranch property at TSP 2022. TSP will not be processing unregistered persons during TSP 2022. You will be turned away if you are not Registered. Everyone's Registered Status will be confirmed upon arrival at the Front Gate by members of the TSP Front Gate Team.

If you are planning to attend TSP 2022 you must complete the application and registration process. This process includes the following steps which are detailed below:

- Step 1 – TSP Website Account – update the information in your account or if you have not attended TSP in the past, open a new TSP Website account
 - Step 2 – Read, Agree, Accept, Sign and Upload, Email or Hand Deliver at the Front Gate upon Arrival to a TSP Front Gate Team Member These Forms (links are active):
 - o TSP GENERAL LIABILITY RELEASE AND COVID-19 WAIVER
 - o COVID-19 MITIGATION PROTOCOLS, RULES, AND GUIDELINES
 - o TSP Rules- No Form to sign but Read and Agree/Accept.
 - Step 3 – Complete an application to attend TSP, which includes your preferred housing choices
 - Step 4 – Due to limited housing on site, and limited space on the observing fields, TSP conducts a random drawing to determine who will be able to attend. TSP will notify you by email if you have been selected to attend or what your status is, and if applicable your Prude Ranch housing reservation
 - Step 5 – Complete the online registration and submit payment for your TSP registration
 - Step 6 – If applicable, make a payment directly to the Prude Ranch as a deposit to hold your housing reservation.
- TSP Registration Fees and Prude Ranch Housing Deposit are not the same. You must pay both to secure your TSP Registration and Prude Ranch Housing Assignment. TSP Housing processes your Housing Accommodation Request, but you must pay your Housing Deposit directly to the Prude Ranch.

Please Note – TSP strongly recommends that all persons attending be fully vaccinated and voluntarily provide us with proof of your vaccination status. TSP Management respects your choice to not get vaccinated for Covid-19 virus and its variants. Persons who are not vaccinated and/or do not voluntarily agree to provide proof of vaccination will be required to provide proof of a negative PCR COVID test less than 72 hours old (before arriving at the ranch to be processed for admittance to TSP 2022) before they will be admitted to TSP.

Step 1 – You must have a current TSP account. To update your account information, log in to the TSP website and go to My TSP Account here.

If you do not already have a TSP account, you can set one up here: [create-account](#)

Step 2 – Application to attend TSP 2022. All persons wishing to attend TSP 2022 must apply to attend, regardless of housing preference. TSP will take applications beginning November 24, 2021 at 12:00 Noon CDT. Deadline for applications is 6 January 2022. Please note the following:

- You must review and accept the terms of TSP's General Liability Release and Covid-19 Waiver agreement and TSP COVID-19 Mitigation Rules and Protocols in order to complete your application. The terms of this agreement can be reviewed here (links are active)
 - o TSP GENERAL LIABILITY RELEASE AND COVID-19 WAIVER
 - o COVID-19 MITIGATION PROTOCOLS, RULES, AND GUIDELINES



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- Applications will allow each applicant to indicate their preferred covered housing as well as alternative choices in case their preferred choice is not available.
- All persons 18 years of age or older must complete a separate application.
- All applicants must read understand and agree to abide by TSP Rules while attending the Texas Star Party.
- All Applicants are required to submit/provide a Negative Test Result from a molecular PCR Test taken within 72 hours before arriving at the Ranch to be processed by our TSP Front Gate Staff. You cannot enter the ranch property and TSP 2022 Star Party Event if you have not been processed.
- Alternatively to a Negative mPCR test, all applicants may voluntarily provide proof of vaccination for COVID-19 by uploading a legible image of their CDC COVID-19 Vaccination Record Card (or equivalent proof for non-US persons)
- Families or groups wishing to share housing on site will be able to note this on their application forms.

Step 3 – The random drawing for on-site covered housing will take place on January 6th. Assignment of covered housing based on your status in the drawing and availability will be completed by not later than February 15th. All applicants will be notified by email of whether their application to attend has been accepted, and if covered housing was requested, their housing assignment or in some cases position on a waiting list.

Step 4 – TSP will begin taking Registrations and Registration Fee payments (payment must accompany Registration Form submission) to attend on February 15th.

- All Registrations must be filled out and paid for online. Registrations will not be completed until the registration fee is paid online.
- Just like the Application to attend, all persons over 18 (If not part of a Family Application/Registration) wishing to attend must complete TSP Registration, and voluntarily provide proof of vaccination for COVID-19 by uploading a legible image of their CDC COVID-19 Vaccination Record Card (or equivalent proof for non-US persons) or provide Required Negative molecular PCR test result aged no older than 72 hours.

All attendees must have read and agree to the TSP 2022 COVID-19 Mitigation, Rules, and Protocols Document and TSP – Covid-19 Waiver and General Liability Release of Claims to be able to attend. If you do not agree and accept either of the above documents, your attending TSP 2022 will not be approved/processed.

Registrations to attend TSP 2022 must be completed no later than April 15th 2022.

- No registrations will be taken at the gate. Please do not travel to TSP unless you have a completed registration including having paid your registration fee for TSP online.
- No refunds of registration fees due to cancellation will be made if the cancellation occurs after April 15th 2022.

Registration Fees for TSP 2022 will be:

- From February 19th through March 31st 2022
 - o \$100 per individual attendee or Head of Household
 - o \$ 80 per family member
 - o Registration fee is waived for College students aged 26 and younger enrolled in full time program (please provide proof of full-time status)
 - o Please register early.
- After April 1st until registration closes after April 15th, registration fees will increase to:
 - o \$150 per individual attendee or Head of Household
 - o \$130 per family member

After April 15th no further registrations will be accepted.

Step 5 – On site housing – if you are selected to stay on the Prude Ranch in covered housing, in an RV or tent/Dry camping, deposits and payment for your accommodations are handled directly by the Prude Ranch. You can learn more about rates, deposits and payments for Ranch accommodations here:

We hope you will join us next April and help us celebrate getting back together face to face!

SEE Y'ALL AGAIN SOON!

Have a great day and thank you for this opportunity to be of service.

Sincerely,

The volunteers for Texas Star Party and Texas Star Party, Inc Management



San Diego Astronomy Association

Meade ETX 90 Original w/Bogen Tripod & Head



Presale price of **\$150** plus fees for Contributing Members only.

Cloudy Nights & Astromart pricing will be **\$175** plus fees and shipping.

Here is a simple grab and go setup for the budget minded. It is designed to be mounted as if on a wedge. Three cute table top legs are provided for this. RA is driven by three internal AA batteries. Clutches make for smooth initial alignment. Slow motion controls consist of a RA knob and tangent arm. A co-aligned finder should put the object in a low power eyepiece's field of view. Here is the genius of this offering – the Bogen-Manfrotto 3033 tripod and 3028 head are included. Makes for stable mounting, a comfortable viewing height, even on uneven ground. Simply point north and adjust the head's altitude and azimuth controls until Polaris is centered – you are polar aligned!

The optics could use a cleaning but views are excellent as is. RA drive works fine. Telescope controls all work well. Tripod leg levers, and the head's three axis controls, all work well and are easily adjusted.

Buyers beware: The tripod and head have seen too much sea air. The aluminum has pretty well survived but a patina has developed on all the steel springs and screws. None of this effects functionality – it just isn't pretty. The coatings on the finder are in poor condition but the views remain sharp and the cross hairs are intact. A little bit of rust was identified on the DEC lock screw.

We are selling "as-is." Bottom line, you can have this nice grab and go telescope rig at a very reasonable price.

Dave Decker, for SDAA, Outreach@sdaa.org, 619.972.1003



San Diego Astronomy Association

Celestron NexStar 11 GPS (almost)



Presale price of **\$1,250** plus fees for Contributing Members only.

Cloudy Nights & Astromart pricing will be **\$1,500** plus fees and shipping.

Here is a beautiful Celestron 11" carbon fiber tube with clean optics and a smooth focuser. 89% greater light gathering than an 8" SCT. Fastar compatible. The scope comes with much if not all of the stock items. 1¼" visual back, diagonal, 2X Barlow, moon filter, Nikon T-ring, and 40mm plössl eyepiece. For power, a 110V to 12V transformer, and car battery cable, are provided. 9x50 finder scope, bracket, and original instructions, are included. Add-ons are a nice JMI wheeled case, and Kendrick solar filter. The motor controllers have both been updated to version 4.06. Add a few optical accessories and you will have a very capable visual scope that others will flock to.

With the offered version 1 hand controller we ran it through its paces. Without a complete GPS we were limited to the traditional two star, and a pretty nifty auto align routine. Alignment routines, as configured, require the user to enter the date, while location and time are obtained via GPS. Pointing accuracy is pretty remarkable. With a widely separated two star alignment we were able to reliably find objects in a 13 mm (215X) eyepiece. We were astonished! To obtain this remarkable pointing accuracy we only had to level the tripod, point the tube level-north, and enter the date. We also ran the auto align routine (no knowledge of the sky required) which selected stars a bit closer than we would have liked. Results while not as spectacular as our widely spaced pair, returned all objects to nearly center the FOV in a 40 mm (70X) eyepiece. The hand controller even has a sky tour which would fill a long evening. Views of Jupiter and Saturn were very good – a bit of collimation will sharpen them up further. Galaxies, globs, open clusters, and nebulae, were equally enjoyed. The focus was smooth and the mounting is solid. The catalogs were complete and easy to navigate. There was nothing to dislike other than the tube weight (65 lbs) which comes with the territory in large aperture SCT's. As offered, the mount is very capable and the tube is excellent.

On another occasion we paired this mount with a version 4.22 hand controller and all GPS capabilities were available to include a new SkyAlign routine. In this routine all location, time, and date, information is obtained automatically – no user input. The user simply locates three unspecified bright objects, and the mount computes a model. We pretended to be complete neophytes and ran the routine on three planets (not recommended) and were rewarded with a successful model. Amazing in light of the fact we did not need to start from a home position. Later we repeated the process with more widely separated stars and the accuracy improved. Again, we did not have to specify the objects – just point and center. No knowledge of the sky is required to obtain exceptional pointing accuracy. The two star and Auto Align routines are also available. The telescope comes with a version 1 hand controller.

Buyer beware: The tripod spreader has a bit of damage, and there are some scuff marks. The version 1 hand controller has an issue with date rollover – 2⁸ months early. The two hardest GPS elements, time and location, return perfect results – user needs to input date. Pair this with a version 4.XX hand controller and full GPS capabilities are available. The pictured battery is not included.

We are selling "as-is." Bottom line, you can have this very nice telescope at a reasonable price. Perfect for visual use.

Dave Decker, for SDAA, Outreach@sdaa.org, 619.972.1003



San Diego Astronomy Association



Much fun was had last month at Nightfall 2021 in Borrego Springs. At times there was a long line at the 32 inch scope. Next year's event will be in October.



San Diego Astronomy Association

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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

December 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!

The James Webb Space Telescope: Ready for Launch!

David Prosper

NASA's James Webb Space Telescope is ready for lift-off! As of this writing (November 15), the much-anticipated next-generation space telescope is being carefully prepared for launch on December 18, 2021, and will begin its mission to investigate some of the deepest mysteries of our universe.

The development of the Webb began earlier than you might expect – the concept that would develop into Webb was proposed even before the launch of the Hubble in the late 1980s! Since then, its design underwent many refinements, and the telescope experienced a series of delays during construction and testing. While frustrating, the team needs to ensure that this extremely complex and advanced scientific instrument is successfully launched and deployed. The Webb team can't take any chances; unlike the Hubble, orbiting at an astronaut-serviceable 340 miles (347 km) above Earth, the Webb will orbit about one million miles away (or 1.6 million km), at Lagrange Point 2. Lagrange Points are special positions where the gravitational influence between two different bodies, like the Sun and Earth, "balance out," allowing objects like space telescopes to be placed into stable long-term orbits, requiring only minor adjustments - saving Webb a good deal of fuel.

Since this position is also several times further than the Moon, Webb's sunshield will safely cover the Moon, Earth, and Sun and block any potential interference from their own infrared radiation. Even the seemingly small amount of heat from the surfaces of the Earth and Moon would interfere with Webb's extraordinarily sensitive infrared observations of our universe if left unblocked. More detailed information about Webb's orbit can be found at bit.ly/webborbitinfo, and a video showing its movement at bit.ly/webborbitvideo.

Once in its final position, its sunshield and mirror fully deployed and instruments checked out, Webb will begin observing! Webb's 21-foot segmented mirror will be trained on targets as fine and varied as planets, moons, and distant objects in our outer Solar System, active centers of galaxies, and some of the most distant stars and galaxies in our universe: objects that may be some of the first luminous objects formed after the Big Bang! Webb will join with other observatories to study black holes - including the one lurking in the center of our galaxy, and will study solar systems around other stars, including planetary atmospheres, to investigate their potential for hosting life.

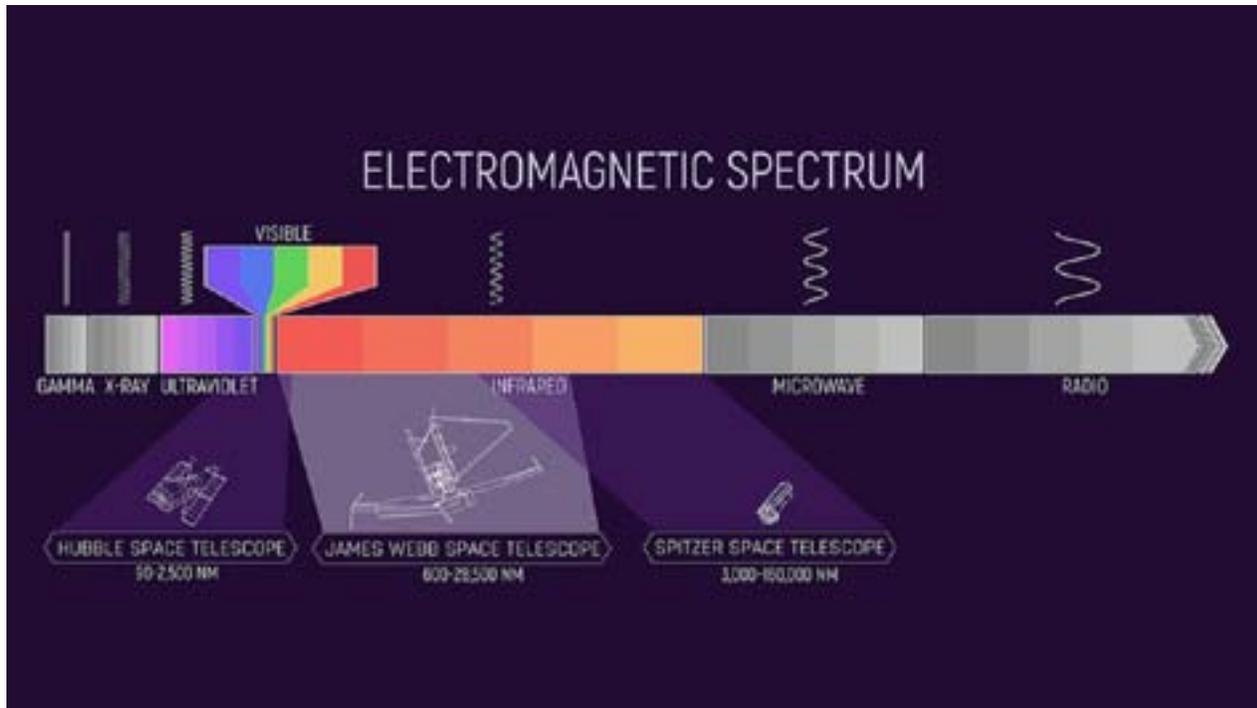
Wondering how Webb's infrared observations can reveal what visible light cannot? The "Universe in a Different Light" Night Sky Network activity can help - find it at bit.ly/different-light-nsn. Find the latest news from NASA and Webb team as it begins its mission by following #UnfoldTheUniverse on social media, and on the web at nasa.gov/webb.



San Diego Astronomy Association

NASA Night Sky Notes

December 2021



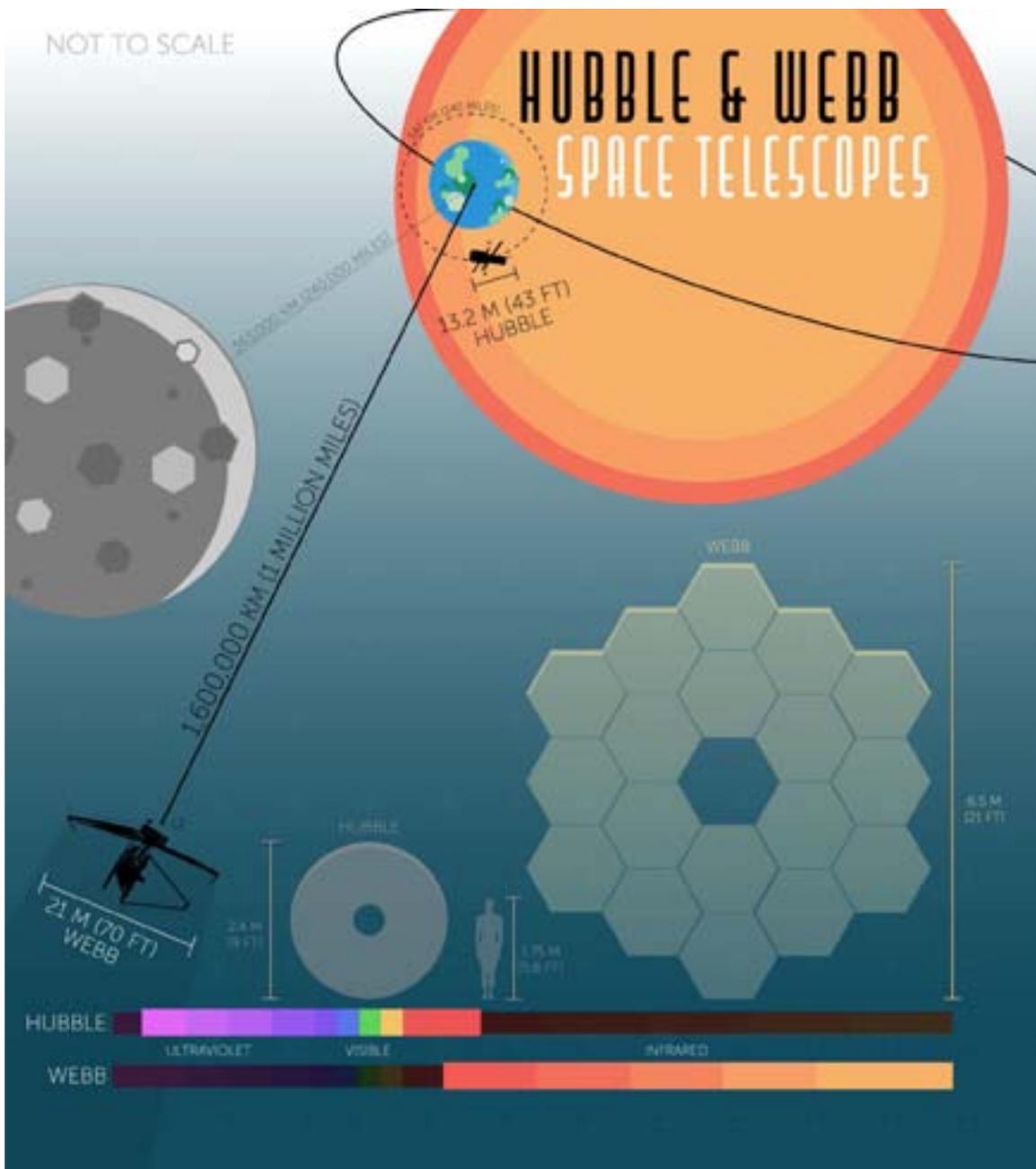
Webb will observe a wide band of the infrared spectrum, including parts observed by the Hubble - which also observes in a bit of ultraviolet light as well as visible - and the recently retired Spitzer Space Telescope. Webb will even observe parts of the infrared spectrum not seen by either of these missions! Credits: NASA and J. Olmstead (STScI)



San Diego Astronomy Association

NASA Night Sky Notes

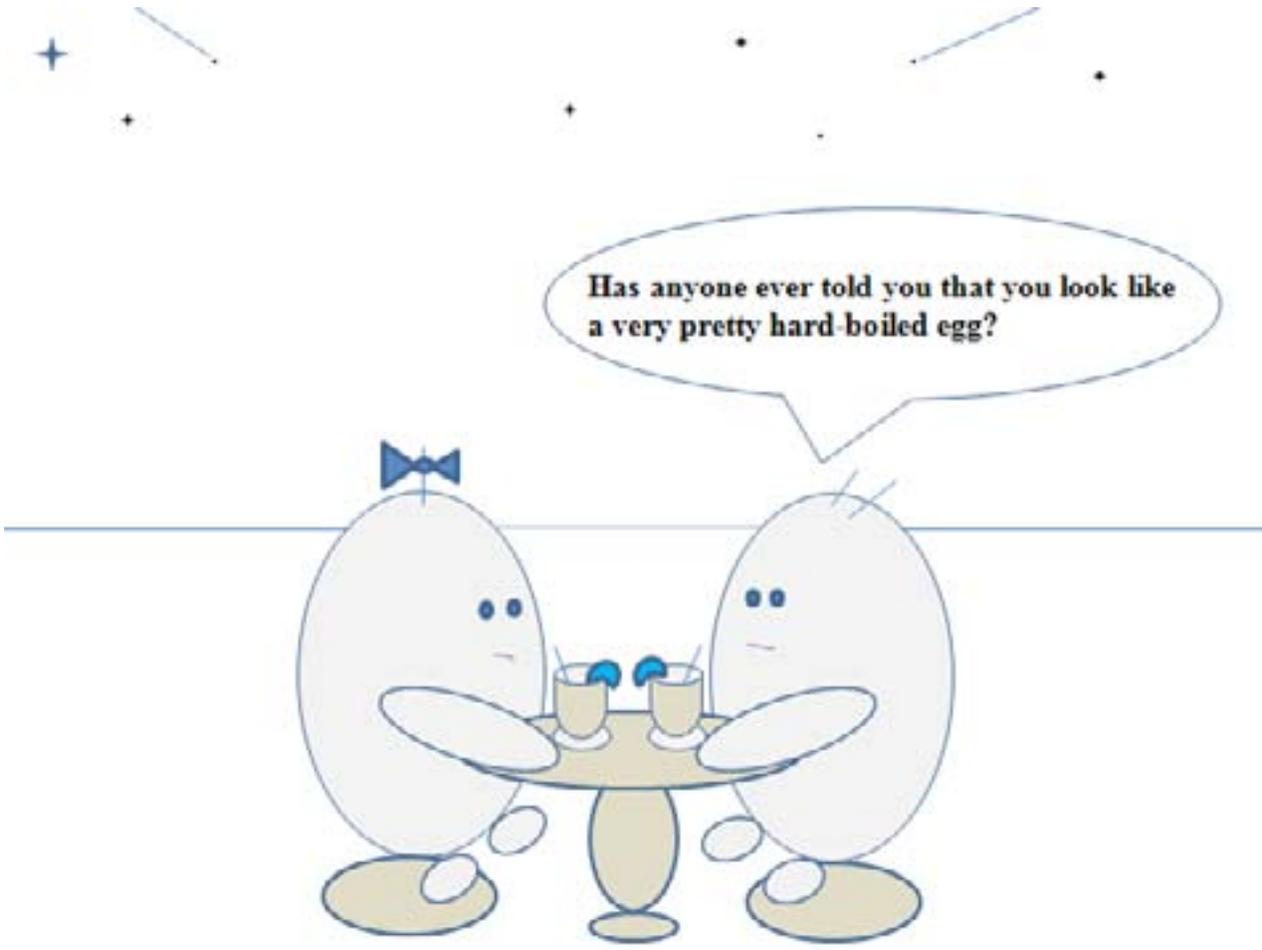
December 2021



Webb will follow up on many of Hubble's observations and continue its mission to study the most distant galaxies and stars it can - and as you can see in this comparison, its mirror and orbit are both huge in comparison, in order to continue these studies in an even deeper fashion! Credits: NASA, J. Olmsted (STScI)



San Diego Astronomy Association



“Getting a Date on Vesta”

© Norm Butler

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 or renew on-line. The notice that your membership in SDAA will expire is sent by email. Dues are \$60 for Contributing Memberships; \$35 for Basic Membership; \$60.00 for Private Pads; \$5 for each Family membership.