



## Cache Valley Clear Skies

The Journal of the Cache Valley Astronomical Society



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### Meeting Announcement

Our next CVAS Meeting will be on Wednesday Jan 22<sup>nd</sup> at 7pm at the Logan Public Library. Our guest speaker is Emma Smith who will be talking to us about Galaxies. We will also have a short topic on the basics of astronomical cameras. Hope to see everyone there!!

### Upcoming Star Parties and CVAS Events

We have three STEM Nights coming up in January. Please contact Bruce Horrocks if you can help out.

1. January 13<sup>th</sup> at Canyon Elementary
2. January 23<sup>rd</sup> at Nibley Elementary
3. January 29<sup>th</sup> at Wellsville Elementary

### The President's Corner By Bruce Horrocks – CVAS President

Happy New Year to each of you as we start this new decade. We hope you are all doing well and had an enjoyable Christmas. Well I guess I was good enough to get the little Sky-Watcher 72 mm telescope I was hoping for. So far, I have not had a good chance to use it and I am still waiting for a saddle so I can mount it on my larger telescope. It looks like it will be a good and maybe final addition to my collection of telescopes. I am hoping that it will be a great little solar telescope or even an optional guide scope. Let's just hope we have some clear skies in this New Year.

One thing that I think has made the largest contribution to our hobby of astronomy in the past years has been the computer software. There are apps that can be on our phones or tablets as well as full size programs that we can use on our PC computers. The large varieties of programs and apps out there can cause us to become overwhelmed and confused. There are programs with planetarium features that can be used for planning your night out and giving you some great targets to look for and some that are great for controlling your mount if you are using a computerized telescope mount.

There is such a wide selection that I am sure we could each write a page or more about our favorite software set up and that might be a good thing we should do. I thought for this month that I would share just a few programs I use and why I like them.

First, I would like to recommend the Celestron Sky Portal app. I know you can use this also to sync with your mount if you have a Celestron mount and the other hardware to go with this. I think Blaine Dicky in our club uses this at star parties. I like to use the app just as a tool for recommend targets. It has a handy little search feature at the bottom of the app where it will give you options to find Tonight's Best, Messier Objects, Best Deep Sky object, and many other such items. Once you select what you want it will then show you a little image of what you are looking for and the text will be highlighted if it currently visible.

You can also select an object to see where it is currently in the sky and it will also provide you with additional information about size, magnitude, and visibility times. I know there are many others, but this is one I like the best for just a good idea of what to look for when I go out.

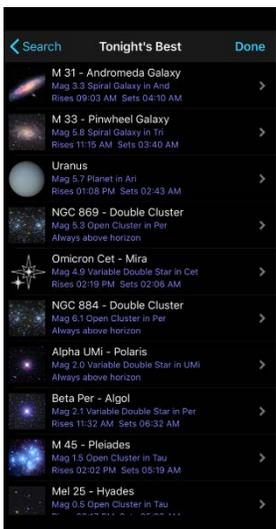
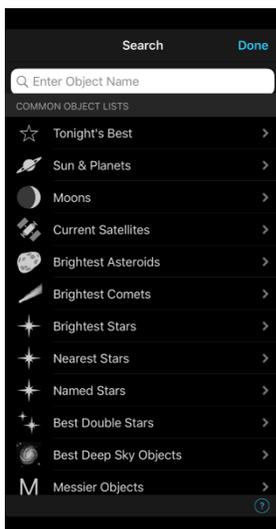
Next is software for mount control. I have recently switched over to the Celestron CPWI software. I was using Starry Night Celestron Edition. While I like them both, I think that the CPWI gives you a better control over the mount and it stores your alignment procedures for the next time you start up. If I had my choice, I would like to combine some of the best features of each program to make a new program with the best of each. I have tried using the Maxim DL for telescope control but found it a bit more difficult and I just didn't like the user interface as well. I also have found the CPWI to be a bit more stable when I was having some computer-to-mount communications problems with the other software packages.

The third piece of critical software is the camera control and capture software. I started off with Maxim DL since it was highly recommended to me, and quite frankly it has worked pretty well. It is kind of pricy to start with and seems to have a bit of a learning curve, but I have found it works excellent for the deep sky objects. For planets and closer objects, I have used the free version of SharpCap. It is easy to use, and I find it does a great job for the moon and planets. It will record video as well and still images and works great with most of the ZWO cameras that I have. If you were just starting that might be a good choice due to cost.

I have looked at a few others like Prisim and Sequence Generator Pro, but I just keep going back to the ones I know. Maxim has some high quality stacking and editing features so the images can look pretty good straight out of there without using some editing software like Photoshop.

This is my list of preferred software, but we would like to hear from you as well. If you have something that works great for you and you think it may help, please share it with us in our newsletter. Thanks again for your help and we look forward to seeing you all at our club meetings this new year.

Clear Skies - Bruce



## Double Vision

By Harvey Brown

With winter now here and more chilly nights ahead, I know that most of you will park the scope and wait for "fairer" weather before going out again. Winter can be the best time to observe because of the more clear conditions but I have to agree that the cold makes it hard to enjoy. Many a time has my eyepieces fogged up to the point that I had to go inside and wait for them to acclimate again.

So for January I decided to give you six easy Doubles to find in two constellations that are up for most of the early or all night in winter. These are nice close ones and one or two that some averted vision will be needed.

We will start out in the constellation of Pisces:

3009 AB                      Con: Pisces  
HIP 115544    SAO 128160    HD 220512  
Mag Pri: 6.8    Sec: 8.7    Type: Uncertain  
Sep: 7.1"  
RA. 24h 24m 16.47s    Dec.+03° 42' 56.1"  
Eyepiece: 8mm

***"You can just make out the B and the split. A bit of Advert helps. C is way way out. (Sep: 562.9") one of the farthest splits I've seen. How this is a double is ? I like AB***

Color: Yellow - White - White

(You really have to look along ways out to find C, a magnitude of 9.7 but it's there and easy to see it's just a distant star.)

3019                      Con:Pisces  
HIP 116035    SAO 128216    HD 221272  
Mag Pri: 7.7    Sec: 8.3    Type: Visual  
Sep: 10.7"  
RA. 23h 30m 40.76s    Dec. +05° 14' 58.0"  
Eyepiece: 8mm

***"A good Double, what you would expect a Double to look like. Both Gold, close split, But you can see it. Close in magnitude and you can see the difference too. In an open field.***

Color: Yellow-Yellow

12 35 Psc UU    Con:Pisces  
HIP 1196    SAO 109087    HD 1061  
Mag Pri: 6.0    Sec: 7.5    Type: Physical  
Sep: 11.5"  
RA. 00h 14m 58.84"    Dec: +08° 49' 15.5"  
Eyepiece: 14mm

***"A nice double, easy split even though it's close. Both are bright and you can see the magnitude difference. In an open field."***

Color: White-White

22 AB,C    38 Psc    Con:Pisces  
HIP 1392    SAO 109111    HD 1317  
Mag Pri: 7.1    Sec: 7.6    Type: Uncertain  
Sep: 3.9"  
RA. 00h 17m 24.50s    Dec. +08° 52' 34.8"  
Eyepiece: 14mm

***"Another good double. Very close and small but you can see the split. This one stands out good also."***

Color: Yellow-Yellow

2863 AB Xi 17 Cep    Alkurhah (Kurhah) (Meaning: Glow, eyebrow horse)  
Con: Cepheus  
HIP 108917    SAO 19827    HD 209790  
Mag Pri: 4.4    Sec: 6.4    Type: Physical  
Sep: 8.4"  
RA. 22h 03m 46.85s    Dec: +64° 37' 43.1"  
Eyepiece: 14mm

***"Very interesting double. Very bright Primary but secondary can be seen and split. Both stand out very good."***

Color: White-White

2806 AB Beta 8 Cep    ALFIRK (Meaning: Raw)  
Con: Cepheus  
HIP 106032    SAO 10057    HD 205021  
Mag Pri: 3.1    Sec: 8.6    Type: Uncertain  
Sep: 13.5"  
RA. 21h 28 m 39.58s    Dec. +70° 33' 38.5"

***"Nice looking double. Easy split. The primary doesn't overpower the secondary. No stars around so easy to see. Nice name of the star."***

Color: White-White

A Lot of the Double stars that I have observed are in open fields with very few other stars around them. As I get into more of the Milky Way, then they may be harder to pick out. This is why I put "in an open field".

I hope you enjoy looking at these and any other Double because that's what we are really looking at is the stars themselves.

Look up at the stars and enjoy them. Remember it's not your eyes playing tricks on you: it's really "DOUBLE VISION"

Harvey can be contacted by email at:

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# Spotlight on Taurus, the Bull

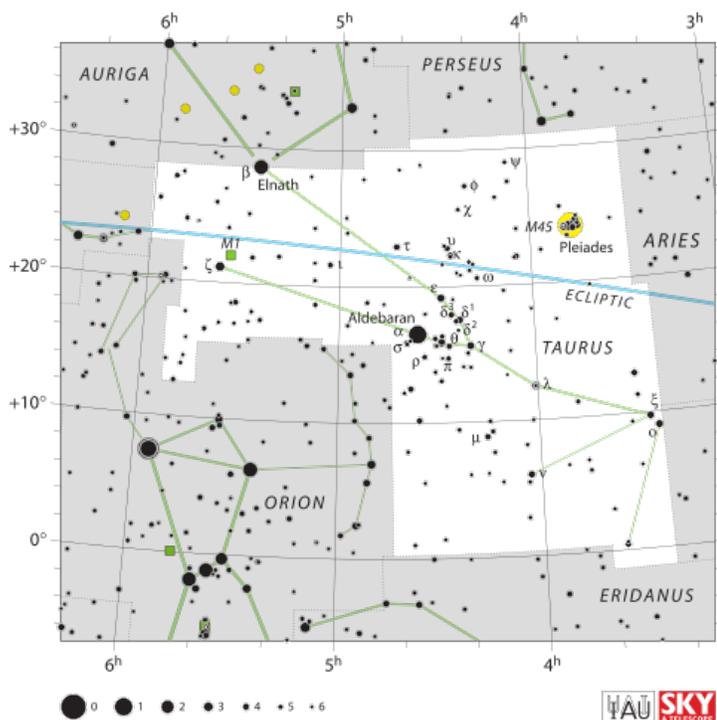
By Dale Hooper

Taurus is the home to the first magnitude star Aldebaran (the Follower). It is also home to two of the most recognizable naked eye open clusters namely the Hyades and the Pleiades. The Pleiades figured prominently in many ancient societies. We also know it as Messier 45 or the Seven Sisters. It is called Subaru by the Japanese.

Next time you are following a Subaru, take a look at the emblem on the car – because it represents the Pleiades. Another important object in Taurus is the Crab Nebula (Messier 1). This is a supernova remnant from a supernova which was observed by the Chinese and Native Americans in 1054 A.D. The supernova was so bright that it was observable during the daytime for several months. We now know that the progenitor star collapsed into a pulsar.

I am listing objects which rate at least three stars in *The Night Sky Observer's Guide* (Taurus is in Volume 1). As usual, the table is organized according to increasing Right Ascension values.

Object	R.A.	Dec.
Σ422 (Double star)	03h36.8m	+00°35'
Messier 45 (Open Cluster)	03h47.0m	+24°07'
Σ452 (Double star)	03h48.3m	+11°09'
λ Tauri (Variable star)	04h00.7m	+12°29'
RW Tauri (Variable star)	04h03.9m	+28°08'
Σ495 (Double star)	04h07.7m	+15°10'
47 Tauri (Double star)	04h13.9m	+09°16'
52 Tauri (Double star)	04h20.4m	+27°21'
T Tauri (Variable star)	04h22.0m	+19°32'
β87 (Double star)	04h22.4m	+20°49'
NGC 1647 (Open cluster)	04h46.0m	+19°04'
Hyades (Open cluster)	04h23m	+16°
NGC 1746 (Open cluster)	05h03.6m	+23°49'
NGC 1802 (Open cluster)	05h10.2m	+24°06'
NGC 1807 (Open cluster)	05h10.7m	+16°32'
NGC 1817 (Open cluster)	05h12.1m	+16°42'
Dolidze-Dzimselejsvili 3 (Open cluster)	05h33.7m	+26°29'
Messier 1 (Supernova Rem.)	05h34.5m	+22°01'
Dolidze-Dzimselejsvili 4 (Open cluster)	05h35.9m	+25°57'
NGC 1996 (Open cluster)	05h38.2m	+25°49'



IAU and Sky & Tel - Roger Sinnott & Rick Fienberg

## CVAS on Utah Public Radio

Listen to CVAS on Utah Public Radio each Tuesday at 4:48 pm. Blaine Dickey and Tom Westre are writing weekly astronomy related scripts and recording the program at their station. We are pleased that the folks at UPR have invited us to present a weekly topic on astronomy. You can listen in Logan on 91.5 KUSU-FM, or 89.5 KUSR Logan, with translators 92.1 Brigham City, 89.3 Bear Lake. There are other translators from Soda Springs to St George. You can also listen anywhere on their live stream or download UPR's free app on your smartphone. Check this out at [www.upr.org](http://www.upr.org).

## Upcoming Events and Anniversaries

- Jan 02 - [Isaac Asimov's](#) 100th Birthday (1920)
- Jan 02 - [Leslie Peltier's](#) 120th Birthday (1900)
- Jan 03 - [Quadrantids Meteor Shower](#) Peak
- Jan 03 - 20th Annivesary (2000), [Galileo](#), Europa 26 Flyby
- Jan 05 - [Earth At Perihelion](#) (0.983 AU From Sun)
- Jan 06 - [Jacques Etienne Montgolfier's](#) 275th Birthday (1745)
- Jan 06 - [Jacob Bernoulli's](#) 365th Birthday (1655)
- Jan 07 - 410th Anniversary (1610), [Galileo Galilei's Discovery of Jupiter's Moons Io, Europa, Ganymede & Callisto](#)
- Jan 08 - [Gyula Fenyi's](#) 175th Birthday (1845)
- Jan 08 - 260th Anniversary (1760), [Great Comet of 1760](#) Near-Earth Flyby (26.5 Lunar Distance)
- Jan 10 - [Penumbral Lunar Eclipse](#)
- Jan 12 - [Royal Astronomical Society's](#) 200th Birthday (1820)
- Jan 14 - 15th Anniversary (2005), [Huygens Probe](#), Titan Landing
- Jan 15 - [Warren De la Rue's](#) 205th Birthday (1815)
- Jan 16 - [Asteroid 9000 Hal](#) Closest Approach to Earth (1.710 AU)
- Jan 19 - 15th Anniversary (2005), [Mars Rover Opportunity's](#) Discovery of [1st Meteorite on Mars \(Heat Shield Rock\)](#)
- Jan 19 - 55th Anniversary (1965), [Gemini 2](#) launch (Unmanned Suborbital Flight)
- Jan 20 - [Buzz Aldrin's](#) 90th Birthday (1930)
- Jan 20 - [Andre-Marie Ampere's](#) 245th Birthday (1775)
- Jan 21 - 60th Anniversary (1960), [Little Joe Launch 1B](#) (Miss Sam Monkey)

- Jan 22 - [Moon Occults Jupiter](#)
- Jan 23 - [Ernst Abbe's](#) 180th Birthday (1840)
- Jan 25 - [Chinese New Year](#)
- Jan 27 - [Venus](#) Passes 0.07 Degrees From [Neptune](#)
- Jan 27 - 200th Anniversary (1820), [1st Sighting of Antarctica Main Land Mass](#)

## Newsletter Guidelines

It has been suggested by the CVAS Executive Committee that we come up with some guidelines for article submissions for our newsletter.

- We would like all submissions to be sent to Wendell by the 27<sup>th</sup> of each month. Just send him an email with the article as an attachment (wendellw57@comcast.net).
- Please submit your articles as a “Word” document.
- If you have pictures or sky maps that go with your article, please place them in the text where you would like them to be, but also send them as separate attachments in the email.
- Please try to keep them at a reasonable length (500 to 800 words or so).
- Preferred font is Times New Roman
- Perfect spelling and grammar are optional.

Your thoughts and suggestions are always appreciated. After all, this newsletter is for you. Thanks for all of your help in making our newsletter GREAT!! (The editor)

## Library Loaner Telescope Program Status

Library	Telescope Donated By	Telescope Placed	Available for Checkout	Library Status
Logan Library	CVAS	6/10/2018	10/15/2018	Loaning out with Holds pending
Logan Library #2	ICON Health & Fitness 	6/18/2019	7/15/2019	Loaning out
Hyrum Library	CVAS	12/11/2018	2/1/2019	Loaning out
Smithfield Library	Occipital, Inc	12/14/2018	4/10/2019	Loaning out
North Logan Library	Utah NASA Space Grant Consortium 	3/4/2019	4/5/2019	Loaning out
Cache County Library (Providence)	INOVAR & CVAS Members	3/1/2019	5/22/2019	Holds on telescope
Lewiston Library	Schreiber Food's 	Last Week of June (Tentative)		Telescope was placed and they are in the process of setting it up.
Richmond Library				Received Telescope
Preston Library	Idaho NASA Space Grant Consortium			Telescope placed. They plan to start loan out with Preston Jr. High Star Party
Mendon Library	Campbell Scientific 	4/8/2019	5/30/2019	Loaning out
Newton Library				Ready for check out

# CACHE VALLEY ASTRONOMICAL SOCIETY MEMBERSHIP APPLICATION FORM

Member # \_\_\_\_\_

NAME: \_\_\_\_\_  
                    First                      Middle Initial                      Last

Address: \_\_\_\_\_  
                                                            Street                      City                      State                      Zip Code

Home Phone: \_\_\_\_\_ Cell Phone: \_\_\_\_\_

Work Phone : \_\_\_\_\_ Occupation : \_\_\_\_\_

Email Address: \_\_\_\_\_

How did you learn about CVAS?

\_\_\_\_\_ Website    \_\_\_\_\_ Star Party    \_\_\_\_\_ CVAS Member    \_\_\_\_\_ Other \_\_\_\_\_

Membership: \$20 a year

Tell us about yourself: Do you have a special interest in astronomy? Do you have special skills? Are you willing to volunteer on CVAS projects or attend public outreach star parties? Astro equipment owned.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

By signing this application, I acknowledge I have access to the CVAS website, [cvas-utahskies.org](http://cvas-utahskies.org), and the CVAS Constitution. I agree to abide by the constitution.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Bring this form to the meeting or Mail Application to:

**Janice Bradshaw, Treasurer**  
175 W 700 S  
Wellsville, UT 84339

For any questions contact our Treasurer, Janice Bradshaw at [lojbrads@yahoo.com](mailto:lojbrads@yahoo.com)  
or our Secretary Wendell Waters at [wendellw57@comcast.net](mailto:wendellw57@comcast.net)