



## Cache Valley Clear Skies

The Journal of the Cache Valley Astronomical Society



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[www.cvas-utahskies.org](http://www.cvas-utahskies.org)

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### Meeting Announcement

Our next meeting will be held on Wed. February 26<sup>th</sup> at 7 pm in the Lake Bonneville Room of the Logan City Library. Our presenter will be Wendell Waters, and his presentation is called “Charles Messier and the ‘Not-Comet’ Catalogue”.

The meeting is free and open to the public. Light refreshments will be served. COME AND JOIN US!!

### Upcoming Star Parties and CVAS Events

We have four STEM Nights coming up in the next few months. Please contact Bruce Horrocks if you can help out. See Bruce’s President’s message for a little more info.

1. February 6<sup>th</sup> – Greenville Elementary
2. February 19<sup>th</sup> – Sunrise Elementary
3. March 5<sup>th</sup> – Cedar Ridge Elementary
4. March 16<sup>th</sup> – Birch Creek Elementary

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

I don’t know about most of you, but I for one would be glad to at least see a bit of sun and clear skies at least once this winter. I believe there was just a couple of nights in the last 2 months that I was able to get out and do some observing and so I am hoping to see some clear skies this spring. I have watched all the documentaries I can stand on Netflix, so I am running out of other nighttime activities to do and I really want to get out and test my new little 72mm telescope.

We made a change to our club fees at our last meeting and if you happened to have missed that I will just quickly explain it to you now. We have voted to change the membership fee from an annual payment due, to just a one-time fee of \$20. So, if you have joined the club in the past and paid your fee at that time there is no more renewal fee to pay going forward. We are hoping that members that joined and have not attended our meetings will now feel welcome to come back and not worry about having to join up again. Our club does need some donations to operate and since we have enough funds in the bank at this time, we have

made this decision, so if you had joined a few years ago and have not paid since you are still in the club.

In our outreach efforts we have been supporting the Cache County School District with their STEM activity nights. If you haven't been to one of these, you might find it enjoyable to talk with some younger kids and their parents about astronomy. We have several more still to come up this month and if you are able to help please let one of the Executive members know. For the month of February, we have the following STEM nights to help with:

February 6<sup>th</sup> Greenville Elementary  
6:00-8:00 (We have this one covered)  
February 10<sup>th</sup> Lincoln Elementary  
6:30-8:00  
February 19<sup>th</sup> Sunrise Elementary  
6:00-8:00  
February 24<sup>th</sup> North Park Elementary  
6:00-8:00

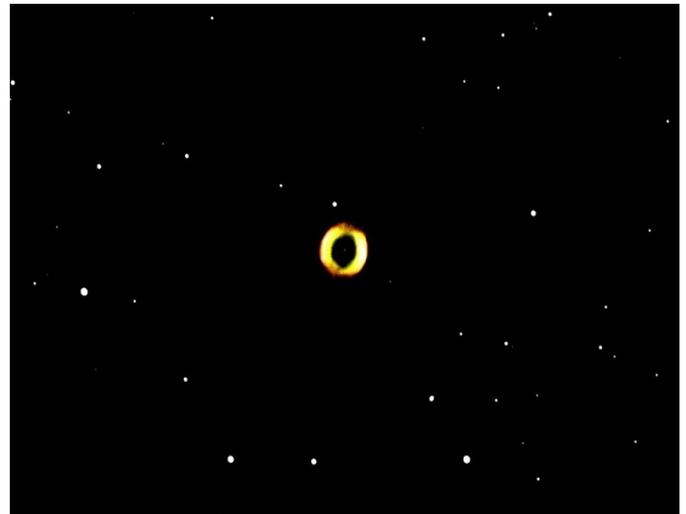
You can just bring something simple to talk about with the kids or if you want you can bring your telescope and set it up. Just keep it simple and easy and you will enjoy it more. These are younger kids, so hands on stuff is great for them. If you can help at one of these please let one of us know. Thanks to all you who have helped it is greatly appreciated.

We enjoyed a good meeting with Emma Smith talking to us about the galaxies and the role of the Hubble Telescope in observing them. It was a good meeting and I think we all enjoyed the time learning a bit more about galaxies. We are looking forward to hearing from Wendell Waters about the Messier Catalog objects in our next meeting and so we hope you will come and learn more about this well-known list of observing targets.

We would like to thank you all again for your help with our outreach efforts and we look forward to seeing you all at our next club meeting.

Here are a couple of shots of M57 the Ring Nebula. I did the first one with a color camera and the second one was taken with a monochrome camera and some narrow band filters Ha, Sii, and Oiii. When I compiled the 3 narrow band filter colors I ended up with this yellow ring. Just kind of

different, I thought it looks like the Lord of the Rings.



Clear Skies - Bruce

## Special Announcement

At our last club meeting, it was proposed to the membership that our annual \$20 fee be changed to a lifetime \$20 fee. The motion was passed. We also tried out our new projector that was purchased with the club funds, and it seemed to work well.

There were also many of our members who were recognized by the NASA Night Sky Network for their exceptional outreach activities during the past calendar year. Congrats and thanks for all your hard work.

## Double Vision

By Harvey Brown

It's winter and cold and cloudy, so most of us don't get out as much during this time of year but still the stars await us. At least we don't have to wait till the middle of the night to get out and spend an hour or two and get some good observations in. So for this month I have four great Doubles that are easy to find in the sky at almost any time of night.

O 25 V 551            Constellation: Perseus  
HIP 10633    SAO 23115    HD 13854  
Mag: Pri: 6.5    Sec: 7.4    Type: Uncertain  
Sep: 102.8"  
RA. 02h 16m 51.71s    Dec. +57° 03' 18.9"  
Eyepiece: 8mm

***“Good bright DS, easy split and close in mag. In a good star field but they stand out enough.”***

Color: White - White

2308 AB,C    41 Dra    Con: Draco  
HIP 88136    SAO 8996    HD 166866  
Mag: Pri: 5.7    Sec: 6.0    Type: Physical  
Sep: 18.79"  
RA. 18h 00m 09.07s    Dec.+80° 00' 13.7"  
Eyepiece: 8mm

***“AB is good and bright stars, easy split but close enough to look cool. C is far out and a lot less on magnitude, doesn't really seem to be part of the DS.”***

Color: White-White-White

(C is a m8.3 and a Separation of 224.8", it's a way out but easy to find.)

2751            Con: Cepheus  
HIP 103810    SAO 33078    HD 200614  
Mag: Pri: 6.2    Sec: 6.8    Type: Uncertain  
Sep: 1.6"  
RA. 21h 02m 09.00s    Dec. +56° 40' 11.1"  
Eyepiece: 8mm

***“VERY CLOSE, you really have to look for a while before you see two dots and a sliver of black between them to make the split, very close in magnitude that you really don't see.”***

Color: White-White

2675 AB 1 Cep    Kappa    Al Aghnam  
I            Con: Cepheus  
HIP 99255    SAO 9665    HD 192907  
Mag: Pri: 4.3    Sec: 8.3    Type: Physical  
Sep: 7.3"  
RA. 20h 08m 53.23s    Dec. +77° 42' 40.9"  
Eyepiece: 8mm

***“A nice DS, close but you can see the split and the Primary even though bright, doesn't overpower the secondary. You can see both easy. I like this one.”***

Color: White - White

So here are four great Doubles, one with three stars and one very close and the last a major star with a secondary that you can still pick out.

I hope you enjoy another month of star gazing, and remember: “THE DARKER THE NIGHT, THE BETTER I SEE.”

And keep your eyes crossed for DOUBLE VISION.

Harvey's email: [ngc6720@comcast.net](mailto:ngc6720@comcast.net)

## 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).

# Polar Alignment using QHC Polemaster

By Blaine Dickey

Recently I purchased a QHC Polemaster to aid me in getting a precise polar alignment on the Meade 12 inch scope that is in my observatory. Also I wanted to use it on my Celestron Evolution 6 inch scope for doing a rapid polar alignment on that scope as well.

Checking the website where I learned about QHC Polemaster I found that the adapter used to attach it to a variety of mounts was not compatible with my Meade Fork style mount. But I knew that it would work on my set up if I could figure out a way to mount it.

My Meade telescope tube already had a long metal dovetail on the top of the tube. Dale Hooper referred me to ADM Accessories. I called them and found that they had a mounting bracket for dovetail rails that would hold the Polestar, The man I talked with told me he thought it would work on my Meade dovetail, and if it didn't I could return it. I went ahead and ordered it. When the bracket arrived I took it out to the observatory and sure enough it fit the dovetail and tightened down securely.

Unfortunately the EDM bracket did not fit the larger dovetail on my Celestron Evolution so I had to come up with a different solution for that. After studying the problem for a while I realized that I might be able to use one of the square holes on my Telrad mount to attach the bracket to. To do that I would need to build a special piece to fit into the square hole and also be able to mount it to my Polemaster bracket. Using Sketchup online I designed a bracket that would do just that. My son has a 3d printer and I sent the design to him and he was able to make it. See figure 1.

Figure 2 shows piece by Polemaster bracket

Figure 3 show piece mounted to Polemaster

Figure 4 shows piece mounted to Telrad

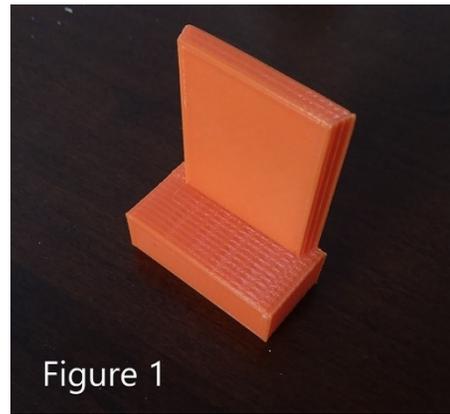


Figure 1

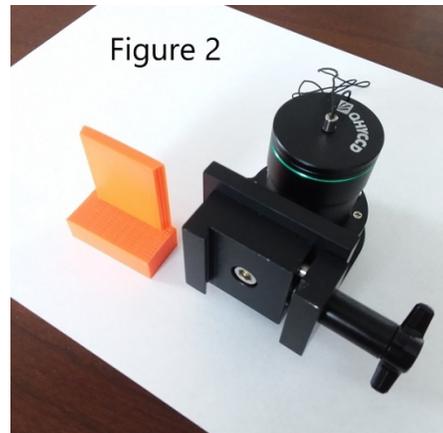


Figure 2

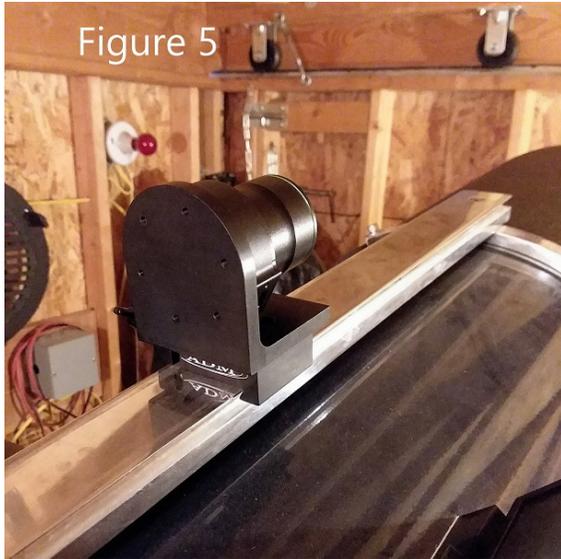


Figure 3



Figure 4

Figure 5 shows how the Polemaster is attached to my Meade 12 inch scope on the metal dovetail.



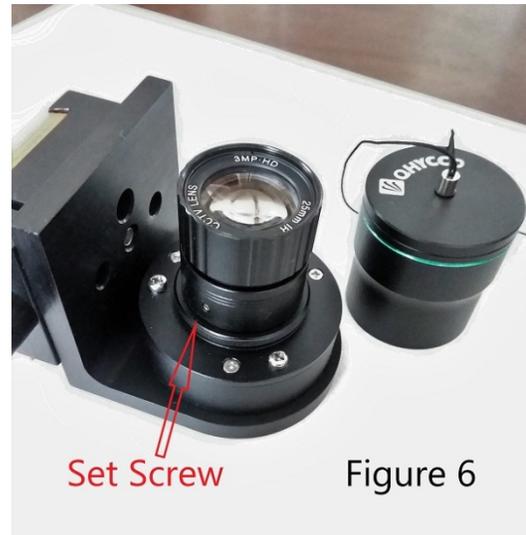
Once I had the Polemaster mounted on my 12 inch tube dovetail I attached a cable that came with it from the camera to my laptop. I had previously downloaded and installed the software from the QHY Polemaster website that controls the camera.

When I first connected the camera to the software I noticed the stars showing on my laptop were way out of focus. I knew the camera needed to be focused better in order for me to achieve the best alignment possible. Unfortunately it was not obvious to me how to focus the camera.

Taking the camera back into the house I was able to locate a video on line that showed me how the camera can be focused. You have to unscrew the main barrel while holding the main part of the camera (not the lens cap).

After removing the barrel you can see a small set screw on the side of the camera. A very small Allen wrench that comes with the camera fits into the set screw and after turning it a little you can rotate the camera lens on the front of the camera with your hand. I took the camera outside remounted the camera on my OT and while watching the laptop screen turned the Lens with my hand until the stars came into pinpoint focus then tightened the set screw and screwed on the barrel.

See figure 6



After focusing the stars I proceeded to align my scope following the instructions and images that appeared on my laptop screen. It went very smoothly and I discovered that my alignment was not very good just as I had supposed.

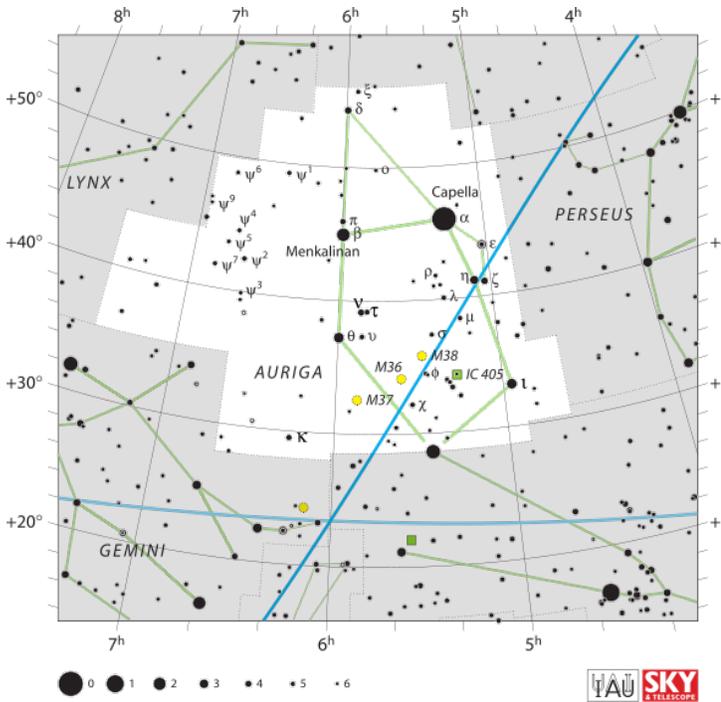
Finally I adjusted the hand knobs on my wedge until two small figures on my screen lined up and I was done. The manufacturer claims the final alignment will be within 30 arc seconds of the Earth's pole which is less than distance separating the two companions of Albireo which your eye can't separate without optical aid.

# Spotlight on Auriga, the Charioteer

By Dale Hooper

Auriga is home to the first magnitude star Capella, several bright open clusters, several nice multiple stars and a few good dark nebulae.

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



IAU and Sky & Tel - Roger Sinnott & Rick Fienberg

Messier 37 (Open cluster)	05h52.4m	+32°33'
37 Aurigae (Double star)	05h59.7m	+37°13'
Σ845 (Double star)	06h11.6m	+48°43'
RT Aurigae (Variable star)	06h28.6m	+30°30'
Σ872 (Double star)	06h15.6m	+36°09'
OΣ147 (Quadruple star)	06h34.3m	+38°05'
Σ928 (Double star)	06h34.7m	+38°32'
Σ929 (Double star)	06h35.4m	+37°43'
56 Aurigae (Double star)	06h46.7m	+43°35'

## Upcoming Events and Anniversaries

- Feb 02 - [Moon Occults Asteroid 4 Vesta](#)
- Feb 09 - [Supermoon](#)
- Feb 09 - 30th Anniversary (1990), [Galileo](#), Venus Flyby
- Feb 10 - [Mercury](#) At Its Greatest Eastern [Elongation](#) (18 Degrees)
- Feb 13 - [Moon Occults Asteroid 3 Juno](#)
- Feb 14 - 30th Anniversary (1990), [Voyager 1](#), Family Portrait Images
- Feb 15 - [Galileo Day](#)
- Feb 17 - 55th Anniversary (1965), [Ranger 8](#) Launch (Moon Impact Mission)
- Feb 18 - [Moon Occults Mars](#)
- Feb 18 - 90th Anniversary (1930), [Clyde Tombaugh's](#) Discovery of [Pluto](#)
- Feb 19 - [Moon Occults Jupiter](#)
- Feb 29 - [Lewis Swift's](#) 200th Birthday (1820)

Object	R.A.	Dec.
Barnard 26-28 (Dark nebula)	04h55.2m	+30°35'
4 Aurigae (Double star)	04h59.3m	+37°53'
5 Aurigae (Double star)	05h00.3m	+39°24'
Barnard 29 (Dark nebula)	05h06.2m	+31°44'
Σ644 (Double star)	05h10.3m	+37°18'
Σ653 (Triple star)	05h15.4m	+32°31'
AE Aurigae (Variable star)	05h16.3m	+34°19'
NGC 1857 (Open cluster)	05h20.2m	+39°21'
UV Aurigae (Var & Dbl star)	05h21.8m	+32°31'
Σ698 (Double star)	05h25.2m	+34°51'
NGC 1907 (Open cluster)	05h28.0m	+35°19'
Messier 38 (Open cluster)	05h28.7m	+35°50'
Messier 36 (Open cluster)	05h36.1m	+34°08'
26 Aurigae (Double star)	05h38.6m	+30°30'
Barnard 34 (Dark nebula)	05h43.5m	+32°40'

## 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 lifetime membership

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.

\_\_\_\_\_

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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: \_\_\_\_\_

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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)