2022 January Observations from Big Woodchuck Observatory

-------- Original Message --------
Subject:[ORAS] First observation for 2022
Date: Sat, 08 Jan 2022

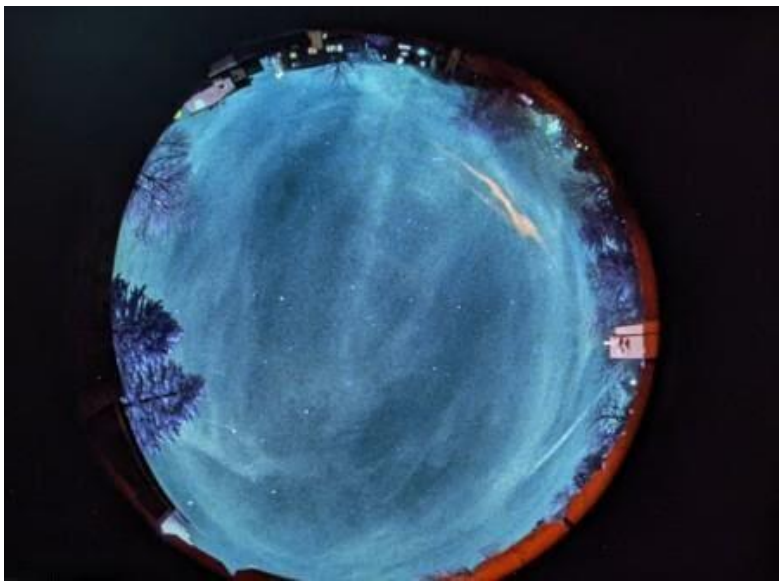
hi all,

Took advantage of a brief evening window of somewhat clear sky on Tuesday, January 4th for my first observation of the new year. My primary target of the night was the rarely observed supernova remnant Cassiopeia-A.
I had recently clipped out an article from the December 2014 Sky& Tel where the author described visually observing this extremely faint object using a 48" dob at a dark-sky site. In the article the author also mentioned another observation made using a 9.25" SCT. So I figured that I had a good chance of seeing something from my less than dark backyard using EAA techniques and my L-eNhance narrowband filter with my 8" SCT & ZWO ASI294MC camera that was now once again assembled outside of my observatory.

Here's the scope from a couple of weeks ago. The ground was a little muddy so I had to throw down a few mats. Within the fenced area, you can see my outdoor pier-mounted 80mm Kson refractor under its brown cover, and the AllSky camera attached to the side of the fence with a cover over it. (also the propane tank that I use to heat the observatory interior)

At dusk, I went out and uncovered the telescope, connected the AC and data cables and powered-on the laptop. Once fully dark, I turned on the telescope and focused the cameras. I then slewed the telescope over to the NW sky near M52, which had just passed westward over the meridian. After admiring the view of the open cluster for a few minutes, while letting the camera cool down to a -10C, I then moved the telescope over to Cass-A's RA and Dec coordinates. Taking a couple of quick exposures, I identified the correct field of where the object was located, and centered the area. Made a few tweaks to the camera settings and let Sharpcap begin stacking 60 second subs. Within a couple of exposures, I was able to see the faint outline of the SNR's brighter northern arc.

But, soon afterwards, the sky conditions began to go downhill. The front that was expected to move in around midnight was pushing waves of haze in advance. Here's a phone-picture of the AllSky cam display:



Normally, with sky conditions like this, I wouldn't bother to even go out, but as I had the equipment running, I decided to leave the camera continue to accumulate/stack images while I did a little housekeeping around the observatory. Everything needed a good dusting. I also worked on the inside-observatory 8" SCT, switching it over from deep-sky mode back to Lunar/Solar mode. (switching out the focal reducer, and attaching the Ha & Cak PST's). The Sun has become active and it was time to plan for daytime solar observing.

During this, the sky conditions remained somewhat stable, the haze not thickening, so I ended up with a 40 minute observation of Cass-A.

The image is a little noisy, but the features that were visible matched up nicely with the visual sketch from the article. So not exactly a 'pretty picture', but its still a good observation of a supernova remnant. I'll definitely return to this object on a better night.

With the lousy sky, I didn't really want to start working my other observing projects, so I pointed the telescope over to the nearby bright planetary nebula M76.

Here's a 20 minute observation (stack of 60 second subs):

Shortly after I finished with M76, the haze thickened into an overcast. It was time to call it a night.
Larry
http://www.stellar-journeys.org/

-------- Original Message --------
Subject:A Three Comet Night, Plus a Hole in the Sky! EAA observations from Friday 01-22-2022
Date: Sat, 22 Jan 2022

hi all,

With the enticingly clear sky during the day on Friday, 01/21/2022, I decided to brave the very low temps to observe that evening. So that afternoon, I crunched/walked thru the several inches of frozen snow that still covered the backyard down to the observatory to prep it for the evening. I wasn't planning on using the observatory telescope, but rather my travel scope setup outside under a tarp, so I wasn't concerned with clearing the observatory roof. Mainly wanted to make sure that there was plenty of propane in the heater tank and to connect the power and data lines in advance. While out, I also started up the observatory computer and began capturing frames from the AllSky camera.

After sunset and the end of dusk, I put on my winter observing clothes and headed out.
The 'balmy' 20 deg temps from earlier had now dropped down to around 6. Burrrrrrr!!!!!
But, with the gas heat going, the inside of the observatory soon warmed into the low 50's. After booting up and connecting the laptop to the USB cable that ran thru the observatory wall out to the telescope & cameras. I headed out to uncover the scope and powered up the equipment, Even though it was a clear transparent night, the sky was bright

from all the local lights reflecting off of the snow. Once the waning 84% gibbous Moon rose at 9:15pm, it would only get worse. Still if I was quick, I could get a bit of EAA observing in.

I started off comet chasing, with the three comets that were currently visible.
Comet Borrelly in Cetus, Comet Atlas L3 in Gemini, and Comet Churyumov-Gerasimeko (which is still hanging in there) in Cancer. Here's all three in order: (8" SCT @ f6.3, ZWO ASI294MC camera, full ROI 4144x2822, L-Pro broadband filter, 60 second subs for 5 minutes each)

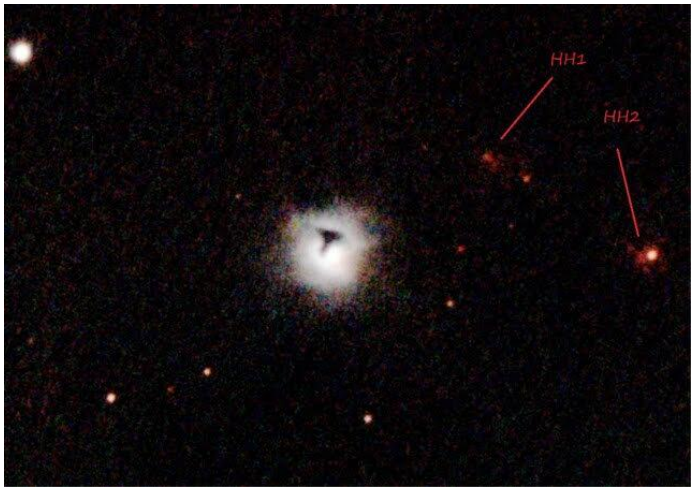
I then moved over to Orion which was approaching the meridian and dropped in on M42/M43: (15 second exposure, stacked for 3 minutes)

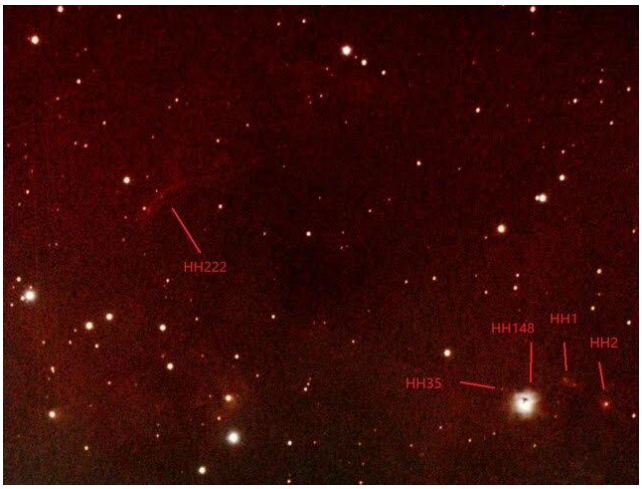
The general area around the 'Great Nebula' is one huge star forming region. My other observing goal for the night was the nearby small reflection/dark nebula NGC1999. There's a fine article in the February Sky&Tel about this object.

The 'keyhole silhouette' shaped dark nebula isn't real, but instead an actual cavity in the reflection nebula. A 'hole in the sky'!

(8" SCT @ f6.3, ZWO ASI294MC camera, L-Pro broadband filter, 60 second subs for 15 minutes)

The void is thought to have been formed by stellar winds flowing from a number of jets coming off of nearby newly formed stars. Some of these are marked by small bright nebula called Herbig-Haro (HH) objects.Using the pictures from the article, I was able to identify a number of HH objects. Here's a couple of rough observations of the ones around NGC1999 and a wider field. I'll need to come back to this area on a darker night.





(8" SCT @ f6.3, ZWO ASI294MC camera, L-Pro broadband filter, 60 second subs for 20 minutes, and 180 seconds for 21 minutes)

By now, the Moon was up, rising thru the trees, illuminating the snow which was then reflecting the moonlight all around.

I decided to make one more observation under the bright and cold conditions so I slewed the telescope over to one of my favorite open clusters - M46 in Puppis.
Like the pleasant surprise in a chocolate coated candy, M46 also contains a planetary nebula, NGC2438, which is a foreground object in front of the more distant cluster.

(8" SCT @ f6.3, ZWO ASI294MC camera, full ROI 4144x2822, L-eNhance narrowband filter, 15 second subs for 10 minutes)

With that EAA observation, I shutdown and covered up the telescope & cameras, and headed indoors to a mug of hot chocolate!
Oh, and here's a short AllSky video of the night: https://youtu.be/GeByQqfRk2k

Larry