

2020 April Observations from Big Woodchuck Observatory

----- Original Message -----

Subject:[ORAS] Fun under the Full Moon

Date:Thu, 09 Apr 2020

hi all,

With the coronavirus stay-at-home in effect for the foreseeable future, I decided to move my travel telescope (6" RC, 80mm refractor, 60mm guidescope & CGEM mount, along with ZWO ASI294MC, ASI290MC, and ASI120MC cameras) to my backyard observatory.

Wasn't an easy decision, as I have to carry everything down two flights of steps to my backyard where I could load it into a wheel-barrow and cart it the rest of the way to my observatory. For the last half-dozen years, I've been using a 8" SCT optical tube on the CGEM mount, but for this year I am dusting off the 6" RC optics. After a couple of hours, the telescope was all setup and ready to image. Here's a photo of the scope beside my observatory: (the white PVC pier is where I plan on installing my all-sky cam. It once held a small manual mount for a visual reflector). <http://www.stellar-journeys.org/6rc-backyard1.jpg> <http://www.stellar-journeys.org/6rc-backyard2.jpg>



Been spending this week making a few hardware tweaks and running cables (power & USB) thru the observatory wall to the 6" and getting everything working. I am now able to image with the 6" RC and my ZWO cameras while I'm also inside the observatory using the permanently mounted 8" SCT and StellaCam-3 vidcam for videoastronomy!

The 6" RC gives me access to the northern sky, an area that I can't see from the observatory due to it's flip-roof design. This will allow me to hopefully finish my Herschel Objects project this spring as the remaining 90 some objects are all in Ursa Major.

Getting back to the title of my post, yesterday afternoon turned into a sunny day here in Baldwin, and looking at the evenings forecast I had a few hours of darkness before that windy front blew thru. Even with the Moon just one day past full, that would give me a little time to test out the 6" RC. So after sunset, I uncovered the scope, attached the cameras, plugged in the cables, and focused and aligned the piggyback scopes to the main optical tube. I ended-up having to bring the laptop out to the white table to be within reach as I manually adjusted the telescope. Then I was able to move back inside. Overall, the setup test went well, except for an ASCOM issue that I was having with the planetarium program running the CGEM mount. (have to work on that).

Here's a 'test' image of M81 & M82 (15 second subs stacked for an hour) using the 80mm refractor & ASI290MC camera: <http://www.stellar-journeys.org/gallery/M81-M82-04082020.jpg>



It's a little noisy as I didn't use a flat-frame or a LP filter, and I didn't have the field-flattener on the refractor, but still a fun image considering a nearly Full Moon and slight haze that was reflecting the moonlight! A few more adjustments and I'll be ready for the next moonless night from my backyard!

Larry

----- Original Message -----

Subject:Telescope-Time

Date:Sun, 26 Apr 2020

hey all,

Well, I was really hopeful for using my 6" AstroTech RC out in my backyard this spring. Back in March, I setup the CGEM travel mount in my garage, mounted the 6" RC on it and checked/tweaked the collimation using a Cheshire ep. I then moved everything down to my backyard observatory to use it for imaging during the April dark-moon period. Finally, the weather cooperated last Saturday night, (18th), and I spent the evening imaging with it. But, I wasn't happy with the results, turns out, the collimation was off and wasn't noticeable during the evening when I was initially using the bhatinov mask focusing on bright stars. Guess I was too busy getting the mount and cameras up and running where I could control them from inside the observatory. It wasn't until the next day when I was reviewing the images on a large monitor indoors that I noticed that the fainter stars were distorted. The evening wasn't a complete loss as I could still use some of the images in my Herschel Objects project.

On Monday evening, the sky cleared for several hours, so I got out and attempted to collimate the scope using the ZWO camera. I've done this before with my 8" SCT with my old StellaCam analog vidcam, and is fairly quick and easy. But with an RC, nothing is easy, ended-up spending several hours making the collimation worse, with the effort eventually cut short by clouds. Wasted the evening!

Spent the next several days researching how to collimate an RC, (read how a lot of people struggle with it), and found a much better how-to guide online than what AstroTech gave me. Figured-out what did me in on Monday night was that I had left the focal reducer installed while trying to do the collimation. LOL

During a break in the rain on Wednesday, I got out during the day, removed the focal reducer, and using the Cheshire EP, got what looked like a pretty good alignment between the secondary and primary mirrors. I was able to match the instruction diagram perfectly. After tightening up all the adjustment screws and verifying that nothing shifted, all I needed to do was a visual star-test at night to confirm. (part of the 'fun' in the process of collimating the RC was that I had to remove the nice Moonlite crayford focuser as it partly blocked the primary mirror adjust screws and play with using the old 'skinnier' stock focuser along with spacer rings that screwed on to the visual back of the scope)

Then Friday we had another late-day clearing. Once dark enough, I did a visual star-test on Capella. (which was a real back 'pain' as I had to use the EP in straight-thru mode without a diagonal). But, the star-test looked good. So I removed the EP and replaced the stock focuser with the Moonlite and reattached the camera without the focal reducer. Unfortunately clouds delayed doing anything with the camera for over an hour. Finally with the sky clearing again, I pointed the telescope to Spica and tried to focus. Immediately I noticed that the star shape on the laptop monitor didn't look right and after racking out the focus, could see that the collimation was really crap! WTH!! I got the allen wrenches back out and tried tweaking the secondary mirror, and then primary mirror, but after two hours once again had only made it worse.

By 1am, having reached my level of stress, I covered-up the telescope, another wasted night! So after three wasted nights and a lot of frustration trying to get the darn thing properly collimated, today I threw in the towel and pulled the 6" off the mount and replaced it with my 8" SCT optical tube.



Not sure what I'm going to do with the 6" RC.

I think tomorrow I'll set it up on a camera tripod in my garage and use the Cheshire to see how bad the collimation looks. Then maybe some night, I'll point it at Polaris and try another star test. But for now, I'm just going to use the 8" SCT optical tube in the backyard. Can't afford to waste clear dark-sky nights, such as they are, from my backyard.

Larry

p.s. that's my allsky cam in the white dome mounted on the white pier. Bought a new ZWO ASI224MC camera from CCTS for it last week. Works real nice!

That's my fourth ZWO camera, an asi120MC for the 60mm guider, asi224MC for the allsky, asi290MC for the 80mm refractor, and asi294MC for the main scope.

Larry

----- Original Message -----

Subject:[ORAS] a cloudy night in the Backyard

Date:Tue, 28 Apr 2020

hi all

Been testing my new DIY domecam: ZWO ASI224MC with a 1/3" 1.25mm IR MP fisheye lens inside a NightOwl securitycam dome. Here's a video from last evening thru early morning. Mostly cloudy with a sliver of moon showing in the west. Around 2:30am, a few stars can be glimpsed, but within an hour the sky closed and raining by 4:30am.

- Frame capture every 30 seconds with exposure & gain set to auto using SharpCap. <https://youtu.be/lzbcl4fyTvE>

Larry