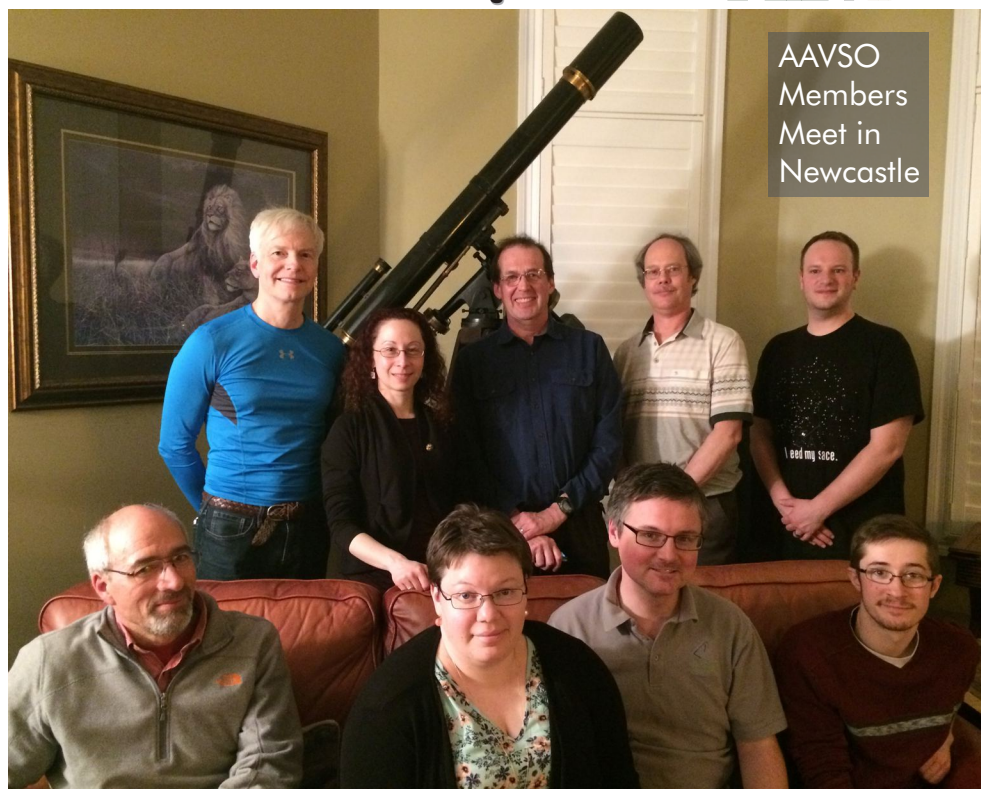


Upcoming Events

- Thu-Fri,
April 3-4 FL&A Science Fair
<http://educ.queensu.ca/community/news-events/frontenac-lennox-addington-science-fair>
- Saturday,
April 8
20:00 KAON Session
Queen's University
Ellis Hall, Observatory
- Thursday,
April 13 NO MEETING
An observing session may be scheduled...
- Saturday,
April 29 Astronomy Day
rasc.ca/astronomy-day
- Thursday,
May 11 Members' Night
- Saturday,
May 13 Science Rendezvous
<http://educ.queensu.ca/coc/science-rendezvous>
- Thursday,
June 8 Members' Night

Check kingston.rasc.ca for the latest info, kingston.rasc.ca/observing/sites for sites. ★



Reports and Other Items

ALDEBARAN OCCULTATION VIDEO

The NYAA has posted a great video, showing simultaneous views from five different observing stations, at <https://vimeo.com/209854850>

AAVSO DIRECTOR VISITS

Your Editor reports: I got into town just in time to attend the Durham Region Astronomical Association (DRAA) meeting at the Whitby Public Library at 7 p.m. on Wednesday, April 12th. It was a full room (40–50 people) and the featured speaker was **Dr. Stella Kafka**, Director of the AAVSO. She gave a one hour talk on variable stars (the good, the bad, and the explosive) that was well received, judging from the active Q & A that followed.

As it happens, Stella has a couple of relatives that live in Toronto so it seems likely that she may drop by again in the future. She had spent several hours at RASC national office the day before (Tuesday after-

noon) meeting with our Executive Director **Randy Attwood**, the staff, and our Archivist, **Randall Rosenfeld**.

At suppertime Thursday (April 13th) there was a gathering of local AAVSO members at **Mike Cook**'s place in Newcastle to meet with Stella. Attendance was hampered somewhat by the pending Easter long weekend. **John Percy** had to leave early, but Eric and Brenda arrived about 8 p.m., direct from Buffalo (and en route to Kingston).

There was lots of great conversation about observing and how to get more people involved with variable stars. Things didn't wind down until 10 p.m. We did some group photos and toured the control room and observatory at the end of the gathering. Mike has an impressive setup: a 16" Meade ACF optical tube on a Mathis Instruments fork mount which is very impressive. Visit his website: newcastleobservatory.ca.

From Kingston Centre, the RASC, and Beyond

PHOTO KEY

Back row: Mike Cook (host), Stella Kafka (AAVSO Director), Warren Morrison, Walter MacDonald, Tim Claydon.

Front row: Frank Dempsey, Brenda Shaw, Eric Briggs, John Sautner. (John Percy had to leave before pictures were taken.)

Behind everyone is an 1880s-era Cooke refractor. ★

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KAON Report: April 8

Susan Gagnon

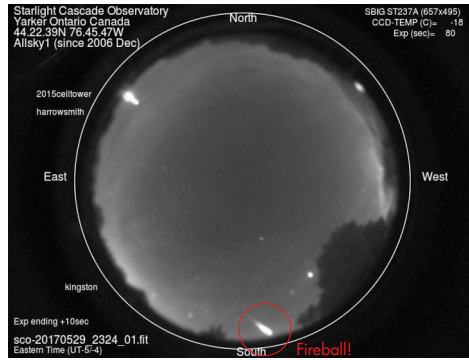
WHAT A CLEAR SKY! I really cannot recall the last time we had such a great sky for an open house event. I missed the talk downstairs because I wanted to get reacquainted with the club scope. The Queen's scope in the dome was on **Jupiter** and on the deck I kept our scope on the **Moon**. While a near full moon eliminates any other target, save the odd gas giant, it is still a crowd-pleaser and I think I finally figured out why. When looking at a familiar object the public has a better idea of what a little magnification can do where a faint fuzzy is still often a faint fuzzy.

The scheme of tickets being issued at the lecture to move the

public upstairs in groups seems to work well as a crowd control device. There were three groups last night so numbers were probably near 75. **Kevin, Laurie, Devon, and Paul** were also on deck to help people with constellation identification and binocular observing. Thanks to all. ★

Travelling this summer? If you take time in any of the 10 Air Canada Maple Leaf Lounges in Canada, keep an eye out for complimentary copies of SkyNews. We are participating in a program to provide copies of each issue of SkyNews for Air Canada travellers for the next 6 issues.

—Randy Attwood



Regulus Needs You!

ITEMS OF INTEREST FROM MEMBERS—full articles, or even just a couple of paragraphs are always welcome. Items are gratefully accepted on each and every day of the year! Send items to:

walter (dot) macdonald2 (at) gmail (dot) com



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Astronomy—Sharing the Vision

C.L. Hall

THIS PAST WEEKEND was Astronomy Day in my corner of the universe, and it was an opportunity to catch some daytime starlight and chat with friends. It was great to see the interest from newcomers, both young and old—from the little boy who showed up in full spaceman costume, telling me his favourite astronaut was Chris Hadfield, to several grey haired gentlemen just getting into astronomy, and asking about the pros and cons of various types of telescopes.

I enjoyed observing the solar prominences in H-alpha in a friend's solar scope, one very nice one on one limb, and 3 smaller ones if you took the time to let the photons fall a bit more. A number of scopes ran full

aperture visual light filters, and a number ran H-alpha. As a kid growing up, it was only the NRC professionals who could show us the sun in H-alpha. Many more things are now accessible to amateurs, and that is a good thing.

It was interesting checking out the various types of equipment that people brought out for the occasion. I was able to take a look up close at some newer equipment mounts that I had only seen pictures of, and some video and CCD setups that some of the crew were using. Astronomy Day is always an opportunity to expand one's horizons.

The local group that put on the displays here this year had a variety

of handout material for the public—and had also made up special astronomical bookmarks. These bookmarks had not only information on their own club, but also information on the other astronomical group in town, and web links for both.

For me, sharing astronomy is about sharing astronomy—sharing the joy of looking at the sky, sharing the joy of finding out what is happening in the universe, sharing the joy of questioning who we are in this universe, and where we belong.

I have always been an independent person. I got interested in astronomy on my own, north of Toronto. I was a tomboy, more interested in helping the guys build

Continues on page 17...
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Science Fair Report

Bruce Elliott

THIS YEAR **Rick Wagner** and I were co-judges for our Leo Enright Award for Astronomy for FLASF 2017. We awarded the prize to **Joshua Dove** (grade 8) of Kingston Christian School. The project was entitled "Galactic Jello: A model of Gravitational Wave." He looked at whether a model using gelatin, marbles, and a laser could be used as a simplistic tool to demonstrate the waveforms created in space and then received by the Laser Interferometer

Gravitational Wave Observer. He was able to relate his findings to quantum theory and some basic properties of gravity and light. The link with astronomy was demonstrated through his appreciation of gravitational waves predicted from Einstein's Theory of Relativity. As well, he understood the significance of earlier observations of light from distant stars being "bent" around an eclipsed sun.

He had a genuine interest and

enthusiasm for his project as well as the broader significance of his findings to our understanding of the universe. His project was the only original research study relating to astronomy, although there were other projects which had researched the Internet on various topics. Both Rick and I felt he deserved the RASC Kingston Award.

Thank you for the opportunity to judge for the RASC Kingston FLASF award. ★

2222 – Joshua Dove

Div/Cat Physical and Math / Junior

Title: Galactic Jello: A Model of Gravitational Waves.

Summary: Albert Einstein hypothesized the presence of gravitational waves when he published the general theory of relativity in 1915. On September 14, 2015, the Laser Interferometer Gravitational Wave Observer (LIGO) was able to measure gravitational waves from what was calculated to be binary black holes merging into one black hole. The purpose of this project was to demonstrate on a small scale the waveforms produced from a binary

collision from the moment of impact, to see if the wave-forms produced would vary with the energy of impact and be consistent and predictable. This project looked at whether a model using gelatin, marbles, and a laser could be used as a simplistic tool to demonstrate the waveforms created in space and then received by LIGO. The experiment used 4 different sizes/weights of marble, 2 different sizes of gelatin mold, and 3 different heights of drop to create the collisions with different impact energies. A comparison was made between these impact energies and the changes in height of the wave-forms visible on the target card. Results indicated a possible

linear relationship between the impact energy and the square of the change in height (amplitude) of the waveform on the target card. However, the data collected between the small pan of gelatin and the large pan of gelatin was not consistent, and the data collected over the different dates of testing was not consistent. Therefore, these results could not be proven to be directly related to the Einstein's General Theory of Relativity. While the results were not consistent over the days of testing, they did show that the experiment could be used as a basic model to demonstrate how gravitational waves might travel through space. ★

Meeting Report: May 11

Kim Hay

THE MEETING was opened with a welcome and introductions by President **Rick Wagner**. There were 19 members present. **Bruce Elliot** helped judge the 2017 FLASF on March 30th and 31st and presented the Leo Enright Award for Astronomy to **Joshua Dove** from the Kingston Christian School. Joshua's project was "Galactic Jello: A Model of Gravitational Waves." He used

jello and marbles with lasers to mimic the production of waves as they travel through space. He also had special mention on the Intermediate Category.

Dr. Art MacDonald, who received the Nobel Prize in Physics for 2015, gave a presentation on "A Deeper Understanding of the Universe from 2 km Underground."

The evening progressed with

Bruce talking on his camera setup using a hinged tracker. He showed us some of his Orion images.

CBC has a special presentation on *The Current* on LED lighting in Halifax, Nova Scotia. The full segment is available online: <http://www.cbc.ca/radio/thecurrent/thecurrent-for-may-9-2017-1.4105101>

Brian Hunter comments that the

Continues on page 17...
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Meeting Report: June 8

Kim Hay

NINETEEN MEMBERS were in attendance at the June meeting, which was our last before the summer break. A welcome, introductions, and upcoming events were presented by President **Rick Wagner**.

at Algonquin College.

Until July 7th: New Eyes on the Universe (SNO), at the Agnes Etherington Art Centre.

July 20–23: Starfest (nyaa.ca)

August 21: Partial solar eclipse.

There will be a RASC-KC event at the Waterfront Park, across from City Hall held in conjunction with RMC and Queen's. 1:00–3:45 EDT. Solar eclipse glasses will be available. Contact Susan Gagnon (sgagnon@kcrasc@gmail.com) if you wish

Continues on page 17...
"Continues on page 17..."

UPCOMING EVENTS

June 30: Ottawa General Assembly

Skyward, April 2017: Of a Comet and History

David H. Levy

LAST WEEK I got a good visual observation of **Comet Tuttle-Giacobini-Kresák**, (41P) one of the earliest known periodic comets. It was a fat little "faint fuzzy" spot of light projected against a background of faint stars—nothing to write home about, but for me it was fun just because it was a comet. This comet was only the 41st that was determined to be periodic when it was rediscovered in 1907, which means that it returns to our part of the solar system again and again. This comet returns every five years or so. However, this comet was actually discovered three times before the details of its periodic past were finally figured out, and the stories of its findings take us through a good portion of modern history.

This comet was first spotted by the famous comet discoverer **Horace W. Tuttle** on May 3, 1858, in the little constellation of Leo Minor. It was part of a streak of comets he dis-

covered between then and the first half of the 1860s. Within a few years of this discovery Tuttle joined the Union army fighting the Civil War. After the end of the war, in 1869 whilst serving as paymaster aboard the monitor ship *Guard*, he somehow "lost" the considerable sum of \$8800 (a very large sum of money at that time) from the accounts of his ship. He was arrested and charged with defrauding the U.S. Navy. At his court martial Tuttle was convicted, but later his sentence was reduced, on approval by President Grant, to a dishonorable discharge from the Navy. One wonders if this semi-pardon had anything to do with his illustrious record as a comet discoverer.

Fast forward through time, to the dawn of the twentieth century when **Michel Giacobini** was observing from the Observatoire de Nice in France. On June 1, 1907, Giacobini discovered what turned out to be a

return of Tuttle's comet. Moving forward again, we arrive at April 24, 1951. I was almost four years old when **Lubor Kresák** of Czechoslovakia discovered this comet a third time.

Now we know that this comet orbits the Sun in a period of precisely 5.419 years. This spring it happened to pass pretty close to Earth, at about a tenth of an astronomical unit (distance between Earth and Sun). As we look back at the numerous times this comet was found and found again, we can see how, in 1858, the United States was about to fall into the abyss of its civil war. In 1907 **Lord Baden-Powell** was starting the Boy Scout movement. And in 1951, the Korean War was about to begin. Drifting through the sky this month, we have the opportunity to see not just a comet sailing through space, but also to take a dip into the ocean of history.★

Science Rendezvous: May 13

Susan Gagnon

SATURDAY WAS A REALLY BAD DAY for Astronomy considering the weather, but it was a great day for Astronomy outreach. Whenever a new annual public event comes along we expect that there will be a limited shelf life. No theme holds the public interest indefinitely. This was the third year for Science Rendezvous in Kingston and I for one thought we may see some cracks in the amazing support it had in the first two years. This was not the case. When I arrived at 9:45 the line up was down the entire length of the block. I was the last volunteer to arrive for our display area and things were beautifully set up. **Brian Hunter** showed up soon after to see that we were OK for volunteers and with a total of nine of us there he wished us luck and left us to it.



Solar observing was out of the question with the constant drizzle all day but RMC brought a couple of 5" S-C scopes and used an old Hank Bartlett trick of taping galaxy photos at a distance down the hall way. **Colin Lewis** (RMC) had a large supply of trading cards that he had made. It is a set of four and very big with the kids. The group of seven grad students (Queen's and RMC) also had many large photos of the Sun and other things that they could talk to people about as well as the content of the trading cards.

Rick Wagner and I spent much of the day explaining the star-finders and assembling them as fast as we could while answering all kinds of questions. My estimate was that we put at least 300 together and gave them out. I was also able to give a little bundle to a science resource teacher. I was very pleased with the number of adults, including grand-

parents, who had great questions and seemed to be there for themselves as well as their kids. Younger kids who were at a bit of a loss over how the star-finders worked really took an interest in what was going on when I asked their birthday and showed them what the sky would have looked like on that day; a trick I will remember! By 11 a.m., an hour after the doors opened, the line was still down the street and around the corner and remained that way until the afternoon. It was a very busy day and 5 hours was plenty for all involved, several now-zombified children were noted in the crowd. I think we were all pleased with how the day went. The number of contacts was great but the quality of contacts in that number

Continues on page 18...
Courtesy of Radio 108



KAON Report: May 13

Susan Gagnon

QUEEN'S OPEN HOUSE HOURS are now on for the summer season running from 9–10:30 p.m. due to all that nasty daylight.

Matt Chequers, the Observatory Coordinator introduced the speaker for the night, **Martin Duncan**. The topic was "Pebbles to Planets, How Do Planets Form?" It was a great talk covering how all of the discoveries made so far have completely turned our notions of what planetary systems should look like on their

heads. A question and answer session followed. A rough head count was 35.

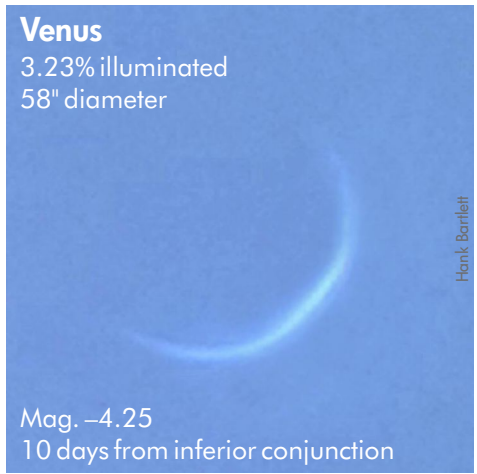
Tours of the dome followed with KC handouts and refreshed bulletin board displays were put up. There was very little sky due to cloud so I did not take out the club scope.

Laurie and Devin brought their scope and set up for a chance at **Jupiter** and I for one am glad they did. There was very little public traffic to venture onto the deck and just as I

was contemplating heading home there was a hole in the cloud approaching and Laurie thought she would try her new eyepiece (a 14mm TeleVue Plossl with a crisp and comfortable view) on Jupiter. WOW! At first she was doubting what she was seeing but then we got a great break in the cloud and Jupiter was amazingly clear and the GRS was smack dab at the centre of the disk! I have never seen such a crisp view in my life. Thanks Laurie! ★

FRIDAY, MARCH 17

Hank: I took this through the Mak90 with my Blackberry at 13:08 and got a better image than my Rebel DSLR. It will be interesting if it can be observed or imaged on the 27th. I hope the sky is more stable that day.

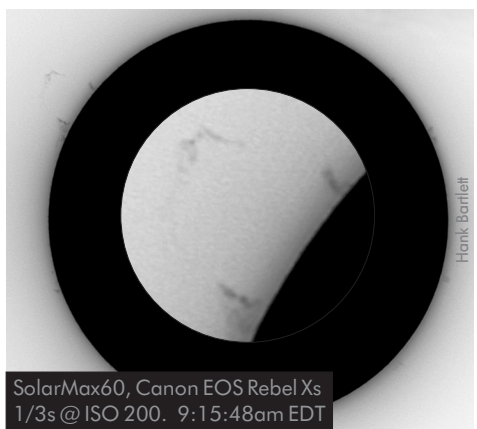


Greg: Agreed. I was out playing with the Lunt this afternoon, could get a nice sharp edge on the Sun but things were rolling and dancing all over the place, and I couldn't see a thing other than the big red ball...

Hank: Yes, a few small proms and filaments but nothing of interest. I also tried for Mercury but no luck. It was clear, but very active.

SUNDAY, MARCH 19

Hank: Well the last day of winter gave us a gift: I imaged this large faint prom billowing away from the sun's NE limb this morning. Who



says there is nothing going on up there?

SUN/MON, MARCH 19/20

Hank: Did anyone find comet 41P tonight? I looked in both 15x70s and Mak90 on Minitower II and saw nothing, well maybe a slight smudge after retrying many times in the Mak. The mount was spot on for all other objects, M51, M81, Jupiter, Arcturus and Spica so either the program for 41P is wrong or it is just too faint at this time. As I said I "thought" I saw some glow before quitting but nothing comet-like. If there had been any indication, I would have tried targeting with the C9.25.

Rose-Marie: Was tired last night and when I took Kerrie out at 10:30 I felt guilty for not taking advantage of a clear moonless night. Was thinking of looking up the finder map and giving it a go on that comet. Now I feel a whole lot less guilty.

Walter: A good 9½ hour run (233 variables) with no interruptions! Looking at the satellite loop, thin cloud moved in between 04:00 and 04:30 EDT. The LQ moon was just 2½° N of Saturn, Jupiter 5° NNW of Spica.

TUE/WED, MARCH 21/22

Hank: At approx 10 p.m. EDT under what appeared to be pristine sky I set out to observe 41P; moments later Jupiter (my starting point) was shrouded in cloud, known as the "Go Figure Phenomenon." By 10:30 I gave up waiting. FRICK!

Keith: Welcome to my world!

Kevin: Whilst waiting for aurora in the north, Kim took an image to the south last night. This is with our old Canon EOS Rebel (300D), 18mm f/3.5, 30s exposure on a sturdy tripod.



Malcolm: Clouds moved in not long after this shot...



Rose-Marie: Ooooh, you got something. I'm hoping for tonight. Took the BigWetNose out at 11:00 p.m., sky to the north clouded over and strong wind was totally discouraging. Noises outside woke me at 2:30 a.m., checked spaceweather, not good. At 5:30 banging noises outside were louder, got up and bundled up, neighbour's plastic trash cans were blowing around, tossed them in the back of his pickup, checked the sky, nada. Went back to bed. Was up too early to see the fireball.

Kevin: I was reviewing the all-sky cameras this morning only to find this fantastic overhead fireball! SW-NE. That was at 06:23:31 EDT this morning, just minutes before we left



the house. That is the Moon in the lower left, Jupiter in the lower right. The ISS made a low level pass near Jupiter just a few minutes later, at 06:33 EDT, which we did see.

(This is now listed in the special events section of the webpage at:

starlightcascade.ca/allsky2/)

Malcolm: Awesome!

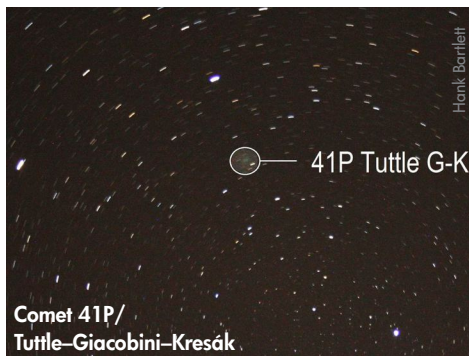
Greg: Must have been pretty low, as it didn't show at all on mine. Congrats.

Kevin: That is very strange that you did not pick it up. We are certainly close enough that anything not on our NE horizon would be seen by you as well. Do you have local terrain obstructions? Our AllSky1 did not pick it up as with 80s exposures, the sky is wiped out around 06:15 and so the camera is shut down already by 06:23 EDT. I am just glad it did not appear in during the 10s download window.

WED/THU, MARCH 22/23

Hank: Ya right, as usual. After a couple of tries to eyeball this comet in the Mak90 I decide to try imaging it tonight. I put my DSLR on the MT2 mount to see how that would work. Of course being an alt/az mount there is the field rotation or lack thereof problem but I did get a 5 minute image. WOW, bright?

Before imaging 41P I set up on Jupiter for focus and as I was so disappointed in 41P I decided to look at the couple of Jupiter images. Well did I get excited when I saw a bright



E-MAIL AND OLD MODEMS

Greg: My 110 baud modem sat on top of a huge 9 volt battery—but I used the mail in TOPS-20. A local mail client didn't show up until many, many years later. But instead of hanging onto a single mail client and hoping it would move to the current desktop I just backup mail to a local archive that has survived several changes including years when I had my own mail server and domain. If a conversation grows by being amended and flipped back and forth, putting the new stuff on top makes it easier to read, IMHO. But also easier to screw up—but these are disputes of taste and our individual choices are all quite mad. The true miracle is that anything works at all—so when I get an empty email or a file fails to come in it is not a crisis. Sigh—reality is on the blink again.

Mark K: Our 110 baud modem was a double rubber sucker shaped thing that glommed onto your bakelite phone receiver. It was not until we went to 300 baud that we had a discrete modem

box. When we got a box the size of a desktop computer with completely discrete components inside (not even any ICs) that handled 1200 baud, we were in heaven. Finally data came in faster than we could read or type. Kids these days do not know how easy they have it.

Rick: When I was working in Germany ('82-'86) the weather office had a 110 baud teletype (in addition to two 300 baud units and various photofaxes etc) clattering away in the comms room. As you say, I can type faster than that. I remarked on the clunky old technology to a US weather officer and his answer was that 'sure it's slow but it's also EMP proof.' My only thought, unspoken, was that if we're dealing with EMP then I'm not worried about getting weather data.

As a kid a friend had one of the old style rubber connector things. We used to phone the computer at U Waterloo and whistle at it until it thought it had made a connection and started shrieking data at us. We were easily entertained in the old days. ★



green comet just SE of Jupiter in my images. I went to StarryNight and the only comets in that area were mag 20 to 25, what the heck is this? Of course I headed back out and started imaging more and the comet had moved considerably, what the heck?! Then I centred the area better and it moved even more? Oh you dumbass: after about 10 images altogether I pulled the UV filter off the camera and Comet Jupiter Reflection disappeared. Dang! You know you can feel just as stupid even if you are alone.

Kevin: We went out last night to experiment with our Canon 300D DSLR. Found the control setting to adjust the aperture when on full manual. Dialed it down from f/5.6 to f/3.5 on the 18–35mm zoom and the image results were much better... over a full stop of exposure!

We also tried to image Ursa Major in the hopes of catching comet 41P/Tuttle...but after a lot of zooming and enhancing on one image, nothing showed. We will try to stack a few images and see if that helps.



Malcolm: There was a nice ISS pass at 5:40 a.m. right through Scorpius and Sagittarius.

Keith: I went out last night also and took a look at Jupiter. It was just a blurry ball. There was so much crap in the air, I could not see a thing, so 41P was out of the question. I woke up this morning, the cars were so covered in frost I could not make out their colours. No wonder I could not see anything last night. I think I need to move!

Kevin: I would say this is a much dimmer comet than anyone thinks. [This is common with diffuse comets. —Ed.] Not a chance for Kim & Kevin with a 18mm DSLR for 30s outside of Yarker.

Hank: I agree Kevin, my 30s images show nothing and the 60s just a hint of something there. It was nice overhead here but not as good as two nights ago. That sky was amazing with very dim stars popping out in the Mak90. As for Jupiter it is just far too low at that time of night, in the goop and the bad air.

Walter: With the Miras done for this week, I did an all-night run of 81 cataclymics and bagged three comets. There were a couple of USB lockups, but the session was otherwise flawless.

SATURDAY, MARCH 25

Hank: Venus at 9½° from the Sun is getting close for comfort: today there was a bright reflection on the Mak lens until I was able to position the

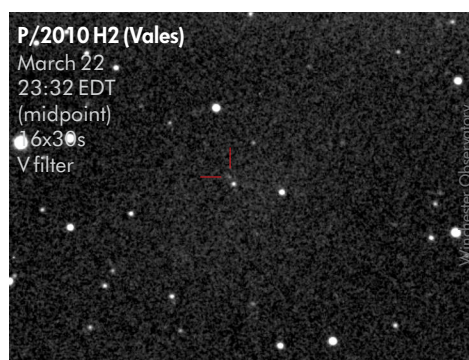
lens shade just right. I do not intend to image closer without being able to position the scope in the shade of the house to eliminate any errors.

I tried Mercury just for fun but didn't image our new AR12643 yet. Beautiful clear sky, but very active.

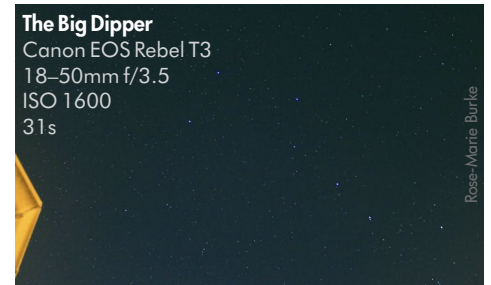


SAT/SUN, MARCH 25/26

Rose-Marie: The BigWetNose dragged me outside, and lo and behold, the sky is still relatively clear. So...grabbed my camera with the 50 mm lens and pointed it at 41P. It shows up as a wee green spot. Here's one of the shots tweaked, tweaked some more, cropped and enlarged a wee bit. The specs? Yeah, that's what it takes to get the darned thing, it ain't very bright. After taking a few pics I dragged out the 50 x 70 binocs, could not find it for love or money



(which may be a good thing since both are in short supply around here).

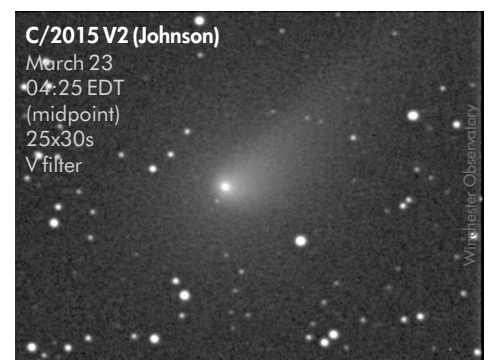


Cathy: I finally managed to break away for some photography, south of Ottawa at Richmond. Set up my camera and tripod on the barbecue deck, hooked up by cable to my Dad's XP laptop in by the fireplace, and controlled the exposures using the Canon onscreen settings. He thought it was pretty neat to see the photos on the computer screen! Focus was a bit tricky, finding a light in the distance for autofocus, then switching the camera button to manual.

Photos were taken with the comet right in the centre of the photo for ease of finding. No processing of any kind was done on the photos. The images are pretty faint, and it's a lot easier to see them without a desk lamp on. It also helps to zoom in a bit on the photos.

I am still working on technique for comets with my camera, but at least an encouraging start!

Walter: Another all-night imaging run of 223 variables. CZ Ori, UV Gem, AN Uma, HS Vir, and V1008 Her were either in outburst or active.



TUE/WED, MARCH 28/29

Kevin: It's been over a month since my last planetary imaging session. Wow. I've forgotten a lot of the basic processes, yet again.

- ▶ *Unlock* roof before opening (or attempting to open) roof.
- ▶ Bang skirts free of ice *before* wrenching back while attempting to open roof.

I guess the scope ran away last session because this morning around 03:45 EDT it thought Jupiter was setting in the west, ~45° away from where it really was! So back to a two star align with Arcturus and Deneb. Not too bad. The scope almost found Jupiter and it was still an hour away from the tree. I had focussed on Arcturus and left it there, ran the corrector plate dew heater at 20% and did the first run, 30s with no alignment or guiding. Not bad! That

meant seeing was “average” as opposed to mostly “poor” in the past.

I checked the histogram for exposure, around 80% and that gave me about 48ms, again, a rating of “average” as opposed to mostly “poor” in the past. The author of FireCapture says his debayer algorithm is not the best and that it is better to use AutoStakkert! debayer, so I am now imaging with the colour camera with “debayer off.”

The next run was 30s with auto-align “on”, so as to give a comparison record for seeing conditions. Next was a 120s run with autoalign “on” and telescope “autoguiding on.” It worked! I was able to image for the next two hours or so without having to manually guide. What a relief that was!

So everything was going well; I went back inside to warm up by the fire and start up the Chrome remote desktop into the observatory. Every-

thing was still running well.

After an hour or so I noted that the histogram for Jupiter was down to about 40%. I guess it was now into the trees. So back outside to try Saturn out. It was now almost 20° above the horizon, but still over top of Kingston light pollution. Another bunch of 120s runs with autoguiding worked well. I went back inside until it was time to pack it all in.

All in all it was a great night, but the focus could have been much better. Jupiter shows no GRS, as I missed it by 4 hours. Saturn shows no Cassini's Division.

Rick: Not bad images Kevin. You caught a nice dark barge (or something) just upper right of centre on Jupiter and I think Cassini is there (on Saturn), just somewhat obscured by the general darkening of the rings toward their outer edge.

You mention autoguiding—does Firecapture use its live centring al-

BINOCULARS

Walter: I went to Canadian Tire and bought a pair of 15x70 Celestron bins for just \$69.99. Despite not being listed on the box, a tripod adaptor was included. I'm looking forward to using them for variables (yes, the same way the pioneers did it!). This gets me pretty close to my dream of owning 80mm “tweety-bird” class bins.

Hank: These bins seem to be a favorite to go on sale at CTC for years now. I have a pair as do some other members and they seem just fine, a little heavy but manageable.

Rick: Yes, great bins at the price! But I'm afraid the tripod mount is virtually useless—it is so flexible that the bins wobble for ages at

the slightest touch.

Rose-Marie: Rick, did you see the wooden plate I had made for mine to go onto the tripod? That cheezy little plastic thing that comes with it is downright scary.

Hank: Good thing you mentioned the tripod mount Rick as I forgot. Yes the mount is no good for astro for sure.

Rose-Marie: I took some pics of the little contraption I made to hold my big binocs to the tripod.

It is simply a hardwood board with straps and a quick release plate. I cut a couple pieces of nylon strapping long enough to wrap around the binoc stems, and sewed strips of Velcro to the ends. I used some of that flat Styrofoam

sheeting fabric, cut to fit the top of the board, and stitched rubber matting to the top and bottom for a layer of padding.

I cut four slots the width of the nylon straps and positioned to come up and around the stems of the binocs, and cut strips through the padding piece to match.

Using the drill press I positioned a T-nut on the bottom of the board positioned in the centre for balance; the quick release plate for the tripod screws onto the T-nut.

Position the binocs onto the board with the eyepieces sticking back a bit, and strap it on with the Velcro straps. The board is wide enough to hold on the sides if you want to pop it off the tripod for hand-held viewing. ★



gorithms to also autoguide the scope. That's a cool idea. I'll have to see how well I can work the planetary stuff from inside the house. I've so far only (about 3 times) done it perched in the cold on a chair in the observatory.

Kevin: Yes, FireCapture can autoguide on the live image itself, via ASCOM to control the scope. It only works some of the time and when it doesn't, a laptop reboot helps (connecting with ASCOM). Sometimes shaking due to wind is so bad that autoguiding cannot keep up. Since this scope is particularly bad at pointing and tracking (not to mention a loose pier), live autoguiding is a godsend.

Rick: For me focus is a big problem. I have to use one of the eyepiece ports on the scope and they don't have

motorized focusers. (Why not? Well I haven't got to that yet—some time in the future perhaps.) And since it's a Newtonian, I'm standing on a ladder ~3m from the monitor peering over or around the counterweight trying to focus by hand. Plus, once I've collected and stacked the data I have little idea how to go about sharpening—haven't dug into that yet. And of course, all this interrupts my photometry so I don't do it very often.

Kevin: Remote motorized focusing often does not work for me either. I try to use a third party program that has a counter, so I can reference it going + or -. However, the only one I've found that works in HandyAVI telescope control and then that often interferes with ASCOM and the ASI 120mc camera. I'm still looking for a better solution.

And since it's dark out I pulled out a pair of 10x50 binos and [41p] [TGK](#) shows up, not easily but it's definitely there.

I keep expecting the cloud to move in but it keeps evaporating just before it gets here. If I'd known I would have got out a couple more scopes.

Kevin: Bad cloud here after 21:00 EDT. Clear but very hazy. The Kingston light dome was up 50° or more. No luck on spotting the comet visually with the 20cm dob.

This morning's Jupiter and Saturn runs were cut short due to tree and cloud coming in from the south. Seeing was average, transparency poor. Pointing was off again(!) and tracking was poor on the LX200. Even with autoguiding it was so bad I packed it in after only a couple of runs.

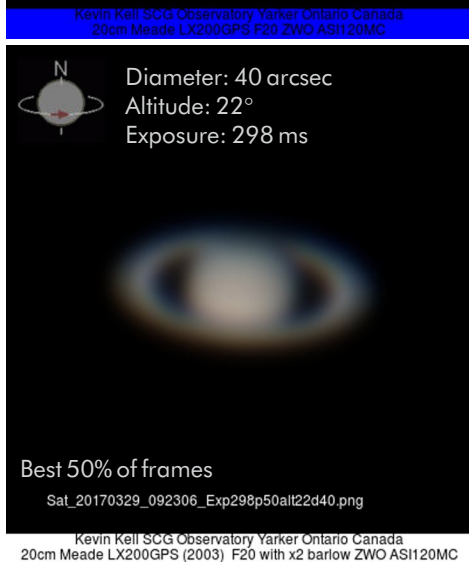
I ran across another issue with RegiStax this morning: my custom settings from weeks ago had changed and would not stick anymore. No wonder the last few imaging runs have been poor quality. I am reprocessing a few more including a couple of runs from this morning. Bonus: [Europa](#) and its shadow were imaged today!

Rick: Nice! Moon shadows are so nice and contrasty. Probably a good thing to focus on? And you're going to have to stop purging. I can't be polar aligning all the time (particularly once the trees leaf out as then I can no longer see the pole.)

SUNDAY, APRIL 2

Greg: I was in shock at being able to see the [Sun](#) for a while (between clouds and unstable air), and there were a few spots! Still, it was better than the grey nothingness that has been entertaining us for far too long.

Hank: I slept in until after 8, went out and shot 100. At the gym now and will post something later. I beat the

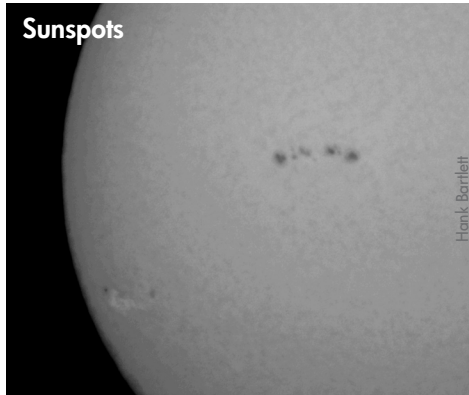


WED/THU, MARCH 29/30

Rick: Just in from some observing. I updated the polar alignment on the big scope—it had shifted in azimuth by 3' so I've now got it back to within about 15". It's hard to get it any closer than that. I hope it doesn't continue shifting like that.

Hank: As stated by Walter, this 3' shift was likely due to Kevin's book purging.

Rick: I'm also shooting some star spectra with a Star Analyzer 200 grating in front of a 100mm f/2.8 lens on the Canon 60Da. I'm picking up some images for my talk at the GA to show the variation in spectrum with temperature. So while I was out there I decided to shoot some pictures of the comet. In 5s exposures at ISO 12800 it shows up quite obviously as a fuzzy, very green blob so I shot a bunch of 120s at ISO1600 and f/4. We'll see how they stack up. Now I have a run of 120s, ISO3200, f/4 going through the Star Analyzer to see what kind of a spectrum I can get.



cloud but it arrived right on top of the latest M flare, dang.

Rick: Wow! Terrific pair of groups on the Sun this afternoon. I was just out setting up the scope and decided to image the Sun for a bit. I can't believe all you solar types aren't jumping up and down YELLING. I haven't seen anything on the Sun this good in months at least. We'll see how the images come out.

Hank: Mostly yelling because every time I go out it clouds over, every time I am busy it is sunny. I finally got some more images a few minutes ago but missed all four M flares and the half dozen or more C flares.

SUN/MON, APR 2/3

Kevin: Another GREAT BIG fireball nearly overhead last night at 23:24:24 EDT. The AllSky1 camera system caught only a small portion of the event.



Mark: I checked the Oak Heights camera and there is nothing on the tape at the time specified.

Walter: Wow, they're using tape as

the recording medium? Time to upgrade!

Mark K: I wonder how long that phrase will be in the lexicon, like "your phone is ringing," "film at 11," "on your dime" and "listen to a record," etc.?

Kevin: I am quite surprised at this negative result. AllSky1 captured part of the event so I am confident of the timestamp. Oak Heights (north of Cobourg) is well within the range of both cameras. Was it cloudy there? Was its time sync'd? Is there a bad E horizon? The next nearest camera is at the U of T Scarborough campus observatory, also within the range, but data is not easily available. [later] I went looking through the NYAA website and found it! The Lorenz Observatory Oculus All Sky Camera [Oak Heights]: nyaa.ca/body_pages/OculusTestArea/OculusTimeLapse.html at 04/03/17 03:24:00 a 60s exposure shows one frame in the far left/east with the same characteristics: trail, bright bit, more trail.

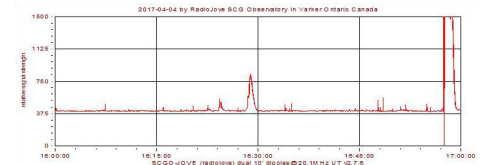
MONDAY, APRIL 3

Hank: Yesterday was unfortunately a busy day and wrought with haze and cloud when I did get out there. I went out four times and did not really get satisfactory images, I missed all four M flares, i.e. cloud set in just 2 minutes before the M2.3 started its jump to a 13:00UT max. It was great to at least see some activity, however it would be nice to know why. Given the current cycle time where did this sudden activity come from and what does it mean? Today so far is in a constant flux of C flares, this is so contrary to the past months of quiet.

TUESDAY, APRIL 4

Kevin: Alerted via email from the radiojove list about active solar again today. Quick! Which way to clear

skies?



Hank: Maybe it is BURNING through the clouds...can you see it?

Hank: Weird, nothing that active on Sun today, just a C2ish burst. A check on Gong H α shows an eruption of AR2644 at that time which looks impressive because it is on the limb. Damn cloud! It sure has been active this past week, if only we could get weather co-operation.

SAT/SUN, APRIL 8/9

Kevin: Another long day, but the skies had cleared and KAON ran a little late. I managed to get the observatory open on this, the opposition of Jupiter around 22:42 EDT Saturday night. There were some pointing and tracking issues, then two alignments and then we had some good imaging. Seeing and transparency were both poor. The almost full Moon was close by as well.

In the end about 32 imaging runs were completed. I noticed that after the roof is opened, focusing done and image runs started, the focus tends to change. I suspect the telescope is cooling to outside ambient temperature, even if only -5 or -10C relative. At the end of the runs, I refocused for the final image and it turned out to be pretty good, relatively speaking.

There are still spots on the optics, even more than before the last cleaning! Luckily seeing was so bad that the image bounced around a lot, and did not allow the optical spots to stay in one place for long.

I packed it in around 00:33 as my eyes would not stay open anymore. I am still trying to catch up on rest

since then.

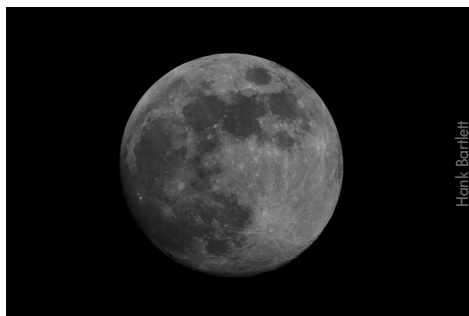
There was no GRS—it would not transit until four hours later. Which means it was just about to appear when I packed it in! None of the four moons was close enough to appear in the frame.



Walter: Another full-night run of 180 variables, starting in Hydra and finishing in Lyra (AY and V391 Lyr were active).

SUN/MON, APR 9/10

Hank: In preparation for Thursday night I decided to mount the C80 and do some rare evening observing/DSLR imaging. This is a lunar image I took through the C80; it is far superior to those I took through the Mak90 of which I didn't even process any. This getting out at night is big for me.



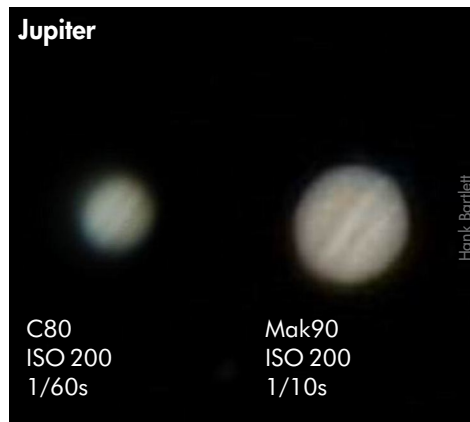
Kevin: Very nice! We always end up with too much focal length and cannot image the entire disc. One of

my better shots years ago on film was projecting the 25cm Douglas Dob image through the eyepiece onto a white wall.

Hank: Thank you Kevin, yes the creative things we used to do to get an image and we were quite excited and pleased with them. Much of the imaging being done now places you in orbit, it is so fine.

If you would like to borrow and try my 0.5x focal reducer you can and see how it works for you. I am thinking of buying a short f refractor for the same reason: I cannot get white light sun to fit in an image with the MAK90 unless I use the reducer. Then I have to remove the reducer from the camera for H α , too much bother.

Hank: I also imaged Jupiter last night and got these through the C80 and the Mak90. The refractor image, although still not good, is far better than the Mak image.



THU/FRI, APRIL 13/14
GRAZE & GAZE

Hank: Thank you to our President and all the members of tonight's event—both the Grazers and the Gazers—as it was a very nice evening with good friends. About 5C more would have made it even more enjoyable, but the temperature as it was chilled the Timbits nicely. I haven't had that much observing fun in a long time. I meant to ask earlier, the two young women there, were

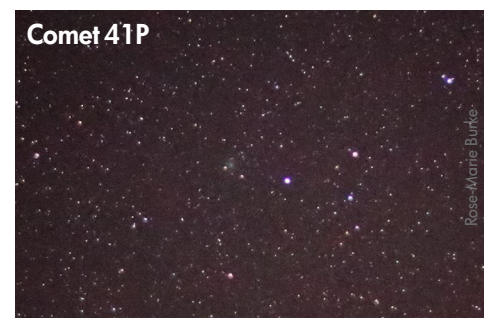
they new members or did they just happen along and took interest? [Paul: The young ladies are acquaintances of Doug's from a pumpkin festival he's involved in.] I hope you are all tucked warmly in the house by now or soon. I am having a nice warm Jameson and munching the last of the Timbits. Goodnight to you all.

Rose-Marie: Yes, thank you Rick and all who organize this event, 'twas a fun gathering. I got chilled, but by the time I got home the truck heater had me all warmed up, and being motivated I got out the camera and tried a few shots of the comet. I'm surprised that it has moved so far, out of the pot of the Big Dipper and heading towards the head of Draco.

Paul: Great work! Thank you, Rose-Marie. (Aside to Bruce, Hank, and Keith: No, I don't think we would have found that comet visually last night no matter HOW hard we looked!)

Rose-Marie: Okay, I'll confess, that alarm went off at 4:00 a.m., wanted to try for PannStars. That just didn't happen. I saw the Moon through the window, went to the bathroom, came back to bed, shoved the BigWetNose over and crawled back into my nice warm nest. Maybe next week if we get a clear sky and the Moon's a little less bright.

I took one of the images from last evening and adjusted in raw, cropped in Photoshop, tweaked every which way. You can just make out a little fuzzy just to the left of centre. ISO 6400, 50mm f/1.8, ~10s.



Comet 41P/Tuttle-Giacobini-Kresak April 13, 2017 Rose-Marie Burke

Paul: I want to thank everyone for their patience answering my questions about astronomical equipment last night, and showing me some objects ([Trapezium](#), [Leo Triplet](#), [M51](#)) that I wasn't sure if I had seen before from my home location (I hadn't!). [M42](#)'s nebulosity, and [Betelgeuse](#), were awesome through the Venor—I never thought I'd be so impressed by a simple star image.

Kevin: This is from later in the evening, after we left the Sports Tap & Grill and painted for a few hours.



It is possibly the best result of the year, in terms of size, seeing and transparency. Wish I could have stayed awake longer: I only stayed out until 11 p.m. EDT when Jupiter was still relatively low. I was too tired in any event, dropped the Telrad and broke it while taking it off the scope so the roof could close. Arrgg.

Hank: The clarity at LO Park seemed quite good at times even with Jupiter low and through the trees. I thought it was just the better observing through the C80 as opposed to the Mak90.

Rose-Marie: You didn't miss much for "staying out later," it got kind of hazy and damp.

FRI/SAT, APRIL 14/15

Kevin: Only 12 runs were done and

the third one needs some trimming as [Jupiter](#) hit an edge of the field. Pointing was off by 10+° and tracking was so poor it required almost constant correction. I had to use a replacement Telrad that was not aligned to the scope either. In any event, the GRS was finally in view! Always nice to see. A lot of detail with seeing and transparency being about average.

This run I used the same RegiStax settings the run from Thursday night, and yet they look way more over-processed (i.e. artificially high contrast). I may redo them to lessen the effects next time around. The best image was from just after midnight, the second one; exposure times were down to 40ms as Jupiter climbed higher.



MONDAY, APRIL 17

Hank: Solar activity increased slowly all day long yesterday and peaked at 2:47UT this morning. If I was living in Hawaii or reasonably west of there it would have been an exciting event, but instead I had to watch online (gong2.nso.edu/products/tableView/table.php?configFile=configs/hAlpha.cfg) as a med-large size prom danced on the Sun's eastern

limb. You can still watch this at the Gong website using the 604 Udaipur camera in India: press the play icon, it will load the images and then press slower 3 times before clicking play. The attached image was taken this morning at 9:25:42 EDT ISO200 1/8s SolarMax60 Canon EOS DSLR.



MON/TUE, APRIL 17/18

Kevin: I did some imaging of Jupiter. After 30 minutes of attempting to obtain a successful alignment, I said nasty words and attempted three imaging runs, manually guiding for each of 30s, 30s and 120s. The Telrad is still broken; it's sitting here at my desk awaiting some rewiring (I hope only rewiring!).

Just as the first run started, clouds had snuck in from the South. In any event, the GRS is apparent and these are the same RegiStax wavelet settings as last time (even though I said I would reduce them a touch...I haven't gotten to that yet).

Also of note at 21:43 EDT I happened to look up to see *something* flaring brightly overhead (brighter than Jupiter), like an Iridium flare, slow moving. I caught it near peak flare and then it faded quickly. Heavens Above did not list any Iridium flares. I then searched out all satellites but did not see a likely candidate.



SAT/SUN, APRIL 22/23

Walter: I imaged 176 variables (from Hya to Lyr) and three comets. P/2010 H2 (Vales), however, was not detected in a 19x30s stack even though ECU shows it a mag 13.1.

Rose-Marie: I set the alarm for 2:00 a.m., hit the snooze button a couple of times, finally dragged myself out after 2:30. Nice clear night, no Moon, saw one Lyrid as I was setting up the camera in the backyard. I took a few long exposures, kept looking around, was thinking of getting a chair set up when I looked behind me. Oh, nooo!! What the heck is that?! No, no, NO, NO, NOOO!!! FOG!!! Rollin' in across the cemetery and coming right at me. Within a couple of minutes the view was GONE. AARRGGGHHHH!!!

Greg: I saw a few faint traces in the

scope while I was aligning the new mount. Otherwise a non-event.

Rick: I too was out last night. No, I mean really out—I actually got out and looked through a telescope for about 5 hours! I was not just napping in the office while the computer/scope did all the work outside [*not that there's anything wrong with that!*—Ed.]. At ~2100 I had almost decided to give up on the idea of observing—I wasn't set up (and the Boltwood 40cm is currently out of action for an electrical problem), had no planned targets, and was tired. But I decided to drag my lazy butt out there. So I set up the 9 cm refractor with my DSLR to try to start a really deep exposure of the M81–M82 field. And while that was going, I noticed my binder of Deep Sky Challenge charts so I dragged out the 31 cm Dob to tackle a few of those.

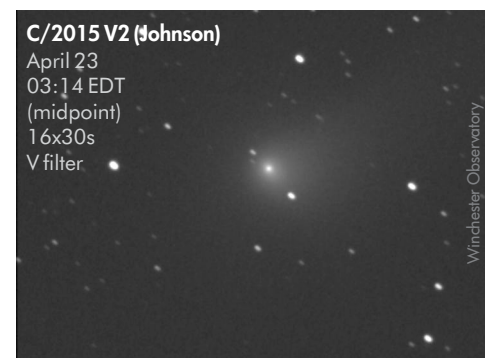
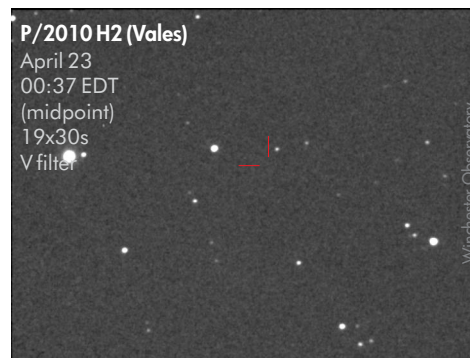
At 22:33 while completing my setup I saw a –1 Lyrid flash SW from near Lyra (Vega was visible through the trees to the NW). I shot M81–82 for a few hours and while that was proceeding I did a few of the Deep Sky Challenge objects: NGC3172 (Polarissima Borealis), a galaxy which is entirely unremarkable except for its position very near the North Pole; NGC4676 A&B “The Mice” galaxies, quite cute: two small faint ovals right next to each other, no tails visible of course; Abell 1656 galaxy cluster: about 25 galaxies, several of which were quite obvious, many of which were almost invisible. In fact I guess most of the galaxies

were invisible since there are a lot more there than just the 25 I saw.

Shortly after midnight I switched the camera over to Markarian's Chain for a few hours and continued trying to dig deeper into Abell 1656 (frequently using the hair dryer on my secondary mirror because of the heavy dew); failed to pick out quasar 3C273—it's essentially starlike so you have to know exactly which one it is and I couldn't identify it; NGC 5053—a very faint but quite large globular cluster right next to M53. Interesting contrast between the two: both are resolved at 236x but NGC 5053 is more like a very faint cloud with perhaps two dozen faint to very faint stars scattered over its face, not like a globular at all.

Finally at about 0315 I finished off with Comet TKG for an hour and a half while I got out my zero-gravity chair and settled back to see some more meteors. Well, that wasn't happening: there were no meteors and I couldn't keep my eyes focused or even steady on the sky, so I went to bed for a nap. I awoke about 0500 to find the sky almost completely obscured in fog, and twilight underway so I shut everything down and went back to bed for a couple of hours.

At 0745 when I got up to go canoeing the sky was clear as a bell, the Sun shining brightly, the gentlest of breezes blowing across the lake. I got to watch a pair of swans fly by only 20 feet over my head and another two pair did a trumpeting

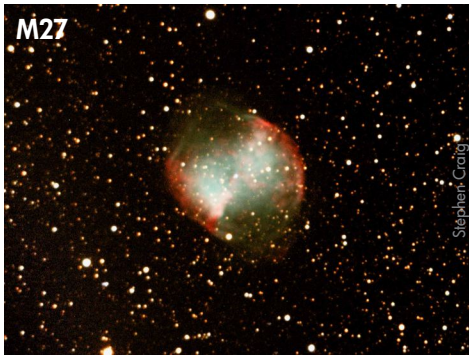


flypast as I was returning to the dock about 0900.

So, as far as Lyrids go it was nearly a total bust, but everything else was great.

THU/FRI, APR 27/28

Stephen Craig: Now that spring is here I can see summer constellations coming up at the end of the night. Here is my latest shot of my old favourite [M27](#).

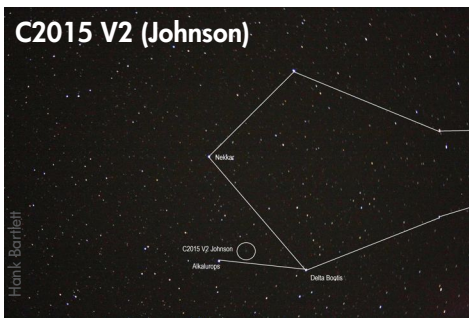


SUN/MON, MAY 7/8

Paul: Last night, through a thick haze, I saw a nice [conjunction](#) of Jupiter and the Moon (Spica was too dim to pierce the murk). Arcturus and Vega were also visible. That was ALL. And it lasted only a few minutes.

MON/TUE, MAY 15/16

Hank: I spent an hour tonight searching for this comet in Boötes. After aligning the Mak90 I typed in the RA/Dec and expected at mag 7.18 to at least see a fuzzball, I searched



and searched but nothing. Finally I hauled out the DSLR, mounted it on the MTII and took this 120s ISO1600 f/5.6 55mm image AND THERE IT WAS IN ALL ITS BRILLIANCE!!!

Why do I let myself get sucked in by these magnitude reports? Duh!

Susan: I think they use some kind of Stephen O'Meara magnitude scale. (If you've ever read any of his stuff you know that what he says he sees naked eye is wild.)

Greg: Guess your skies must have been clearer than mine. I was out drift aligning my new mount, after limited success with several other approaches. By the time I got the scatter diagram into an acceptable circle there was just a small patch overhead that was clear. Everything else had a distinct fuzz around that usually means high clouds or the observer was in worse shape than ever. So congrats on your catch—it is still hard to see even in the image with circles and arrows.

Stephen: There is a [supernova](#) in NGC6946 [2017eaw] in Cygnus. I managed to snag an image last night. It was discovered by an amateur, Patrick Wiggins. It just goes to show that it's not just all pretty pictures. Amateur astrophotographers can make a difference!

Malcolm: Nice capture. This is likely the kind of thing that the LSST



is going to capture routinely and we are likely going to find out just how many of them we have been missing!

THU/FRI, MAY 18/19

Stephen: I managed to find the comet! I used [theskylive.com](#) to get the coordinates and a computerized goto mount sure helped. I centred it on the first try! I managed a half way decent image of the comet, and can see a hint of a tail extending toward the upper left. I'll try a much longer exposure and centre it better on the next clear night. I managed to get my autoguider to lock onto the comet and it tracked pretty well. All in all I'm happy with my first try at a comet.



FRI/SAT, MAY 19/20

Rose-Marie: Aurora? We got a whole lotta nuthin'. I was out at midnight, clouds to the north, dim stars in between on rest of the sky. Was up at 3:30 a.m., went out, nothing. Was clear then but a cold breeze out of the north sent me scurrying back inside.

Malcolm: Yeah I looked too, I saw a nice ISS pass though...you know it's getting near summer solstice when that happens. Kp never got above 4.

SAT/SUN, MAY 27/28

Malcolm: KP6 right now, I have [aurora](#) on camera and its not even dark yet.

Rose-Marie: Yes, we got aurora! Sparklies! Been down on the dock

taking pictures: Rebel T5 camera with 18-55 lens at 18mm, ISO 6400, f/3.5, 14s.



MONDAY, MAY 1

Paul: I was down in the sunny south all week at 18° latitude. There was solid cloud cover all week (well, at night anyhow) except for Thursday night [April 27/28] when I was out at 12:30 a.m. to see [Alpha Centauri](#). After a few minutes gawking, I decided to check out M7 Ptolemy Cluster (usually too far south to catch) and a few more close-by objects...but when I looked up from my binoculars, the clouds rolled in and Scorpius had disappeared in seconds. I never saw M7 nor anything else.

It was a huge thrill to see Alpha Centauri though. I would have liked to have seen Canopus again (saw it about 15 years ago), but it was too low in the sky at sunset to see through the haze.

SAT/SUN, MAY 20/21

Stephen: I managed to grab another shot of the comet between clouds tonight. In colour this time! I am quite happy with the result. The head is definitely greenish [*for some reason looks yellow here—Ed*] and the tail shows a hint of red. This is an 8 minute exposure. I'd like to do 10 or 15 minutes but that will have to wait for a clearer night.

Imaging the comet was a lot easier than I expected. My goto seems quite accurate and my on-axis

guider made it a snap to track the comet. It means taking time off from my goal to image all the Messier objects. But it's well worth the time. We just need more clear skies!



SAT/SUN, MAY 27/28

Cathy: I was in the city this weekend, but did get some clear skies after early evening cloud. I noticed [aurora](#) late evening Saturday, a pale green glow low in the north, with some upward rays also low in the sky. About 12:20 a.m. Sunday, the aurora was still about the same as seen from here.

At that time, saw a very nice pass of the U.S. military reconnaissance satellite [Lacrosse 5](#), about magnitude 1.8 through the bottom of Lyra, headed over to the top of the cross of Cygnus and beyond. It seemed to flare a bit in brightness. It also didn't seem too white, was almost a tinge of pale orange. Looking at [heavens-above.com](#), the ground path was Florida to the top tip of Newfoundland, right up the eastern seaboard.

Seconds after I saw that fade, the International Space Station did a beautiful pass over the W of Cassiopeia, at about magnitude -1.7. The ground path for that pass was northern Ontario to northern Quebec, then on to Newfoundland.

By about 2:30 a.m., the aurora had spread to a larger area of pale green glow, spreading more to the northeast along the horizon. As I am only several km from Parliament Hill, the view from the country would

have been more interesting, and brighter, but it was neat to see it from here.

It was also enjoyable to see my favourite constellation Pegasus coming up in the morning sky, always something I look forward to.

I grabbed a bit more sleep, then got up at 4.30 a.m. to clean my apartment balcony, water my flowers, get a look at Venus, and have a relaxing morning coffee!

Malcolm: This is the pass you saw based on the time.



Kevin: We were unable to view the aurora display in real time this past weekend, but AllSky1 did capture a most-of-the-night event.

Greg: Lucky you. All we saw here were clouds and more clouds...one brief break when a star could be seen.

SUN/MON, MAY 28/29

Kevin: I imaged Jupiter for the first time in ~40 days, starting ~21:00 EDT; pointing and tracking were bad. On my first attempt at 30s Jupiter would not stay in the FOV. My second attempt worked a little better. Seeing was poor, transparency was average with an exposure of 40ms.

Serendipity did strike as, unbeknownst to me, Io had just finished transiting and Io's shadow was still there as well.

These settings are those used by Christopher Go and are a little more robust than I would choose, yet his settings show off the detail better than mine did.

[*Jupiter image next page...*]★

...Meeting Report: May 11

...from page 4

broadband LP filters do not work anymore on light pollution.

Laurie Graham gave us a presentation on the family trip to the Barringer Crater last February.

The Ontario Telescope's *Explore*

the Universe Guide was presented to Devon Graham-Ancsin.

There were observations of Comet 41P/Tuttle; Mercury in the daytime as well as Venus; **Brian Hunter** reported on satellites that are

not in the public domain; Sirius 2 was observed.

Leslie Roberts took to imaging the Herschel Ghost remnants of nebulae from the April edition of *Sky & Telescope*. ★

...Meeting Report: June 8

...from page 4

to help out.

September 14: RASC-KC Regular meeting 7:00 p.m. at Ellis Hall.

September 22-24: Fall 'N' Stars at the Vanderwater Scout Camp, Thomasburg, Ontario. For more information contact Kim Hay (cdnspooky@gmail.com). Registration form at rascbelleville.ca/fallnstars/

MEMBER PRESENTATIONS

Stephen Craig showed us his setup and his ONAG (on Axis Guider) & Self Guided Camera. It uses a Dichroic mirror. He took several images of galaxies and comets.

It is available at Innovations Foresight

innovationsforesight.com/product-category/on-axis-guider/

Mark Coady showed us a movie, *Light Pollution—Saving the Night* narrated by our Honorary President **David Levy**.

Rick Wagner has been doing quite a bit of imaging of galaxies, comets, and nebulae. For more info on bright comets, go to <https://in-the-sky.org/data/comets.php>

Bruce Elliot spoke on his acquisition of the ROKINON wide angle lens. He showed us images of the Big Dipper and Orion.

Susan Gagon showed us her new telescope cradle she made to do collimation work on her 10" telescope.

Hank Bartlett showed us his

new t-shirt of the Sun which was produced by a new t-shirt store in Newburgh.

Greg Latiak showed us some images of the Moon and of the Dumbell Nebula, after telling us of the tragedy of his telescopes falling off the mount and the several items that needed repair.

Leslie Roberts showed us images from the Minkowski's Catalogue which was featured in the May issue of *Sky & Telescope*.

The meeting adjourned at 9:05 p.m. ★



...Observing Reports

...from page 16



"...the people of today are a generation greatly improved,—or is it, badly damaged?—by the rapid technique of the moving pictures and the hurried emotions of the modern screen."

—Stephen Leacock, *Charles Dickens* (1933)

...Astronomy—Sharing the Vision

...from page 3

interested in helping the guys build their tree forts on the edge of town than taking part in traditional 'female' activities. I dreamed of, and read everything I could find on, sailing ships and solo round-the-world adventures. I grew up finding solace in wide open spaces, and dark starry skies...

When I first met people in an astronomical association, they didn't take kindly to a young girl interested in the stars. I was a lot younger than the guys in the group, and they really didn't want anything to do with me. Luckily, a female acquaintance from high school was also very interested in astronomy, and we became best friends.

I went on to become an active

observer in the RASC Ottawa Centre. I was gradually accepted as a person who was genuinely interested in science. I became the first female Chairman of their Observers Group, and the youngest ever.

Sometimes, it is really satisfying to help out new people, to give them some encouragement. Although I love solo exploration of the skies, there are times when I enjoy sharing the vision with others.

For me, this is what Astronomy Day is for—sharing. It is about talking to the little boy in the space-man costume, and talking to the grey haired gentlemen about the pros and cons of various types of telescopes. It is about sharing the love of the stars... ★

WE HOPE YOU WILL JOIN US for Fall 'n' Stars 2017 which will be held in Camp Sagonaska, a Boy Scout camp located within Colonel Roscoe Vanderwater Conservation Area, near Thomasburg, Ontario. Full information and maps of the area are available at our website:

rascbelleville.ca/fallnstars

Despite the growth of trees and its proximity to Belleville, the camp is quite good for astronomy. The latest sky quality readings are approximately 21.35 (magnitudes per arc second). Most of the Sagittarius Messier objects are still available to the observer.

Those not wishing to camp can vie for plywood bunks in the long-house. There is no extra charge for these but you are advised to bring your own bedding and an air mattress. There is also a motel in Thomasburg on highway 37 just south of Vanderwater Road. Other motels are in Tweed, a short drive north on highway 37.

This is a rustic environment with no hydro and is a fairly small and intimate area. Campers will be in close proximity to each other. For these reasons there are several rules that must be adhered to. Please see the website under "Etiquette" for these rules and practices.

For any questions or concerns e-mail cdnspooky@gmail.com ★

...Rendezvous ...from page 5

was also very good. I saw no folks who just grabbed a handout and ran. We were placed on the main concourse near many food vendors and had excellent traffic exposure. Thanks to Colin Lewis for arranging things and getting Rick and I water and lunch vouchers. Along with Colin, Rick and I were John Sikora, Dhruv Biaria, Stephanie Ciccone, Matthew Chequers, Ananthan Karunakaran and Melissa Munoz. ★

Fall'n'Stars
September 22 - 24



FNS 2017 REGISTRATION FORM

Name: _____

Other Names (If being registered under this form):

Street Address: _____

City: _____ Prov: _____ Postal Code: _____

Phone: _____ E-mail: _____

Weekend Pass \$20 X _____ = \$ _____
No. of persons Subtotal

Saturday Day Pass* \$10 X _____ = \$ _____
No. of persons Subtotal

Saturday Dinner** \$20 X _____ = \$ _____
No. of persons Subtotal

Grand Total = \$ _____

* The Saturday Day Pass does entitle the attendee to stay for the evening's observing session.

** Payment for Saturday Dinner must be received by Friday, September 8th at the latest.

Make Cheque payable to: "RASC Kingston Centre" and Mail to:
Kim Hay, 76 Colebrook Rd, RR1 Yarker, Ontario K0K 3N0