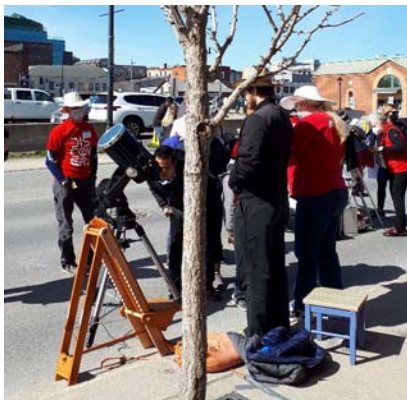


Regulus 2022 June

Newsletter of The Royal Astronomical Society of Canada - Kingston Centre
kingston.rasc.ca



Science Rendezvous Kingston is an annual science event that engages the Kingston community with local STEM (Science technology, engineering and Math). We participate each year with Solar Telescopes, volunteer operators and handouts.. lots and lots of handouts. Well over 300 members of the astronomically inclined public stopped by and cleaned us out of planispheres, moon maps, and especially stickers... lots and lots of stickers.



MEETINGS

RASC-KC Wednesday Weekly Social videoconference. 7pm Eastern all weeks except the 2nd Wednesday of the month. For members and their guests. Email list subscribers receive the link weekly 1 or 2 days beforehand. Next Socials:
Wed 2022 June 1, 15, 22, 29

The next Regular Monthly Meeting is Wednesday 2022 June 8th, 19:00 EDT. Guest Speaker: Richard Wagner (RASC-KC) on Basic Image Reduction

RASC-KC Members will be emailed a zoom meeting registration link, others may watch on our Youtube channel.

In the June Issue

- * The President's Nook – Kim Hay
- * Skyward – David Levy
- * Donations
- * The Fine Print
- * The Sky This Month-Rick Wagner
- * Notes from Members
- * Notes from the Net
- * Minutes 2022 June Meeting – Elena Zanetti
- * RASC-KC Solar Cycle 25 Monthly Review – Hank Bartlett
- * Telescope Donation
- * RASC-KC Monthly Challenge

Editor: Kevin Kell

The President's Nook - Kim Hay



June....how did that happen? We are on our way to Summer Solstice (June 21, 2022), when day and night are equal, then we start to swing to darker nights, more observing time.

Science Rendezvous was held on May 7th from 10-3 pm at the Leon's Centre. Thank you to Susan Gagnon for bringing the handout supplies, Kevin Kell for working the Centres Electronic Assisted Astronomy (EAA) setup which projected the Sun onto a screen so more people could view it, and we could talk about the image. Laurie Graham and Devin Graham-Ancsin with her telescope on white light and Hank Bartlett with his two Solar Telescope setup with Hydrogen Alpha and White Light. Also to volunteers Rose-Marie Burke and Mark Deslauriers for

their contributions. Also to Bruce Elliot and Susan Gagnon for their virtual Youtube videos to help with Astronomy online.

Our June speaker is Rick Wagner who will be speaking to us on "Basic Image Reduction". Rick will also present "What's up in the Sky" and Hank Bartlett for Hank's Sunspot.

CASCA held its Annual Meeting virtually this year from May 16-20, 2022. It was quite good. Poster sessions, two tracks of talks that were broken into related sections and a couple of nights with online events. If this is virtual next year, I urge you all to sign up, lots of Great talks on real time advancements.

RASC 2022 General Assembly is coming up (June 24-27, 2022) virtually and the registration is open at <https://rascga2022.ca>

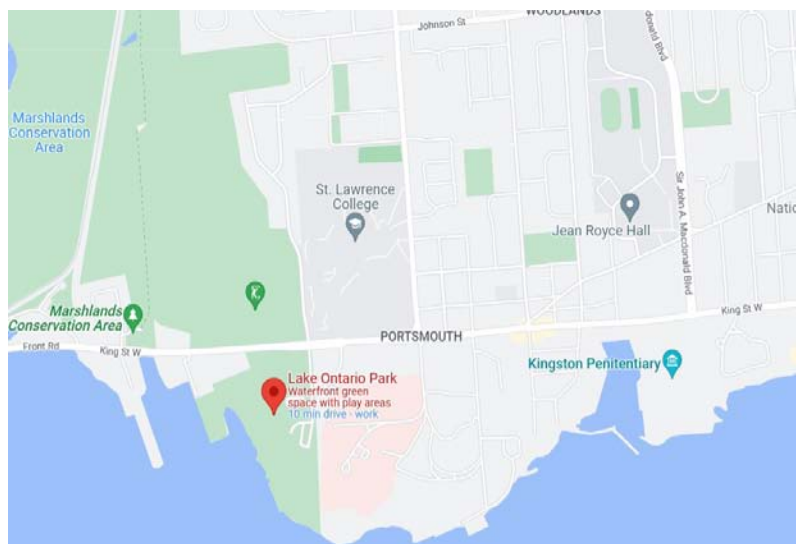
Members are \$20, Students \$15.00, and general public \$25.00

The Summer Break of July and August is coming up, but the Executive have discussed and decided, we need to see our members! On the **second Wednesday of July (July 13) & August (August 10)** we will have an in person meet up at Lake Ontario Park down the hill on the flat area. **Time of meet up 4:30 p.m.** till you wish to leave. **BYOM-** Bring your own meal, chairs and we can have a picnic and talk. Bring binoculars for viewing stars or birds. A scope for Solar or even night time observing if you wish. We can still social distance and if you wish to wear a facemask, all is good. This is a very loose event, but we hope that we will see some of our members over these two dates.

Our social nights on the other Wednesday's will still happen.

Till next time, clear skies, and Look Up!

Here is a Map of Lake Ontario Park. It is at 920 King St. West, Kingston. Parking is available.



Skyward June 2022 - David H. Levy



Nothing in the night sky quite beats a total eclipse of the Moon. Other than a shooting star, eclipses prove to all who watch them that the sky is a changing place. During the several hours of a lunar eclipse, we can actually

watch as the Moon slowly orbits the Earth, and as it passes through the shadow of the Earth we can enjoy its changing illumination.

Last Sunday evening, May 15, 2022, there was a total eclipse of the Moon. It was perfectly timed for observers throughout most of North America. On the east coast, the eclipse began in mid-evening. For those of us who live in Arizona, in the great American southwest, the eclipse began just as the Moon was rising, and it ended late in the hours of the evening.

As the Moon marched its way eastward, the penumbral shadow manifested itself as a shading, slowly dimming the Moon's light as it spread across. Gradually the eastward facing limb, or edge, of the Moon grew darker and darker. About 90 minutes into the event, the full and profound darkness of the umbra, the central shadow of the Earth, struck the Moon's leading edge. Over the next hour or so the Moon lost much of its light.

Seeing an eclipse of the Moon is not the same as experiencing it. To do that, you need also to notice the sky. At Moonrise the sky was very bright, with moonlight swamping everything except the brighter stars. But as the eclipse progressed that night, the sky began to darken gradually, then more obviously as fainter stars appeared, and finally, from a dark site, the Milky Way could be seen. On a personal note, one of the variable stars I observe, TV Corvi (Clyde Tombaugh's star), cannot be viewed through a telescope when the Moon is near its full phase. But on this night the darkened Moon let the sky get so dark that I easily got a reading of the field of that star. It was yet another aspect of the magic.

The other part of experiencing the eclipse, a completely unexpected part of it, is to learn just how dark the Moon gets during the total phase. There is a scale, the Danjon scale, which ranges from $L=4$, where the eclipsed Moon is so bright that you barely notice that there is an eclipse going on at all, all the way down to $L=0$, during which the Moon is barely visible. If the Earth has suffered a serious volcanic eruption in the months preceding an eclipse, the volcanic dust still remaining high in the Earth's atmosphere can seriously darken the shadow. I saw one such eclipse on the morning of December 30, 1963. Thanks to the eruption in February 1963 of Indonesia's Mount Agung volcano, at mid-totality the



Figure 1: Wendee took this picture of the start of the lunar eclipse as the Moon was rising over a young saguaro cactus plant in our backyard. Photograph via iPhone by Wendee Wallach-Levy.

Moon simply disappeared. Observing from a rural site, my friend Constantine Papacosmas said that the eclipsed Moon was no brighter than a 5th magnitude star.

A few months ago, Mt Hunga Tonga-Hunga Ha'apai, a gigantic undersea volcano about 60 miles north of Tongatapu, Tonga's main island. and it spewed lots of dust into the upper stratosphere. For this reason, I estimated this eclipsed Moon's luminosity as $L = 1.5$. It was the darkest eclipse I have seen since 1963, and Wendee and I thoroughly enjoyed sitting in our observatory watching the wonderful spectacle.

We get to do this all over again in November when a second total eclipse of the Moon will be visible from the Americas. (Because the Moon must pass directly through the Earth's shadow to be eclipsed, these events can happen only at full Moon. May the sky be clear with the Moon as inviting as it always is. Then you will have another chance to watch the sky in motion, and to watch the world move along not with the trivia and rush of the daily news, but with the slow and solemn, long term march of cosmic time.



Thank You, Donations to Kingston Centre in 2021-Treasurer Susan Gagnon

I would like to take this opportunity to thank all the members who gave to the Centre last year. Our list was incomplete for some time as some donations were only transferred to Kingston this April. I believe this is the complete list. Thank you one and all for your support. We hope that very soon we will be able to put funds to good use as we emerge from the isolation phase of our life with Covid 19.

Brian Hunter
Hank Bartlett
Tessa Clarke
John Rossiter
Kim Hay

Cathy Hall
John Hurley
Bruce Elliott
Daniel Woolf
Kevin Kell

Dieter Brueckner
Susan Gagnon
Judith Irwin
Elena Zanetti
Sandy Machattie

The Fine Print

The Royal Astronomical Society of Canada

RASC is a national, non-profit, charitable organization devoted to the advancement of astronomy and related sciences. [Founded](#) in 1868, The Royal Astronomical Society of Canada is Canada's leading astronomy organization, bringing together over 5,000 enthusiastic amateurs, educators, and professionals. In addition to many national services, our 30 Centres offer local programs across Canada.

The Royal Astronomical Society of Canada – Kingston Centre aka Kingston's Astronomy Club

We are Kingston's Astronomy Club, a local centre of The Royal Astronomical Society of Canada, founded on June 2nd, 1961. We hold monthly meetings, on the 2nd Wednesday of each month (September-June), via zoom videoconferencing and inperson before the pandemic and hopefully again soon in late 2022, from 7:00-9:00pm Eastern Time

* We do public outreach programs in the form of helping the Cubs and Guides, teachers, Science Fairs and many public Education and Public Outreach events.

* We help out our members with questions in astronomy and equipment use, and hold private observing sessions, and also with Queen's University Observatory Open House, on the second Saturday of each month, at Ellis Hall, Queen's University (closed during the pandemic).

* We support the local Frontenac, Lennox & Addington County Science Fair (FLASF) with a prize in astronomy.

* We are here to answer your questions on astronomy.

Board of Directors & Officers 2022

President: Kim Hay
Treasurer: Susan Gagnon
Secretary: Elena Zanetti
Vice President: Laurie Graham
Editor: Kevin Kell
Librarian: Kim Hay
NCRep: John Hurley
Honourary President: David Levy
Webmaster: Walter MacDonald

We are provincially incorporated as a not-for-profit corporation (September 2005) and are a registered Charity with Revenue Canada (September 2006),

CRA Registration #827905720RR0001

Benefits of Membership to the RASC- Kingston Centre

RASC Central based benefits:

- * annual print edition of the Observers Handbook
- * bi-monthly digital edition of the RASC Journal
- * monthly digital edition Bulletin of the RASC
- * 6 issues of Skynews Magazine (paper)

Centre provided benefits:

- * monthly Centre Newsletter – Regulus
- * weekly social videoconference chat (members and guests only)
- * monthly videoconference Meetings (open to the public)
- * equipment loan program

JOIN US: <https://kingston.rasc.ca/join>

Upcoming Meetings in 2022

Wednesday, June 08, 2022 – 19:00 EDT Regular Monthly Meeting-ZOOM videoconference
Guest Speaker: Rick Wagner (RASC-Kingston)
Basic Image Reduction

July, August – summer hiatus – no regular monthly meetings. However! There will be inperson social meetups on the regular 2nd Wednesday of the month, bring your own dinner, telescope, chair, etc. (see the President's Nook column above)

September-December – possibly inperson, possibly remove zoom videoconference

Current Centre Members as of 2022 June 01:

Total: 67
Youth: 2
Adult: 59
Life Members: 9

The Sky This Month 2022 June - Rick Wagner

June Skies

07 Jun - First Quarter Moon

07 Jun - minor planet (29) Amphitrite at opposition (mag 9.6)

08 Jun - minor planet (41) Daphne at opposition (mag 9.8)

12 Jun - Moon occults delta Scorpii evening sky

14 Jun - Full Moon 07:52EDT

16 Jun - Mercury at Greatest Elongation West will be visible to the ENE in the dawn sky about 10° below and left of Venus. All the five easy made eye planets arrayed from left to right in the same order as their distances from the Sun. Also hiding in there are Uranus visible with binoculars 5° to the upper right of brilliant Venus and, with a small telescope, Neptune will be visible 10.5° to the right of Jupiter.)

21 Jun - Mars at perihelion

21 Jun - Last Quarter Moon

21 Jun - Summer Solstice 05:14EDT

28 Jun - New Moon 22:52EDT

28 Jun - minor planet (387) Aquitania at opposition (mag 9.9)

29 Jun - extremely thin crescent Moon (less than 23 hours since New Moon) very low above the NW horizon shortly after sunset.

Notes from Members



Brian McCracken - Attached is a composite photo of the 15-May-2022 lunar eclipse.

The images were taken with a Nikon D800

camera and Nikon 200-500mm zoom lens at varying shutter speeds and f/ stops. Some fine tuning of the images was done in Lightroom and the composite was done in Photoshop



Bruce Elliott - Jupiter and Venus conjunction before sunrise – May 1st, 2022

Over the past few weeks, I've been following the planets visible by naked eye from the Isabel Bader Centre looking SE. On this early clear morning (4:30 am), I was able to catch Jupiter and Venus in close conjunction. Together with Mars and Saturn, they formed an upwards diagonal line. The shoreline of Wolf Island is in the foreground.

Technical: Canon M5 mirrorless camera with 26mm focal length, ISO 125, f/4, 4s.



Asteroid Day 2022 – Cathy Hall

From the press release - online, no registration fees, with extra material all through June.

<https://asteroidday.org/>

Asteroid Foundation's annual Asteroid Day activities will return to Luxembourg June 29 through July 2nd. Confirmed invitees include NASA astronauts Steve Smith and Ed Lu, ESA astronaut Michel Tognini, Cosmonaut Dorin Prunariu and XPRIZE CEO Anousheh Ansari. The

2022 Asteroid Day LIVE programme theme: "small is beautiful".

In recent years, astronomers have been bringing small but beautiful samples of asteroids to Earth. Despite their size, analysis shows they are an invaluable link between the meteorite collections on Earth and the wider population of asteroids, unlocking the history of our solar system and giving clues to the future of space exploration.

There are some 50,000 meteorites in museums, universities and other research institutions around the world. Each one is a chip of an asteroid. By sampling a few carefully chosen asteroids in space, researchers can now begin linking meteorites on Earth to these asteroids. A foretaste of this technique was given by the dust fragments returned from the stony asteroid Itokawa by the Japanese mission Hayabusa in 2011. Most recently, the Hayabusa 2 mission landed samples from carbonaceous asteroid Ryugu in Australia in December 2020. Meanwhile NASA's OSIRIS-Rex is currently en route back to Earth with samples of Bennu, another ancient carbonaceous asteroid. Those samples are due to arrive next year.

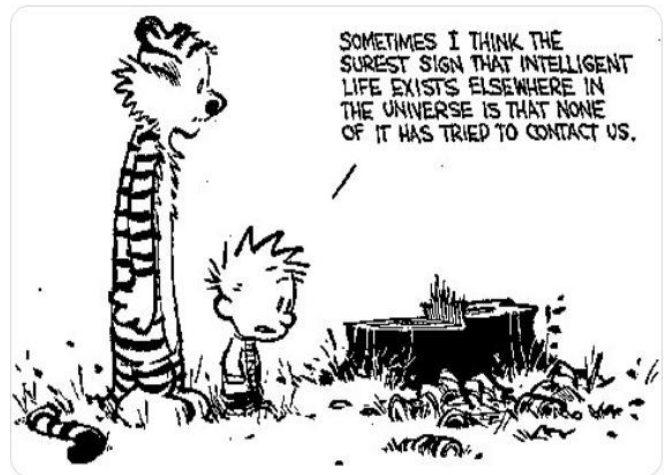
The meteorites also serve as a reminder that occasionally larger chunks of rock don't just fall to Earth but impact us. The Chelyabinsk meteor, which tore through the skies over Russia on 15 February 2013, was a sobering reminder. It damaged buildings, caused injury, and scattered

meteorites over a large area. Space agencies now take asteroid research extremely seriously.

Asteroid Day LIVE will be hosted on June 30th and will include interviews and will take our viewers behind the scenes and into laboratories, university departments and space agencies from around the world to highlight the vibrant science and technology that is occurring.

Asteroid Day is held on 30 June each year to mark the date of Earth's largest asteroid impact in recorded history, the Siberia Tunguska event. Asteroid Day was co-founded by astrophysicist and famed musician Dr. Brian May of the rock group Queen, Apollo 9 astronaut Rusty Schweickart, filmmaker Grig Richters, and B612 President Danica Remy, to educate the public about the importance of asteroids in our history and the role they play in the solar system. In 2016, with the leadership of the Association of Space Explorers (ASE), the United Nations declared Asteroid Day to be a global day of education to raise awareness and promote knowledge in the general public about asteroids. Asteroid Day is a programme of the

Luxembourg-based nonprofit Asteroid Foundation.



Bruce Elliott- "Eclipsed Moon with Scorpius - 15/16 May at Desert Lake: My wife and I decided to view the lunar eclipse from Desert Lake, where we had a lovely view looking SE towards Mitchell Creek. Despite some clouding over during totality, we were able to see the constellation Scorpius brightly shining over the horizon. It was a wonderful site! Technical: Canon 60D - 18mm, ISO 3200, f/5.6, 13s."

Save the Dates!!!

Starfest 2022 August 25-28, 2022

Starfest is Canada's largest annual amateur astronomy conference and star party attracting hundreds of astronomy enthusiasts from Ontario, neighbouring provinces and the USA. Held at the River Place Campground RR 3, Ayton, Ontario (Near Mt Forest)
<https://www.nyaa.ca/index.php?page=/sf22/sf.home22>

Fall'N'Stars 2022 Friday-Sunday 2022 Sept 23-25

<https://rascbelleville.ca/fallinstars/>

This is SouthEastern Ontarios' Star Party organized by the RASC Belleville and Kingston Centres, annually since 2000 (missing 2020)!



Notes from The Net

RASC General Assembly 2022

Tickets on Sale May 18th!

Are you ready for a stellar experience? Join a community of Astronomy lovers for The Royal Astronomical Society of Canada's 2022 General Assembly. This year's GA will keep you entertained with a radical four-day program. Coordinator of the Institute for Research on Exoplanets (iREx) at Université de Montréal and friend to RASC, Nathalie Ouellette will present The Helen Sawyer Hogg Lecture. Don't miss out on engaging speakers, social events, youth activities, citizen science, astrophotography, cross-Canada observing and more.

So, Reach In, Reach Up and Reach Out with RASC and have an awesome astronomical experience. Don't forget to include the hashtags #RASC2022GA #ThinkAstronomyThinkRASC when posting about the GA!

June 24 - 27, 2022
GA Website Coming Soon!!

The RASC GA is a 100% virtual event. Zoom links will be provided.

Student: \$15
Members: \$20
General: \$25

Tickets go on sale: May 18, 2022



Wednesday May 11th 2022 Minutes of the RASC-KC Regular Monthly Meeting (via Zoom and live streamed on YouTube)

The meeting started at 7 p.m. with 18 pre-registered and 23 participants on Zoom. Kim Hay, our President, welcomed Kingston Centre members and guests joining in.

David Levy presents poetry: Reading from a poem by Thomas Hardy, referencing the eclipse of 1902. "At a Lunar Eclipse" was read in anticipation of the May 15th lunar eclipse. Bruce Elliott gave an update on Science Rendezvous held on May 7th. Virtual sessions will remain online through the month of May with webinars and scheduled presentations. Our centre has 3 online events, a Star-Hopping video (Susan G.), Origin of the Universe video (Kevin W., Graeme H. and Francesco A.) and a PDF with observing ideas (Bruce E.). Kim Hay reported on the on-site event with approximately 350 people attending the RASC tent with several solar telescopes set up and a video projecting on a screen. Volunteers included Hank, Laurie, Devin, Rick, Kim and Kevin. Thank you all, it was a great event. Photos were shared through our chat list.

National Update: John Hurley, our National Council Rep gave a GA update. Reach In, Reach Out and Reach Up, the June 24-27 event, including the Annual Meeting, will be entirely virtual. RASC.ca will soon have more information on their website including registration fees and swag available.

Our guest speaker, Dr. Richard Schmude presented, "The Total Lunar Eclipse of May 15-16, 2022". Dr. Schmude, a Life Member of our Kingston Centre, is currently teaching Chemistry and Astronomy at Gordon College in Barnsville, Georgia.

Hank Bartlett returns after a month away, although he continued to observe while on vacation down south. Traveling with a Mak 90, Coronado Solarmax and his new SkyWatcher AZ-gti until April 25th then home for the remainder of the reporting period. April 13/22 – May 10/22 with 13 observing sessions. Active regions = 20. Solar Flares – X = 5, M = 35, C = 229 for a total of 269 flares. White light and H-alpha images were shown. Hank also shared photos from Science Rendezvous.

Richard Wagner presented What's Up in the Sky May 2022
Local Events

- QUO – Fast Radio Burst Podcasts
- Abyssinia Observatory
- Universal Chronical: Dark Ages
- <http://observatory.phy.queensu.ca/>

BAA Events

- 14 May – Historical Section Webinar – Asian Observations of the 18 August 1868 Total Solar Eclipse.

AAVSO Webinars

- 28 May – Adam Riess: “Surprises from the Expansion of the Universe”
- 04 Jun – Tom Calderwood – “How to Think About Transformation”

L&A DSVA

- 27 & 28 May – Laser-guided Stargazing

Tour

- 04 Jun – Astrophotographers Assemble
- 11 Jun – Up Close with the Moon

NF DSP

- 21 & 22 May – Virgo and the Realm of the

Galaxies

- 16” Newtonian now open

Sky Events – May

- 15 May – Full Moon & Total Lunar Eclipse
 - First Contact: 22:27EDT
 - Totality begins: 23:38EDT
 - Totality ends: 00:54EDT
 - Fourth contact: 01:55EDT

18 May – Neptune (mag 7.9) is 5 degrees north of Mars (mag 0.8)

- 22 May – last Quarter Moon
- 22-27 May – Moon passes south of Saturn, Mars with nearby Jupiter, and Venus

29 May – Mars (mag 0.7) and Jupiter (mag 2.2) closest approach (0.6 degrees)

30 May – New Moon 07:30EDT

31 May – Schwassmann-Wachmannids?

Meteor storm 01:00EDT

07 Jun – First Quarter Moon

Small Bodies

04 May – 13 Egeria at opposition (mag 9.9)

01 Jun – C/2017 K2 PANSTARRS brightening?

Asteroid Occultations

28 May – (381) Myrrha (mag 12.8) occults star (mag 13.8) 12.780 sec.

Members Observing Reports – Round Table
John Hurley on hurdles of imaging with a new camera. Laurie Graham observing the sun and moon. Richard Wagner on observing with the RASC remote telescope. Susan Gagnon on returning to observing variables and the moon. Bruce Elliott on observing early morning planets.

Andrew Godefroy working on the Isabel Williamson Lunar Observing program. Brian McCracken planning on photographing the eclipse. Mark DesLauriers on evening telescope observing and astrophotography. Fred Barrett on helping new neighbours with observing equipment. Keith Neumark sorting out focusing issues. Mark Kaye shared a photo of NGC 6207 (and M13!). Mike Hanes on observing with a newly built 50” telescope and white light solar observing. Roger Hill shared images taken with his new 80mm APO Triplet. Rose-Marie Burke shared a photo of Starlink satellites. Kevin Kell shared meteor photos, Radio Jove data for the April 10th and 30th X class flares and has started planetary imaging again.

Announcements by Kim Hay

Our next meeting will be Wed June 8th at 7 p.m. Our guest speaker is Richard Wagner speaking on “Basic Image Reduction”.

Summer Break from Regular meetings in July and August and we will continue with our every Wednesday Members Social Zoom Time – to join, let us know at kingston@rasc.ca We are looking for Volunteers to Run the ZOOM Social.

On social media we are: Website at Kingston.rasc.ca. Facebook at RASC Kingston Centre Group. Twitter at @AstroKingston. YouTube at RASC Kingston Centre, tonight’s and past meetings located here.

Kim thanked all for attending and the meeting ended at 8:50 p.m.

Created by Elena Zanetti, Secretary



Jokes Frooommm Spppaaccee!

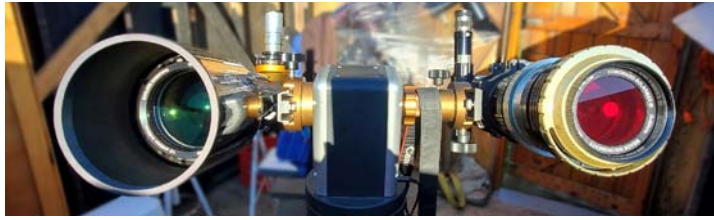
A black hole walks into a bar and orders a drink. The bartender asks if you would like food with that? The black hole says “no thanks I’m a light eater”

I keep reading nothing but black hole articles, they keep pulling me in!

What did scientist say when they discovered a skeleton on the moon? The cow didn't make it.

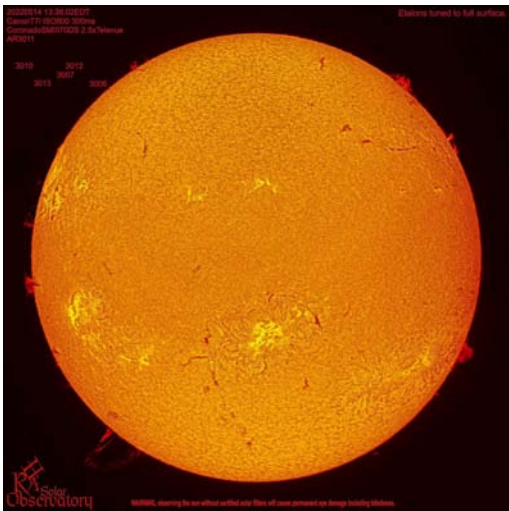
RASC-KC Solar Cycle 25 Monthly Review

Highlights of solar activity and images during the past month
by RASC-KC solar observers for May 2022



Hello all and welcome to the May Solar review, I have reformatted this report to trim it down by limiting outside articles/info and concentrate on images and info from RASC-KC members as I state in the title. Images will also be slightly smaller but can zoomed on screen. Those of you that receive paper copies will recall that images used to be in thin columns and rather small so these will still be better than back then.

It has been a very good month for the most part. May kept the flare pace going with 14 C, 1 M and 1 X in the first 3 days of the month.



The first week of May although having some great activity was not a photogenic one, I only managed to get two observing sessions in, these are from May 5th.



~~~~~

The best weather of the week was Saturday May 7, Science Rendezvous 2022! Oh what a joy it was to be out in the public again, there is no better astronomical medicine than hearing the oohs and ahhs of people seeing objects through a telescope for the first time. Although not as busy as previous years it was definitely busy enough. The image next is just before the 10am start time and possibly my first customers. I had set up my Coronado Solar Max III 70mm Double Stack and my 80mm Explore Scientific Carbon Fibre f6 Triplet with Altair Solar Wedge (therefore no Baader film on the objective) on my Ioptron Mini Tower II alt/az go to mount, let the fun begin! I was busy enough that I never did get a chance to mount my dslr on either scope and get images, and by the time we ended I was far too tired. Thank you to those that helped me set up and tear down, as well as relieve me at the scope for two breaks. What a GREAT day!

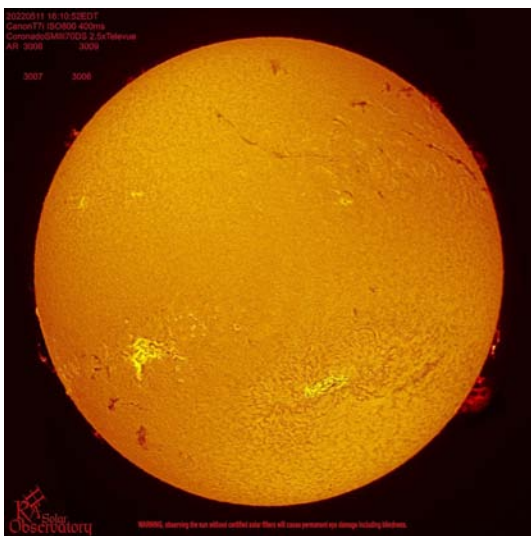




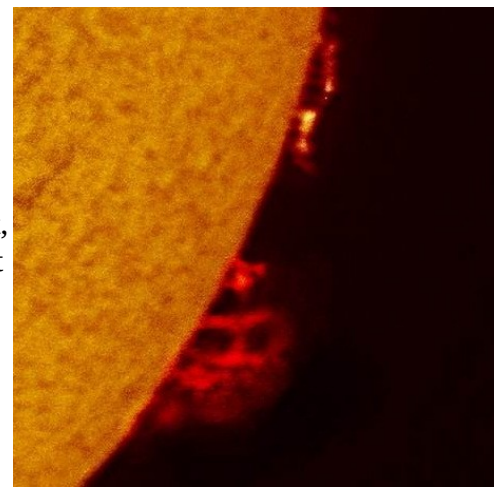
May 9th, Nikon D610 Ha taken at 1/50s, ISO 1600 SolarMax60 DS, white light Nikon D610 at 1/1000, ISO 1250. Keith, VisNil Obs. (images cropped / sharpened for clarity)



May 11 images by Kim, Starlight Cascade Obs., white light Celestron 80ED R apochromatic refractor and H-alpha SolarMax 60, ZWO ASI 174mm camera.



There was light cloud and haze during my imaging on May 11 and that threw off the clarity and contrast in white light, can't always win. Is it just me but is there a creepy face mask in the SW prom??? I love seeing characters and shapes on the Sun.

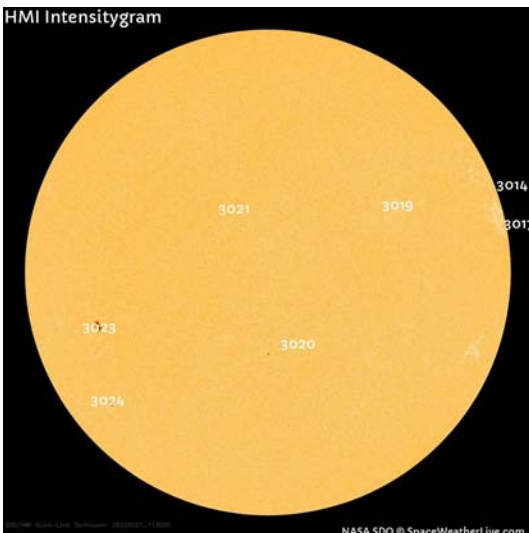


At this point it has been a very good week two with 39 flares including 3 M and 1X so far.

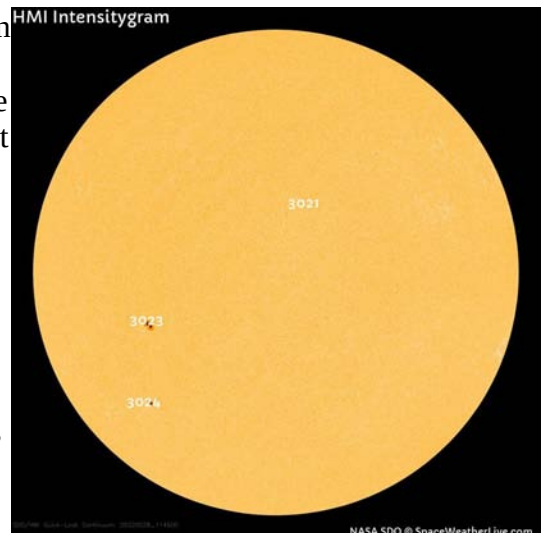
In the May 14 images below a giant prominence was formed when the magnetic structure on the SE solar surface released this prominence into space. It was amazing to watch and a lucky catch for imaging. The whole process was spread over 8 hours and I would like to have time to watch it release however my imaging spanned less that 30 minutes in time. An earth inset has been added for rough size scale of this prominence.



Week 3 was another drab one for imaging with my only sessions being on May 20/21. There were 8 M flares during week 3, half of these flares originated from AR3014. This beast was looking good (right image top center). On the 20<sup>th</sup> it was just passing the solar meridian, so much to look forward to in the coming days.



On May 27<sup>th</sup> the main core of AR 3014 disappeared around the west solar limb, on that day there were still 7 sunspot groupings on the solar surface, by noon UT on the 28<sup>th</sup> only three active regions remained and there had only been two B and one C class flare, how quickly activity can change!





< Image by Keith at ViSNiL Obs., 20220529 12:44:49EDT  
NikonD610, ISO1600, 33ms.

Cropped image by Susan, AR 3023 &  
24 20220529 EOS Rebel T7i, ISO400 8ms. >



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Summary of sunspot group and solar flares up to May 30 2022, there has been no C or above flares so far for the 31st. The departure of 3014/3017 seems to have put the Sun into a rest period, most activity is in the B class flare eruption for the end of the month. We hope 3023/3024 becomes more active or something comes around the east limb for June. April numbers are in brackets for comparison.

Sunspot groups = 31 (27)

Solar Flares

C = 230 (192)

M = 21 (28)

X = 2 (3)

RHA observing/imaging sessions = 16 (11)

All current month solar images are welcome, images may be cropped or sharpened for clarity by author. Send your images to Hank at the RASC KC chat email, please include exif and telescope info.

Telescope Donation



Donated Newtonian gets a cleaning- Susan Gagnon

In fact this scope was in very nice shape. Both mirrors were very clean and collimation adjustments were minimal. A clear sky will allow a check of the optics. It is most likely a Meade model 628, 6 inch, f/8, circa 1977. The focuser, the only thing that needed work, very stiff, was taken apart and cleaned. The counter weights were removed and the very rusty balance arm was somewhat cleaned with steel wool and given a rub down with WD40. There was some grime on the tube that came off easily. There is some rust on the mount, and perhaps a paint job is in it's future. The motor makes a noise when plugged in but will be best checked on the sky. I was able to fit it into my observatory for storage until the sky clears. It came with a 25 mm Meade eyepiece and a camera adapter.

RASC-KC Monthly Challenge

Our thanks to Stephen Craig for One Whole Year of Galaxy A Day. We saw his images batched monthly with basic information about each one as well. Hopefully this has been inspiring to our own members to go out and image galaxies themselves.

Following up on this we are going to present the RASC Imaging Certificate Program, Wide Field. Each month **we will highlight two-four of the possible image**

targets and ask for you to image that target and submit it to Regulus for publication.

For the purposes of Regulus, we ask that you take these images within the last month or two.

For the July issue we are selecting
- Gibbous, half, or crescent Moon
- New Moon with earthshine
- Moon and a planet
- Moon or planet beside a deep-sky object

It is hoped that you will complete the requirements and submit an application for the certificate in this calendar year.

Examples of certificate awardees can be found here:
<https://rascastroimaging.zenfolio.com/widefield>

Background From <https://rasc.ca/astro-imaging-certificate>

Image size: 1200 pixels on the long side.

Image Description Guidelines:

- Provide a single text file with the image descriptions separate from the images.
- Each description should be a single text block with:

- Image Title
- Pertinent details
- What the object is
- Why it is interesting [in your OWN words not Wikipedia articles etc.]

- Capture details:
location/scope/camera/lens/mount/total-exposure time etc.

The criteria for earning an imaging certificate are as follows:

RASC Astroimager - Wide Field

Submissions will be accepted from RASC members only.

The purpose of this certificate is to introduce beginners to many types of astronomical imaging. The emphasis is on "skyscape" images: these are generally wide-field pictures that capture an astronomical object in the evening, dawn (or nighttime) sky that also include the landscape in the frame. Skyscape images capture a scene the way it looks to the eye of the imager – either a naked-eye view (aka wide field) or a very low-power view as through binoculars. Some objects in this category are better captured with a telescope serving as the camera lens, so the requirements allow for this. Each image should be

well framed, well focused, and have a well-managed dynamic range that mimics what the human eye can see. The size and position of the astronomical object(s) in the sky have to be correct with respect to the foreground scenery.

Fifteen pictures from the following list are required for the certificate, with a minimum of ten being skyscape images (the remainder do not have to have the landscape in the frame). Each picture shall be accompanied with a description of the location, time, equipment used, camera settings, planning done, problems encountered or solved, and whatever else, such as how you feel about the image or what happened that night. Please indicate on the application form which of the objects in the following list each of your pictures represents.

- Sunrise or sunset
- Moonrise or moonset at full Moon
- Gibbous, half, or crescent Moon
- New Moon with earthshine
- Moon and a planet
- Moon or planet beside a deep-sky object
- Two or more planets
- Mercury
- ISS or Iridium flare
- Star trails
- The Milky Way
- Constellation
- Asterism - Big Dipper or Summer Triangle
- Aurora
- Two or more pictures showing movement of a planet or asteroid
- Uranus or Neptune identified in a picture
- Sun or Moon halo, or Sundogs
- Noctilucent clouds
- Lunar or Solar eclipse
- Comet
- Meteor
- Zodiacal light