Regulus
2022 May
Newsletter of The Royal Astronomical Society of Canada - Kingston Centre
kingston.rasc.ca

31 images captured through one night for HDR processing – Stephen Craig

A bright fireball was observed by a network of all-sky cameras across southern Ontario at 11:37pm on Sunday, April 17, 2022 EDT (03:37 202 April 18 UTC). Analysis of the video data suggests that fragments of the meteor are likely to have made it to the ground near the eastern shore of Lake Simcoe, just north of the town of Argyle.
SCGO Allsky1pi Camera System – Kim Hay & Kevin Kell

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 May 4 & 18

The next Regular Monthly Meeting is Wednesday 2022 May 11th, 19:00 EDT. Guest Speaker: Richard Schmude (RASC-KC) on the May 15/16th Total Lunar Eclipse

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

In the May Issue

Editor: Kevin Kell

The President's Nook - Kim Hay

Our hours of darkness are getting shorter, but we are being treated to early morning Planets (Jupiter, Venus, Mars Saturn), and a Planet is gracing the Western horizon at dusk (Mercury). The Pleiades M45 was in the same field of view on April 30th.

The temperatures are starting to cooperate as we come out of our cocoon of hibernation to start and observe. Kudos to the brave ones who ventured out in the coldest of nights to take wonderful images of our Cosmos and share with us.

A big Thank You goes out to Bruce Elliott, Elena Zanetti , and Graeme Hay for judging the Leo Enright Award for the Frontenac, Lennox & Addington Science Fair. This year's winner Cloe Jugroot from King's Town School. She is in the Primary Class (grades 5/6), and the title of her project (#1105) is Project Martian. More information on the project can be found at https://projectboard.world/ysc/project/project-martian

Next up is our first outing for Science Rendezvous on May 7th from 10-3 pm at the Leon's Centre. The Centre will have a table setup with Public Solar Observing, and we will be assisting Queen's University as well. Come down and go inside the Leon's Centre to enjoy the wonderful world of Science. Stop by our Tent and talk to fellow RASC members and enjoy the fun.

Our May speaker is Life Member Richard Schmude, and he will be presenting a talk on the May 15/16th Total Lunar Eclipse. Richard has spoken to the Kingston Centre in the past, and he states that his Grandmother went to school in Kingston.

May holds many Astronomical delights, so take a look at Richard Wagner's What's up in the Sky for May to see what can be seen.

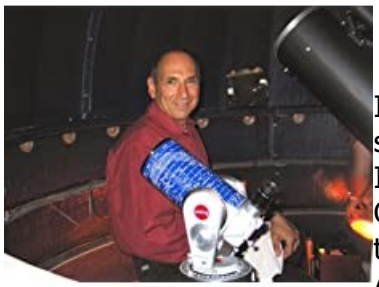
CASCA is holding its Annual Meeting virtually this year from May 16-20, 2022. RASC members can register for the event for $15.00. I have my spot saved, it will be interesting to hear what is going on in the Professional world of Astronomy.

Here is the link to view the event and register
https://webreg.uwaterloo.ca/onlinereg/Register/default.aspx?code=C000794

June is coming up and it is our last meeting before the Summer Break of July and August. We will still have our Social Gatherings on Wednesday Night. Perhaps a member would like to take a try and being the Host for an event. We can set up a small training session. The more hands make lighter work for all.

Till next time, clear skies, and Look Up!

Skyward May 2022
- David H. Levy



Pegasus

In the late summer of 1964 I was leaving the Observatory of the Royal Astronomical Society's Montreal Centre with some friends, one of whom was David Zackon. I asked the group if they would like to drop by my house to observe with a 3.5-inch reflector. Before they had a chance to answer, David upped the ante by asking if we'd like to come by his house to look through an 8-inch reflector.

When we arrived at his place, we found a very competent 8-inch reflector with a focal ratio of 7. It gave us wide field views of Jupiter and Saturn plus a few other nice things to see. It was rather pleasant. Just a week later, David telephoned me to invite me for a second look. As we used the telescope to view Saturn, David was adjusting one of the mount's large bolts. As I looked at Saturn I remarked, "I think that's Titan," after seeing one of the planet's large moons. David looked up toward me and said, "No, it is still loose."

David told me that he was soon to leave for his university year, and each year he had a tradition of lending the 8-inch to someone who would use it. He then began asking me a few questions, and I told him that I had observed most of the planets, especially Jupiter.

"And the Moon, I suppose."

"Yes. And just a few weeks ago I completed the Lunar training program."

"The whole program? All three hundred craters?"

"Yes, and the 26 (lettered A to Z) mountain ranges, valleys, and the Straight Wall."

"You did all this with a 3 ½-inch telescope?"

"Yes."

"David, you've just borrowed an 8-inch telescope."

It is difficult to describe the feeling of joy I felt as the new telescope and I returned home and I spent the rest of the night getting acquainted with it. The following day I decided to name it Pegasus, after the large satellites that NASA was launching at the time in on their new Saturn 1 rockets. When my grandfather found out about this a few days later he was thrilled. "I am especially proud of David, he said, "for having the insight to know that you would put it to good use."

Over the next several months Pegasus was used heavily. When David returned from school, Constantine Papacosmas, another good friend, suggested that my parents purchase the telescope for me. David agreed, and we settled on a $400 price for it.

On December 17, 1965, I used Pegasus to begin my comet searching program. Twenty-two years later, on the evening of October 11, 1987, Pegasus and I discovered Comet C/1987Y1.

The name Pegasus has since been attached to other fine Pegasus telescopes. One of them is a large 20-inch belonging to Lario Yerino from Kansas City. I used this fine telescope one autumn while attending the Heart of America Star Party.

The third Pegasus belongs to Carl Jorgensen, one of my closest friends and someone I have known since 1963. He brings it each year to our Adirondack Astronomy Retreat in the mountains near Lewis, NY. Under the peaceful and beautiful Adirondack sky, when my left eye touches the eyepiece of this telescope, my mind wanders back to those earlier years when I began using my Pegasus during the springtime of my life.

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, May 11, 2022 – 19:00 EDT Regular Monthly Meeting-ZOOM videoconference
Guest Speaker: Richard Schmude (RASC Kingston) Topic: May 15/16th Total Lunar Eclipse.

Wednesday, June 08, 2022 – 19:00 EDT Regular Monthly Meeting-ZOOM videoconference
Guest Speaker: TBA

July, August – summer hiatus – no regular monthly meetings

September-December – possibly inperson, possibly remove zoom videoconference

Current Centre Members as of 2022 March 5:
Total: 75
New Members 2
Non-Paying Life Members 7
Pending Renew 4
OnHold-Expired 7
Inactive 12
Active 59

The Sky This Month 2022 May - Rick Wagner

01 May - Venus (mag -4.1) just 0.5º from Jupiter (mag -2.1) low in the eastern sky before dawn.

02 May - International Astronomy Week begins

02 May - the crescent Moon will be 4º left of and above Mercury (mag 0.8) in the western sky about an hour after sunset - a perfect chance to find this planet. Look (maybe with binoculars) for the Pleiades star cluster 3º right and below Mercury.
04 May - asteroid (13) Egeria (mag 9.9) at opposition

06&07 May - η (eta) Aquariid meteor shower (dust particles from Comet Halley) at maximum, best in pre-dawn hours.

07 May - International Astronomy Day

09 May - First Quarter Moon

15 May - TOTAL LUNAR ECLIPSE!!

First contact:	22:27EDT
Totality begins:	23:28EDT
Totality ends:	00:54EDT
Fourth contact:	01:55EDT

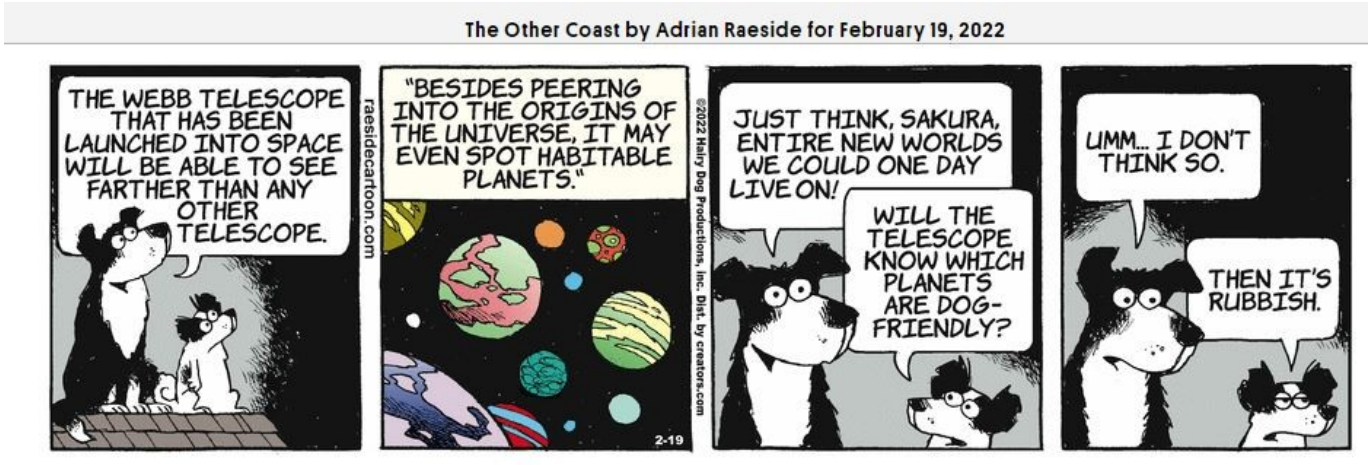
16 May - Full Moon 00:14EDT

18 May - Neptune (mag 7.9) is 0.5º north of Mars (mag 0.8) low in the east-southeastern sky before dawn.
22 May - Last Quarter Moon

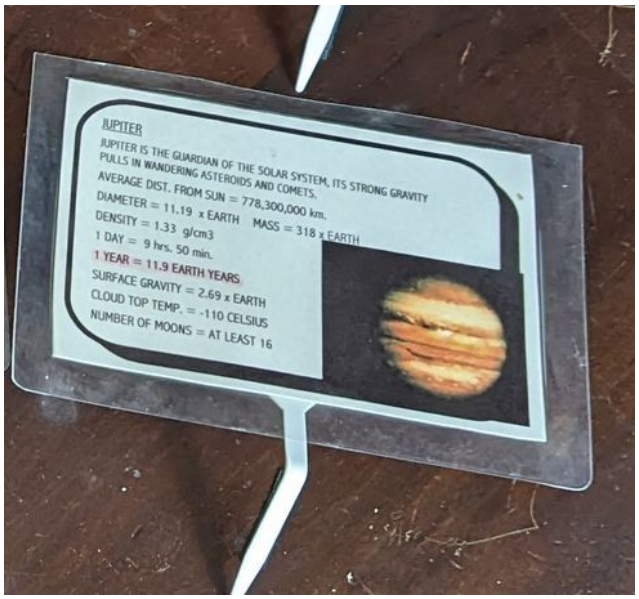
22-27 May - The waning crescent Moon passes south of Saturn, Mars with nearby Jupiter, and Venus, all in a nice line low in the eastern to southeastern sky before sunrise.

29 May - Mars (mag 0.7) and Jupiter (mag -2.2) have their closest approach (0.6º) above the east-southeastern horizon an hour or two before sunrise. It will be a lovely view in a small telescope with the disks of the two planets plus the four Galilean moons all visible in the field of view.
30 May - New Moon 07:30EDT

31 May - possible new meteor shower associated with Comet 73P/Schwassmann-Wachmann 3 (the Schwassmann-Wachmannids?), likely to last a few hours with maximum about 01:00EDT. No guarantees!



Notes from Members



An old solar system information card used on a solar system walk project for the Sky Is The Limit Festival back in the mid 2000's.

They were mounted on 1x2 stakes in the ground with velcro and the complete (including Pluto!) collection looked like this. If **anyone** would like to recreate this for modern times (ie better images, better text/info display) for future outreach…. Hint hint.
Kevin Kell

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)

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

https://rascbelleville.ca/fallnstars/

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

FLASF 2022 Winner of the Enright Prize in Astronomy

The student is Cloe Jugroot from King's Town School. She is in the primary category (grades 5/6), and her project title is *Project Martian*. A description of the project is at this site: https://projectboard.world/ysc/project/project-martian

Comments on projects about Astronomy and Related Sciences – FLASF 2022
RASC Kingston Centre Judging Team

1105 – **Project Martian – Primary Class:**
This study is an innovative approach to compare simulated Martian and Earth conditions to grow plants. The student chose soil condition as a significant variable to test. They used Mars regolith simulant purchased from the NASA Jet propulsion Laboratory and compared this with Earth soil. Initially, very little growth occurred on the clay-like Mars regolith compared to Earth soil, but this was alleviated by raking

the soil to prevent hardening. With this modification, all the plants grew on the Martian soil. Further, one type of Wisconsin plant tended to grow better than others, implying variable abilities of different plant species to grow on Martian soil. The Mars background information was well presented. The student did a second round of testing to address the low yield from the first experiment, which we really liked seeing! However, in making conclusions please take care to distinguish genetics from environmental adaptation to a plant's surroundings in a single generation. The student really understood the objective and the modifications made to the experiment to achieve a good result. It would have been nice to have shown a table or histogram of the second experiment, and some photos of the plant and roots under different conditions. Overall,the hands-on component was well done and must have taken quite a bit of time beyond the 7-day growing periods.

Overall, an exciting and well thought-out project!"

RASC-KC Equipment – Clamshell – Accepting Proposals for Projects

This has been in storage since we acquired it back in 2016?

The weatherstripping on the top segments of the clamshell is not 100%. We have attempted to gather details to motorize the clamshell but have not been successful.

It has been in used in a few trials but otherwise has been in storage, in part due to the notes above.

The idea here is to ask for proposals from RASC-KC members for you to use this in a loan project, with the possibility of a long term loan/lease or outright sale in the longer term.

We have had some interest already and we would like to finalize this Equipment Loan Program item in the next week…
So please, send your ideas in by Monday May 9th to our centre email kingston@rasc.ca

Some details:

The four moving dome segments come apart. The main body is the largest component and would require a trailer (we used a large moving truck).

The dimensions:

Ground to top of wall: 41" = 104cm
Top of wall inside diameter 70" = 5'10" = 178cm
Top of wall outside diameter 78" = 6'6" = 198cm
It bulges out a little bit more (for transport measurements).

So, the idea/proposal is to publish this out to members to see who would like to try and use it

on a semi-permanent loan status (your backyard not ours), or perhaps even sell it outright at some time in the future.

My design thoughts were that it would go better on top of a small building (4 or 5 or 6' tall) with some kind of ladder/platform on the outside to lock and unlock and move the clamshell pieces.

It has hosted the centre's 20cm meade lx200gps and that involved climbing in and out and was kinda painful... especially in the dark.

The four clamshells detach from the main body and we transported this in a regular size moving truck. A small trailer could also move it.

Very lightweight. Two or three people can move the body around and put it together.

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

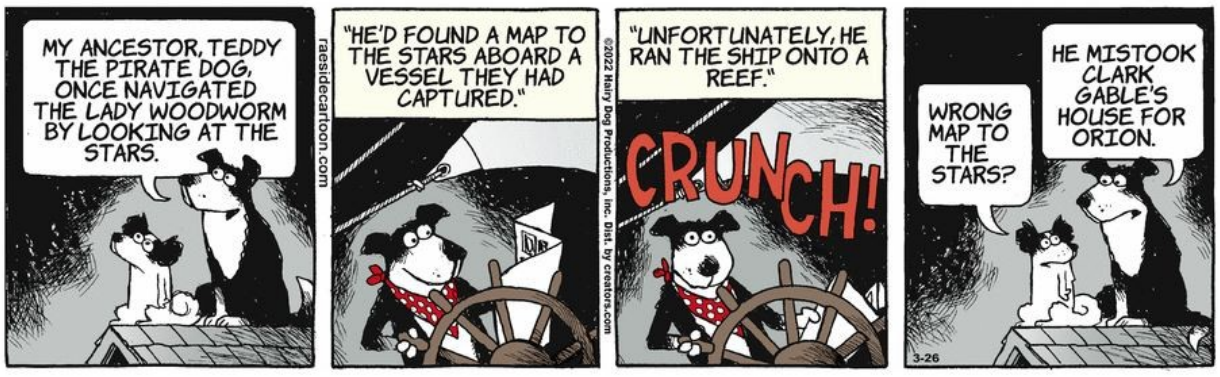
GA Website Coming Soon!!

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

The Other Coast by Adrian Raeside for March 26, 2022



RASC KC April 13, 2022 Regular Meeting Minutes - Elena Zanetti

Minutes of the RASC-KC Regular Monthly Meeting (via Zoom and live streamed on YouTube)

The meeting started at 7 p.m. with 41 registered and 36 participants on Zoom. Kim Hay, our President, welcomed Kingston Centre members and guests joining in.

David Levy present poetry: Warmly remembering his time at Queen's University and with the Kingston Centre RASC, David read from Shakespeare's Julius Ceasar.

Bruce Elliott announced the winner of this year's Leo Enright Prize in Astronomy, our Centre's contribution to the Frontenac Lennox & Addington Science Fair. Chloe Jugroot of King's Town School with her presentation, "Project Martian", received a $100 cash prize and the book, "Explore the Universe Guide". Thank you, Bruce, for leading this endeavor, along with Graeme Hay and Elena Zanetti.

Science Rendezvous begins May 4th and runs throughout the month. Our centre, working with Queen's University, will participate on Saturday, May 7th, at the Leon's Centre, with telescopes looking at the Sun and possibly the moon for public viewing with Covid protocols in place. More information at https://www.sciencerendezvous.ca/event_sites/queens-university/ Our virtual contribution will be two videos which members of our centre have produced, Navigating the Night Sky and Origin of the Universe as well as a pdf of Interesting Things to See in the Night Sky in May.

National Update: Kim presented for John Hurley, our National Council Rep. A virtual 2022 GA will be held June 24-27. https://www.rasc.ca/general-assembly for registration information. The guest speaker for the Helen Sawyer Hogg Memorial Lecture will be Nathalie Ouellette, the coordinator of the Institute for Research on Exoplanets at the University of Montreal. Members $20, Students $15, Non-members $25. National Council minutes from 2021 are now online.

This month's guest speaker, Peter Pekurar, from Kitchener-Waterloo, received the Ken Chilton Prize in 2020 for work on advancing the coating process for telescope mirrors. Ken developed a new method to apply reflective silver coatings, thereby simplifying the process for amateur use. "The Fun of Making Large Aperture Ultra-Fast Newtonians" was very informative and you may find this talk on our RASC Kingston Centre YouTube channel.

Rick Wagner presented What's Up in the Sky and Astronomy Events for April 2022
QUO – Queen's University Observatory – Fast Radio Burst Podcasts

- Living Universe 3: Finding Life
- Universal Chronical: In the Beginning
- http://observatory.phy.queensu.ca

AAVSO Webinars
April 23 – Jocelyn Bell Burnell. "The discovery of pulsars – a graduate student's tale." AAVSO Members only.
May 7 – how-to hour, topic TBA

Lennox & Addington Dark Sky Viewing Area
May 7 – Laser-guided Stargazing Tour – masks and physical distancing required

Sky Events – April
April 16 – Full Moon 14:55 EDT
April 22 – Lyrid meteor shower peaks
April 23 – Last Quarter Moon
April 27 & 28 – Jupiter and Venus and crescent Moon (Neptune?)
April 29 – Mercury (mag 0.3) at greatest elongation east after sunset
April 30 – Jupiter and Venus at closest approach
April 20 – New Moon 16:28 EDT

Sky Events – May
May 6 – eta Aquarids
May 9 – First Quarter Moon

Asteroids
April 12 – (8) Flora at opposition (mag 9.7)
April 29 – (10) Hygiea at opposition (mag 9.2)
May 4 – (13) Egeria at opposition (mag 9.9)

Asteroid Occultation
April 28 – (21) Lutetia – low mag drop

Members Observing Reports – Round Table
Rick Wagner with deep sky photos of M67, Abel 1656 and M5. David McCarter on bolide hunting and observing sessions with grandchildren. Frank Dempsey on his Carbon Star hunt, alongside variable stars, and working on the

Astronomical League Certificate. Fred Barrett on observatory maintenance and computer upgrades. Gary Diamond on cloudy skies and one good day with the sun. Keith Neumark and solar images. Kevin Wenkoff on astronomy books and observatory building. Roger Hill on speaking to students on The Size of the Universe and How We Came to Know It. Stan Range on solar work prep. Kevin Kell on re-imagining existing equipment for electronically assisted astronomy in time for Science Rendezvous. Kim Hay and solar imaging and observing the moon.

Announcements by Kim Hay
Our next meeting will be Wed May 11th at 7 p.m. Our guest speaker is Richard Schmude and the topic is the Lunar Eclipse on May 16th, 2022. See page 127 in the Observers Handbook 2022.
Every Wednesday (except 2nd Wed meeting night) we have the members Social Zoom Time – to join, let us know at kingston@rasc.ca
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 8:53 p.m.

Created by Elena Zanetti, Secretary

Jookkess Frooommm Spppaacceee!

Why did the sun not go to grad school?
Because it already had a million degrees!

I hear Mars has only 38% of earths gravity oh good.. i'm no longer overweight.. I'm just living on the wrong planet!

What does a martian say when it needs more earthlings for lunch?
Bring me some extra-terrestrials!

The Other Coast by Adrian Raeside for March 27, 2022

Eugene Parker, 'legendary figure' in solar science and namesake of Parker Solar Probe, 1927-2022

https://news.uchicago.edu/story/eugene-parker-legendary-figure-solar-science-and-namesake-parker-solar-probe-1927-2022?s=03

Prof. Emeritus Eugene N. Parker, a pioneering astrophysicist whose contributions to solar physics were so enormous that NASA named its Parker Solar Probe mission after him, died March 15. He was 94.

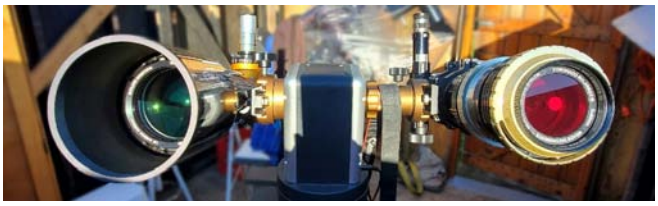
Parker was internationally known for proposing the concept of the solar wind—an idea that was first met with skepticism to outright ridicule. The theory was later proven to be correct, reshaping our picture of space and the solar system. Parker went on to revolutionize the field of astrophysics, unraveling the complex physics behind magnetic fields in space and the dynamics of plasma.

In August 2018, at the age of 91, he became the first person to witness the launch of their namesake spacecraft.

RASC-KC Solar Cycle 25
Monthly Review

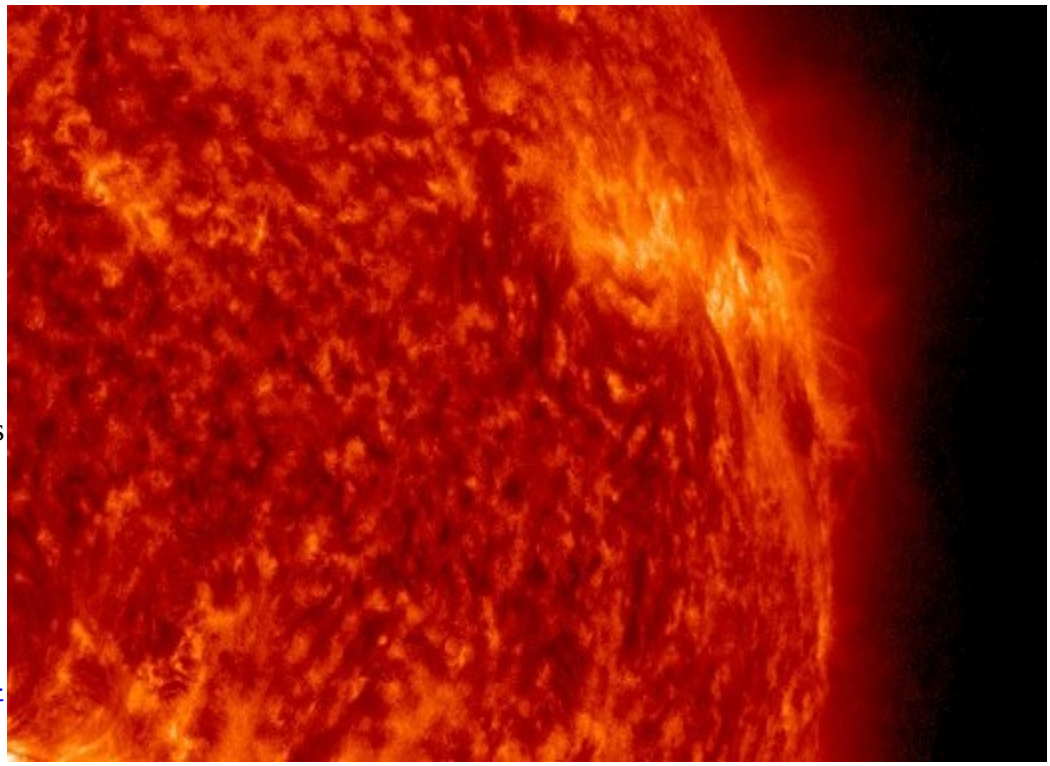
Highlights of solar activity and images during the past month

by RASC-KC solar observers for April 2022

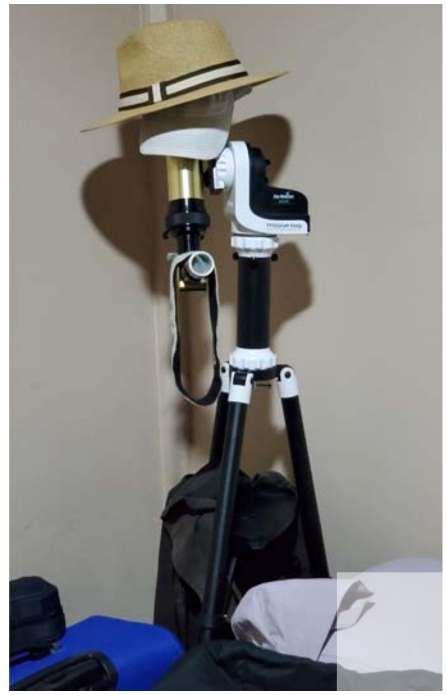




As with any April 1st there are always pranks and false publications posted across the internet by weirdos, astronomers and organizations. This year the Sun decided to get in on the action by launching an X1.3 solar flare from AR2975 on March 30th and have us waiting in eager anticipation on the night of 1st/2nd for the aurora storm an X class flare can produce. The unsurprising results are reported by spaceweather.com below...

GRAZING CME IMPACT: A coronal mass ejection (CME) hit Earth on **April 2nd** @ 0100 UT. Weak discontinuities in solar wind data suggest a grazing impact. This appears to be the CME launched by an X1.3-class solar flare on March 30th (sunspot AR2975). The glancing blow sparked a minor G1-class geomagnetic storm, which is now subsiding.



This solar imager/observer was 34º south and 8º west of the RHA Observatory in the inland rain forest region of Costa Rica for the first 24 days of April. The seasonal cloud and intense heat/humidity of the region limited my imaging/observing to 6 sessions. When locals complain about the heat and humidity one definitely takes note and does not stand out in the sunlight imaging. To the right you can see the humiliating situation this put my travelling equipment in for the most part of the month. Although I did get some imaging time in it was minimal, as was my processing capabilities. Therefore I am displaying only three other trip solar images in this article, the rest are just just hazy memories and images I shared on line.



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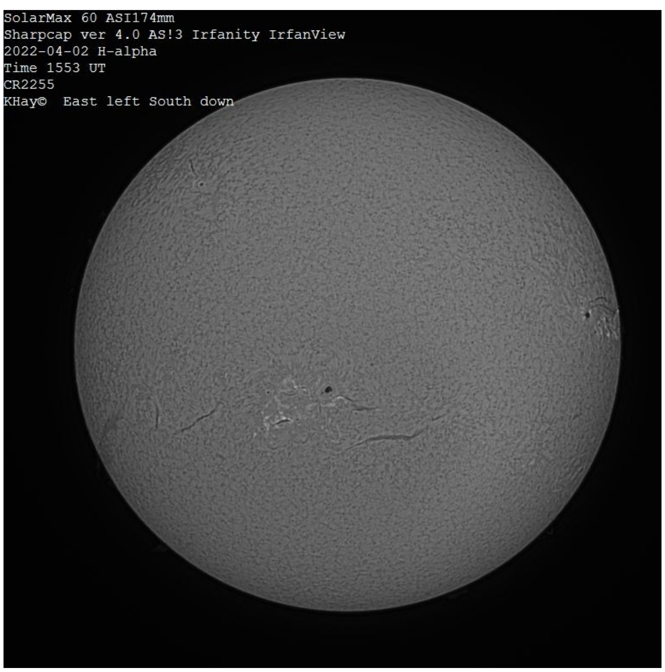
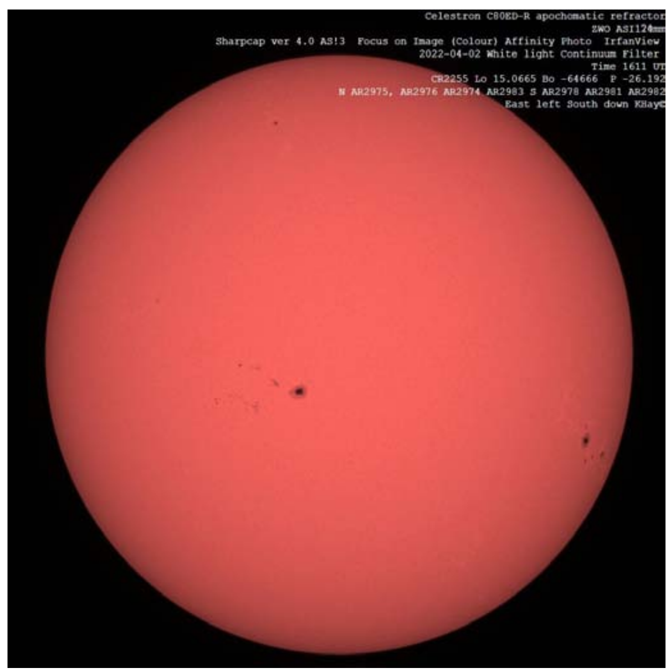
On April 2nd Kim took these lovely images...

Here are two images of the Sun today. One is colourized (White light) and one H-alpha. Very active today. Temperature was +7 very nice out.





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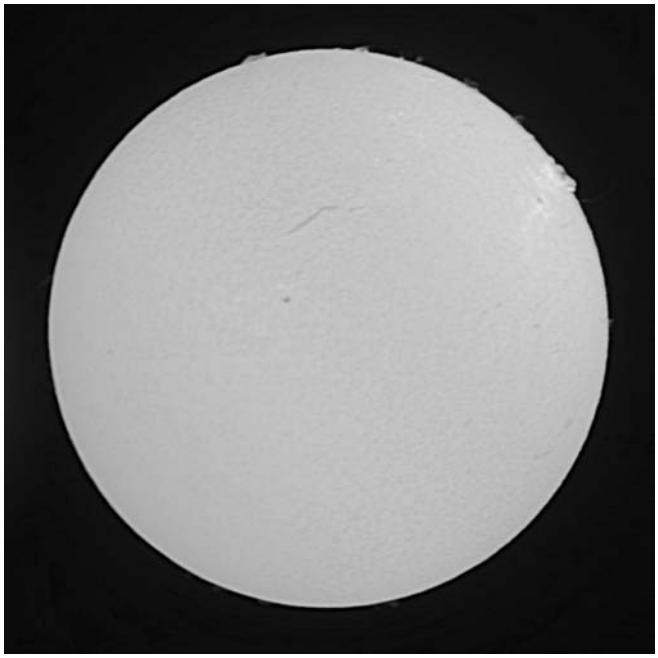
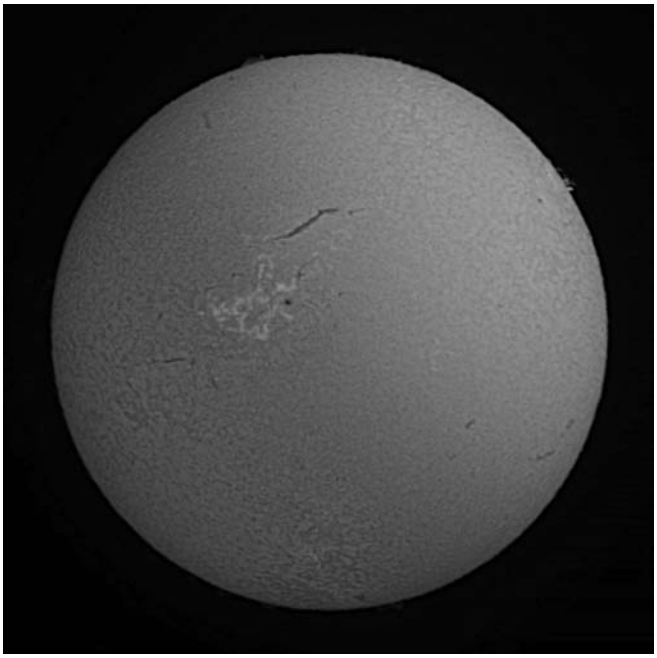
Here is a couple more images (cropped and sharpened for clarity) from April 2nd by Keith from the VisNil Observatory...





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Check out this April 3rd spaceweather.com report...
A 'CANYON OF FIRE' JUST OPENED ON THE SUN: A dark filament of magnetism just whipsawed out of the sun's atmosphere, carving a gigantic canyon of fire. The walls of the canyon are at least 20,000 km high and 10 times as long. Fragments of the magnetic filament may soon emerge from the blast site in the form of an Earth-directed CME. Stay tuned and, meanwhile, watch the movie.

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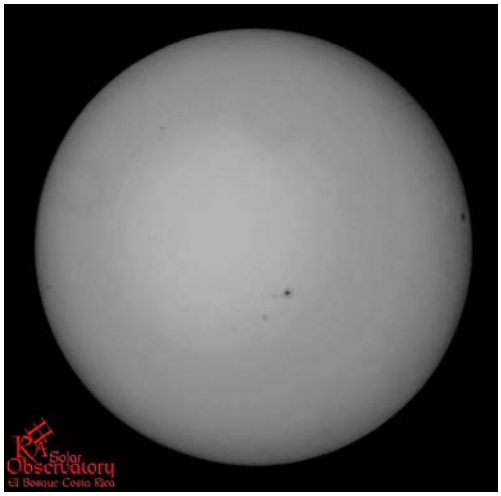
This day was also my first April imaging in CR, unfortunately amid cloud I only managed to image in white light. Prominent sunspot 2978 is central in the image, 2976 is approaching the eastern limb, Canon Power Shot SX600 ISO125 f4.5 1ms @ 32mm eyepiece of Mak 90/Baader Film.



Mak90 & SolarMax40 on SkyWatcher AZ-Gti mount.

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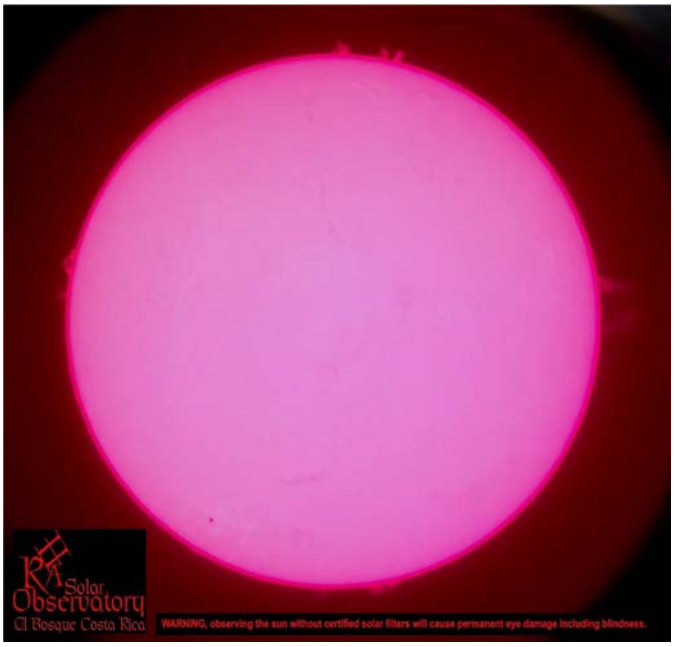
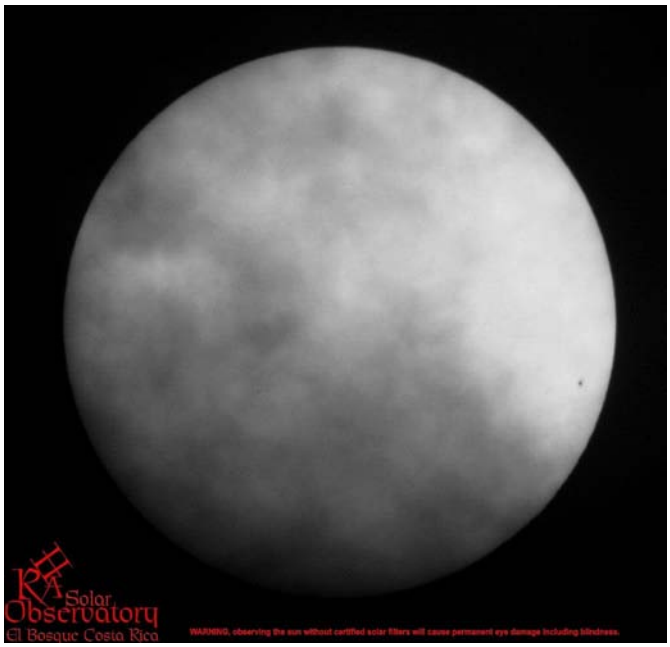
April 7th RHA Obs., El Bosque...





(Note: alignment not matched)

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April 18th images from members...

It was nice and clear when these images (cropped for clarity) were taken, cool NE wind at 7C., now totally overcast. Good activity in the prominences and Sunspot Groups. AR2993 was active, and AR2992 could be seen in WL with the camera and IR Cut filter, but not naked eye, as it was on the SW limb.

Kim Hay


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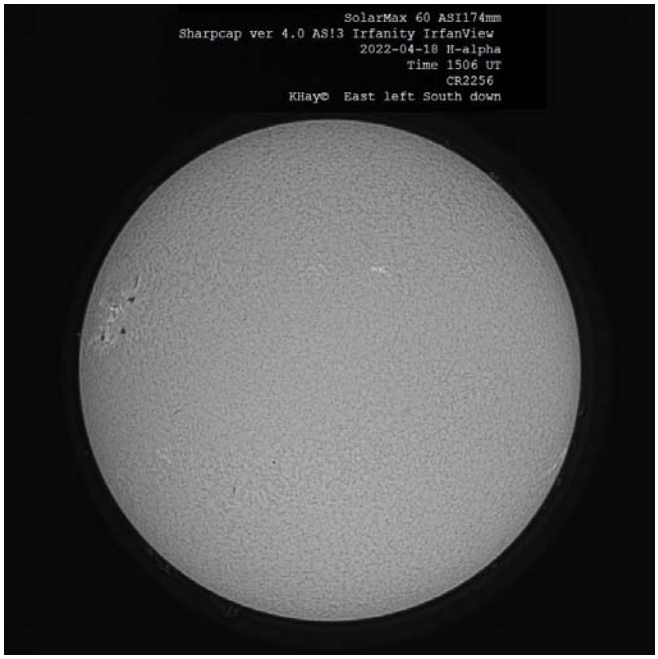

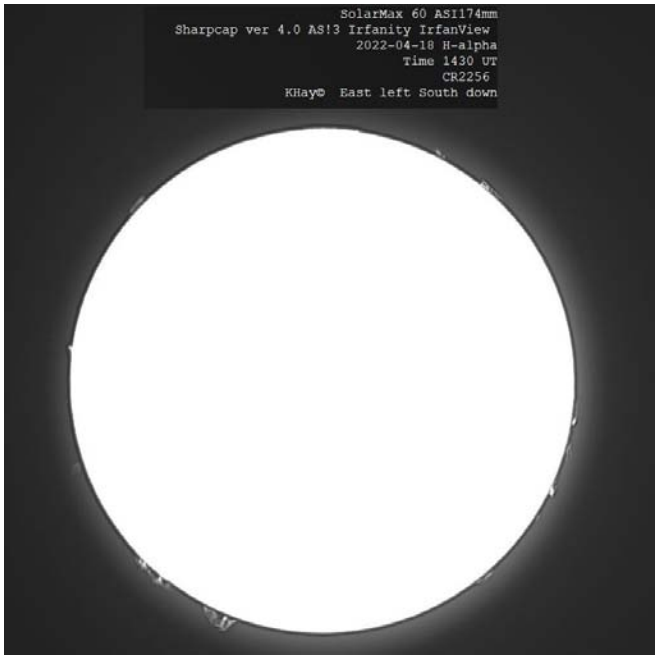

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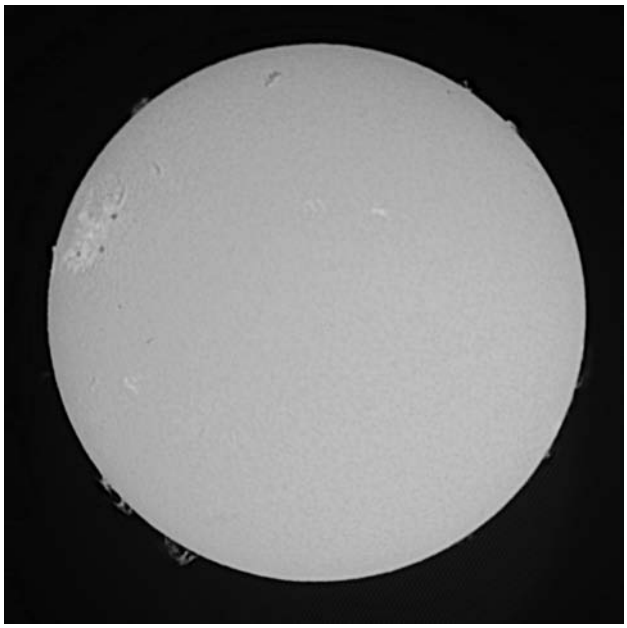
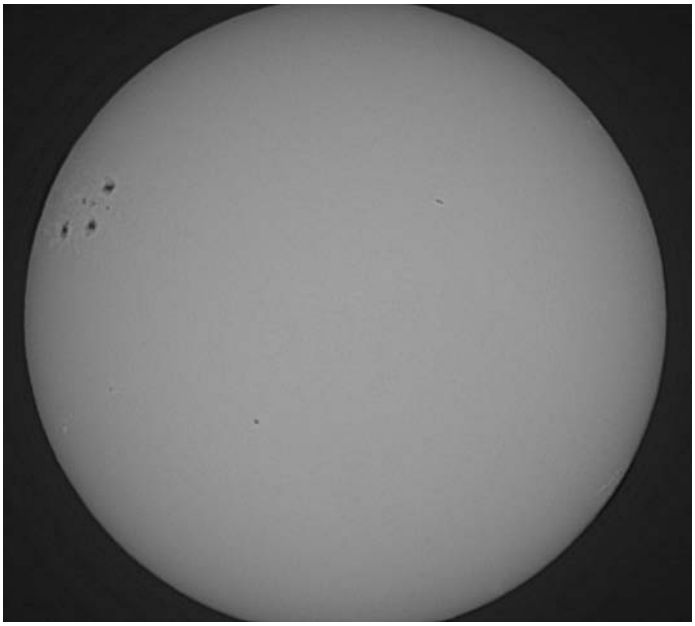
Below is what I got, 1st is Ha and the 2nd white light/IR cut, Keith VisNil Obs.





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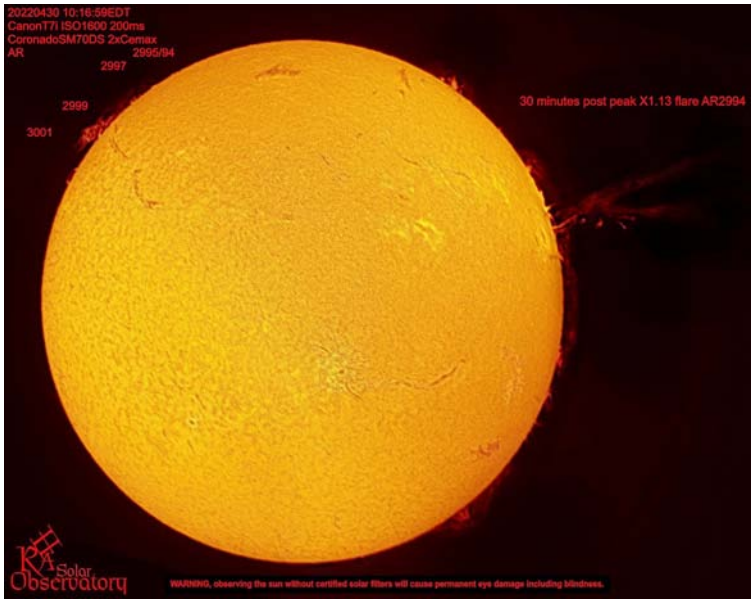
Heading back to the RHA Obs. Newburgh, sunset looking east over Georgia at 11,300m solar but not solar.

April 25, back at the RHA Obs Newburgh, back to reality and back to real equipment and processing! YAY! Just when I thought I had missed it all while vacationing I get 5 days in a row of observing/imaging and some really good seeing and clear sky as well.

April 27th had particularly good seeing, especially evident in the white light image below.

Then just to make up for all I missed, 20220430 “X1.13” FLARE! 376 images later I am trying to find one that will convey the beauty of this tremendous flare and prominence. The problem is I get so excited about observing the flare and how quickly it can dissipate that I lose concentration on the imaging. I settled on these...



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We started the month with AR2975 being the oldest numbered active region on the solar surface and ended with tiny but promising AR3001 being the newest. My usual site for tracking flares is Russian and we know I’m not getting that data anymore and not because I was away. There have been more flares than I care to know I have missed. There were 16 today alone and there is just under an hour left in the month, 3 were M class and one was X class. I looked into the archive at spaceweatherlive.com and compiled the flare total below.

Sunspot groups = 27
Solar Flares = C = 192, M = 28, X = 3
RHA observing sessions = 11

WOW! What a month and we are not at solar max yet.

News from RASC Central/National
April 2022
President’s Corner - Robyn Foret

We have an amazing Team. The Board of Directors spent a half day with our Society Office Team and left impressed on a number of fronts. Acknowledging that the past few months have been difficult is an understatement.

The fact that Samantha fully embraced the Outreach Coordinator role and is making it her own is amazing; that Renee stepped outside her Marketing and Communication role to take on e-shipper and try and right that ship; that Stephanie accepted the Office Manager role in the middle of it all, and didn’t run for the hills; that Miko accepted the position of Membership Coordinator only to be laden with Observers Handbook, e-Store and Calendar shipments almost full time while fielding a lot of negative attention is commendable. Lauren finished her 6 month term with Light Pollution Abatement and is now full time as our Environmental Outreach Coordinator and rounding out the team we have our part time staff, Reem attending to Social Media and Shannon with Publishing.
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While day to day operations continue on, Allendria, our Editor in Chief at SkyNews continues to make that publication better and better, Lisa, our Fundraising Coordinator knocks our donations and grant funding way out of the park ($3.5M so far…. Seriously!), and Randall, the Director of the Dorner Telescope Museum, honors and continues to build upon the dream of the late Rudolf Dorner, making real the Museum honoring Canadian telescope makers and historians through Mr. Dorner's incredible donation to the cause. All of the above are in the hands of our Executive Director, Dr. Philip Groff and your very dedicated Board of Directors.

As we look forward, keep in mind that this entire Team is dedicated to the RASC and towards making it better; we love the Society and what it stands for. Let's all stay positive, focus on who we are and why we do what we do. The kinks and bumps will dissolve and disappear; likely to be replaced by new kinks and bumps, but we shall continue the good work and take good care of each other.

Wanted: General Assembly Presenters

From citizen science exoplanet research to planetary viewing tips, RASC wants YOU to talk about your brilliant projects. This General Assembly, we're looking for presenters from across Canada to speak on the work they're doing in astronomy on their own, with their Centres, nationally or worldwide. Presentations may be in the form of a talk or a technical poster. RASC is accepting proposals from April 1-21, 2022, and will reach out in the following weeks to confirm presentation times and dates.

Humanity's Return to the Moon

RASC is partnering with the Canadian Space Agency to celebrate humanity's return to the Moon with the Artemis I launch this Spring! Throughout April and May, RASC Centres across Canada will be hosting both in-person and virtual Moon-themed events. Join us to learn more about the Artemis Program and Canada's contribution is this new chapter of lunar exploration!

We will be updating rasc.ca/artemis parties throughout the next two months with events, resources to learn more about the Moon and lunar exploration, details about how you can contribute to our cross-Canada "Shooting for the Moon" webinar on May 7th, and much more. Follow RASC on social media to get the most up-to-date information. We are looking forward to celebrating with everyone!

From:
https://www.kingstonist.com/news/queens-researchers-discover-magnetic-field-on-north-star-polaris/

Astronomers at Queen's University in Kingston have discovered for the first time that Polaris – more commonly known as the North Star – is host to a remarkable magnetic field.

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Queen's PhD candidate James Barron (Physics, Engineering Physics and Astronomy) is leading a team of Canadian and international astronomers in exploring the magnetism of the classical or Type I Cepheids. It was during an observing run at the Canada-France-Hawaii Telescope (CFHT) on Mauna Kea, Hawaii that Barron discovered a singular magnetic field of Polaris. Their discovery was recently published in the journal Monthly Notices of the Royal Astronomical Society.

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"Mapping Polaris' magnetic field will provide the first view of the global magnetic structure of any Cepheid, and will serve as the basis for a deeper theoretical understanding of the role of magnetic fields in Cepheid evolution and behaviour," said Gregg Wade, Professor, Astronomy, Astrophysics and Relativity, Physics, Engineering Physics and Astronomy at Queen's University

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 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 June issue we are selecting
- Sunrise or sunset
- Moonrise or moonset at full Moon

It is hoped that you will complete the requirements and submit and 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