

Regulus 2022 July

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



From Last Month's Issue:

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.

Bruce Elliott add this update:

As mentioned at tonight's Social, **our outreach team has been nominated for special recognition** from the national Science Rendezvous office for our booth and videos at the local event in May of this year!

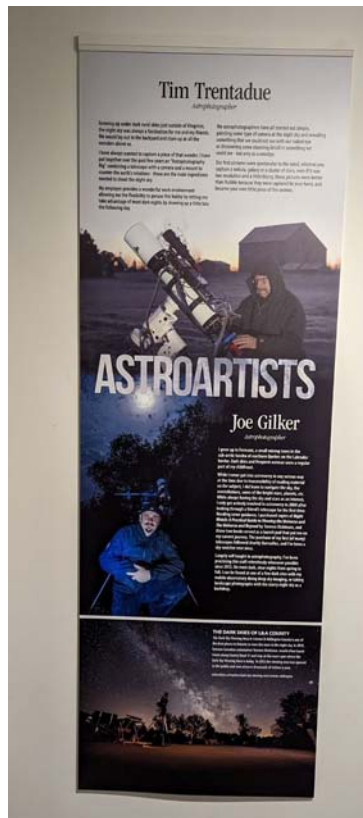


Who would have thought this was an astronomical tool? See how Kevin Kell used this later in this issue!



Check out this excellent astrophotograph exhibit at the Lennox & Addington County Museum in Napanee, by local Astro Imagers Joe Gilker and Tim Trentadue.

The exhibit *Our Dark Skies* runs until September 3, 2022
HOURS OF OPERATION Monday – Saturday: 10am–5pm
DAILY RATES Adults: \$3
Children Under 12: Free



MEETINGS

RASC-KC Wednesday Weekly Zoom 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 Zoom Socials:
Wed 2022 July 6, 20, 27

The next Regular Monthly Meeting is Wednesday 2022 September 14th 19:00 EDT. Guest Speaker: Andrew Godefroy (RASC-KC) – Allouette Anniversary

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

In the July Issue

- * The President's Nook – Kim Hay
- * Skyward – David Levy
- * The Fine Print
- * The Sky This Month-Rick Wagner
- * Notes from Members
- * Minutes 2022 June Meeting – Elena Zanetti
- * RASC-KC Solar Cycle 25 Monthly Review – Hank Bartlett
- * Surplus Equipment
- * Other Local Events

Editor: Kevin Kell

The President's Nook - Kim Hay



Well by the time you read this, the Virtual GA2022 will have happened. The theme was Reach In (member presentations , posters, talks, sketches) Reach Out (Outreach) Reach Up (Youth and Next Gen).

Overall a good General Assembly, great talks and presentations, and there were three tracks this year, but everything has been recorded and for those who have bought tickets to the GA, will be able to view the other tracks when available on the GA website, sometime in the 1st week of July. It will take a bit to download the talks to the appropriate areas so the GA website will not be going away anytime soon.

There was a proposal of a fee increase this year of \$15.00 . Currently the membership charge to join Kingston is \$86.00 for a Regular membership, with youth and family prices different. Our Centre only receives \$23.00 of the membership portion. This helps your Centre to run its day to day business, buy equipment and to do projects, run ZOOM and keep the website hosted. The Centre had taken its \$5.00 surcharge off the membership price back in 2005.

Since we are not having any Regular ZOOM meetings in July and August, we will be meeting up at Lake Ontario Park on July 13 & August 10th at 4:30-5:00 pm for a bring your own dinner/lawn chair gathering. This should be fun. If you wish to bring a telescope and binoculars please do. Check the website (kingston.rasc.ca) , Twitter (@AstroKingston) and the email chat list if the event is a no go for rain. There is no rain date.

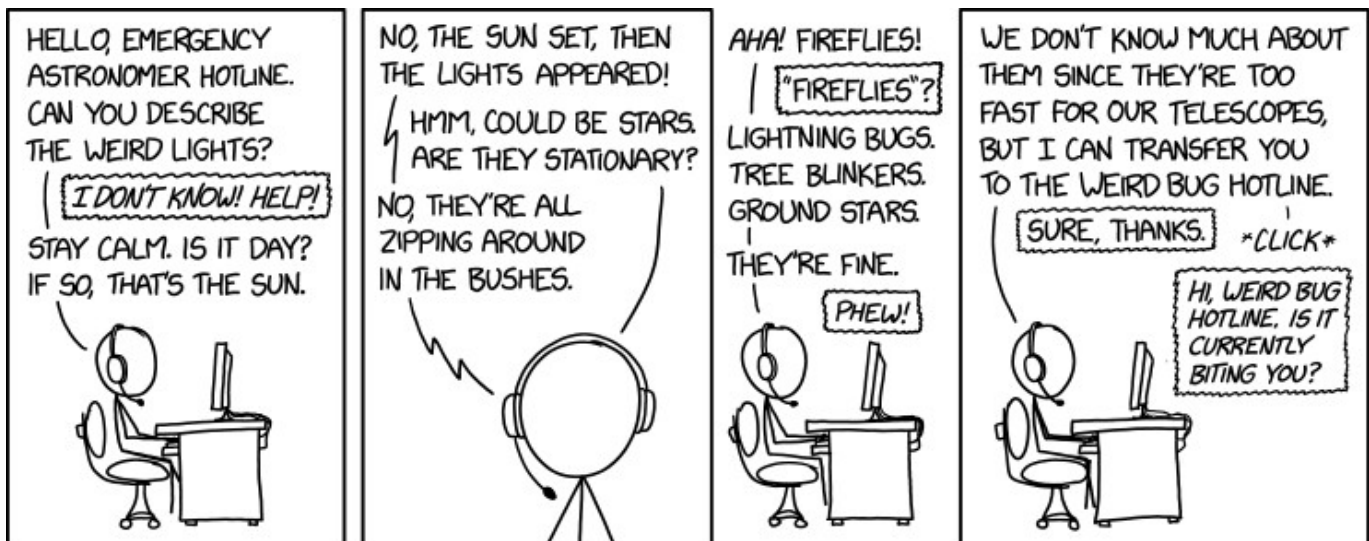
There has been some talk on the RASCALS email list lately of the Milky Way Binocular objects by Alan Dyer in the July/August edition of SkyNews. Some are using the list to put into Sky Safari to observe on those clear summer nights, give it a go, there are some beautiful objects to view. Bill Weir from Victoria Centre uses his OIII filter with his 10x50 binoculars and views the Veil Nebula. This certainly seems like a challenge....give it a go!

Summer Star Parties are happening and perhaps you will be able to take in a few. Starfest (<https://www.nyaa.ca/index.php?page=/sf22/sf.home22>) is August 25-28th in Mount Forrest. If you are travelling down East , there is Nova East Star Party (<https://novaeast.rasc.ca/>) on August 26-28 at Smiley's Provincial Park.

Don't forget Fall 'N' Star's (<https://rascbelleville.ca/fallinstars/>) hosted at Johnson's RV Park by the RASC Belleville & Kingston Centre's. This year it is September 23-25th . It is New Moon weekend , with New Moon on September 25 at 2:54:04EDT.

It is shaping up to be a fun summer of gatherings and observing. Be safe , use the buddy system and till next time, Keep looking up!

From xkcd.com



Skyward July 2022

- David H. Levy



The Meteor Shower that wasn't, but not so much

The second of many images I took that night captured this bright Tau Herculid dropping in Hydra, just south of Corvus.
Photograph by David Levy.



On May 30 observers all across the western hemisphere were outside, hoping to see a wonderful “new” meteor shower. The shower is actually not new. It is called the Tau Herculids, and it sends us dust particles from Comet Schwassmann-Wachman III. In 1995 this normally faint comet brightened dramatically as it split into several parts, releasing huge amounts of dust into space.

On May 30, at 10 pm Mountain Standard time, the Earth plowed through the debris released in 1995. We were hoping for a possible meteor storm of hundreds of thousands of meteors. Wendee and I sat outside at Jarnac observatory, waited, watched, and waited some more. There was one bright meteor that seemed too far from the direction my camera was pointing for its lens to detect. Ten o'clock came and went, and we counted a few shooting stars here and there. Over the course of the evening we counted 18 meteors. But a meteor storm? To use the Yiddish word that means what you think it means, we saw *bupkis*. Somewhat disappointed, we went indoors and completed a quiet evening.

The next day, I examined the pictures I took. I have found that it is very difficult for a camera to record all but the brightest meteors, even from the major showers. But the second picture I saw captured the bright meteor I saw just south of Corvus in Hydra, and the third frame recorded a fainter one. All in all, the camera counted five meteors, only the first of which I actually saw. And one frame displayed two meteors!

Even though these meteors were generally faint, they moved so slowly that they showed up nicely on the camera. So this crazy little shower produced more meteors on camera than any other meteor shower I have witnessed. The experience proved to me that meteor showers, while poorly predictable, do offer surprises, and this one certainly did.

There was more. In Electronic Telegram 5125 of the International Astronomical Union, Daniel Green suggested that “a very faint glow from scattered sunlight may be visible in the sky centered ... in Leo.” I had no difficulty at all seeing that glow in Leo, particularly when I used averted vision, and I also noted its absence on the following night. (I saw a similar glow during the strong Perseid meteor shower in 1992.)

The best (by far) meteor shower I saw was the Leonids, from near Alice Springs, Australia, in 2001. During that night Wendee and I counted 2406 meteors. This year’s Tau Herculids might have been less than stellar, but the sky was clear, the night was beautiful, and we enjoyed being outside as planet Earth raced through the emptiness of space, picking up cosmic dust on its windshield along the way.

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

Past President: Rick Wagner
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

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 remote zoom videoconference.. still up in the COVID air!

Current Centre Members as of 2022 June 01:

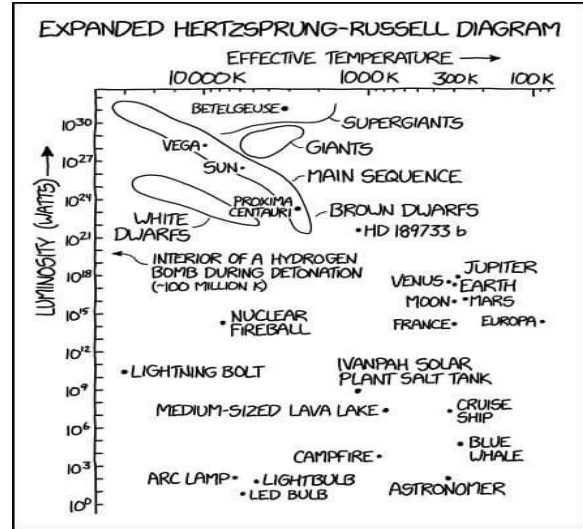
Total: 67
Youth: 2
Adult: 59
Life Members: 9

The Sky This Month 2022 July - Rick Wagner

July Skies

- 04 Jul - Earth at aphelion - furthest distance from the Sun for this year = 152,098,455km
- 06 Jul - First Quarter Moon
- 06 Jul - minor planet (14) Irene at opposition (mag 9.7)
- 13 Jul - Full Moon - largest in 2022 (14:38EDT)
- 19 Jul - Moon is 3° south of Jupiter in the southeast sky before dawn; check out the line of bright objects from Venus low in the northeast, through Aldebaran, Mars, Jupiter and the Moon, and Saturn already past the meridian in the south
- 20 Jul - dwarf planet (134340) Pluto at opposition in Sagittarius (mag 14.3)
- 20 Jul - minor planet (9) Metis at opposition (mag 9.6)
- 20 Jul - Last Quarter Moon
- 21 Jul - Mars 3° left of the Moon high in the southeast before sunrise
- 26 Jul - thin crescent Moon 4° above bright Venus low in the eastnortheast sky before sunrise

- 28 Jul - New Moon (13:55EDT)
- 29 Jul - South δ (delta) Aquariid meteor shower peaks - relatively weak shower, better in the southern hemisphere, but a very broad peak so you may see associated meteors for a week or more before and after the peak.



Notes from Members



M101-2022June04-Stephen Craig-

I tried my HDR (High Dynamic Range) processing with M101. I am happy with the result. I did 5 exposures each of 2,5,10,15 and 20 minutes. Stacked in DeepSkyStacker, enhance in Photoshop and sharpened in PixInsight.



Total Lunar Eclipse -Mark Deslaurier -

After seeing Rodger's moon montage I thought I would try my own in Affinity.



Planetary Lineup with Moon at predawn over Lake Ontario – June 25, 2022 – Bruce Elliott

Like many, I was out about 3:30 am several times in the past week to get this image, taken from the Isabel Bader Centre. I had to merge two photos together, as the breadth of field of my wide-angle lens was too small to get all the planets in one image. Two marker constellations (Capricornus, and Piscis Austrinus) were visible, confirming Saturn's position. I included the names of the planets, as they are clear but small in the image.

It is a rare event when all the planets line up! With my equipment I could only see the four closest to Earth. Mercury is too near the sun, and Uranus and Neptune though present, are too far away. Venus was just rising in the east, but not drowned out by the Sun yet.

What a wonderful feeling of our integral connection in the Universe!



Jupiter Update

Richard W. Schmude, Jr. Kingston Centre

Jupiter is rising higher in the morning sky as it approaches its opposition in late September. From Kingston, Jupiter should be 20 degrees above the horizon at 2 am on July 15. It should reach a maximum altitude of almost 50 degrees near 5 am just before sunrise. Two months later, Jupiter will be visible in the eastern sky at around 10 pm. At that time, it will be about 20 degrees above the horizon. Based on images made on June 18, 2022, the Great Red Spot has an orangish color and is

located near a system II longitude of 20 degrees. It should be visible on July 18 at around 6:50 UT (2:50 am local time). The North Equatorial Belt is thin and dark whereas the South Equatorial Belt is wide but faint. These two belts are the most obvious ones on Jupiter and one may see them with a 60 mm refractor at 100 X.



Fred Barrett writes a regular column in the local Frontenac News newspaper "What's Up in the Sky"

Check it out here:

<https://www.frontenacnews.ca/regular-columns/what-s-up-in-the-sky>

Some of the last topics have been:

What's Up in the Night Sky? Planets Galore! June 2022

Written by Fred Barrett

The appearance of all seven planets in the eastern morning sky later this month before sunrise, will present to us a pretty rare view of all the main bodies of our solar system. On the 24th, they will all be lined up along the ecliptic with a crescent Moon near...

What's Up in the Night Sky? May 2022

Written by Fred Barrett

We have a real sky treat this month, a total eclipse of the Moon! It will be the first of two this year (The second occurs on November 8 in the early morning). The eclipse begins about 9:30 pm EDT when the outer edge of the Earth's shadow, the penumbra,...

What's Up in the Night Sky? April 2022

Written by Fred Barrett

Great news! The Webb Space Telescope is open for business. After an incredibly complicated journey and a complex mechanical opening from its compact storage configuration in the Ariane rocket nose cone, it's now taking its first pictures. We can look forward to many fundamental new discoveries

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/fallnstars/>

This is SouthEastern Ontarios' Star Party organized by the RASC Belleville and Kingston Centres, annually since 2000 (except 2019, 2020)!



Wednesday June 8th 2022 Minutes of the RASC-KC Regular Monthly Meeting (via Zoom and live streamed on YouTube)

The meeting started at 7 p.m. with 30 pre-registered and 30 participants on Zoom. Kim Hay, our President, welcomed Kingston Centre members and guests joining in from afar. We are still waiting to hear if in-person meetings will resume at Queen's University in September.

Queen's University, our past in-person meeting location, is situated on the territory of the Haudenosaunee and Anishinaabek. We want to acknowledge that we are stewards of the land and we respect our indigenous people.

Fall'N'Stars 2022 update by Susan Gagnon: Friday, September 23 at 1 p.m. to Sunday, the 25th at noon. Rain or shine, this is a joint camping event, in Prince Edward County, with the Kingston and Belleville Centres. On offer are two evenings of observing, a swap table, solar observing, short presentations, and a catered dinner with door prizes. Guest speaker is Tom Deerhouse speaking on First Nation's Star Lore. More information and registration at

rascbelleville.ca/fallnstars.

David Levy presents poetry: reading from Walden by Henry David Thoreau. David received this from his brother when he graduated from Acadia University and has never forgotten it.

Summer meet-ups: July 13th and August 10th, starting from 4:30 to 5:00 p.m., we will meet at Lake Ontario Park. Bring your own meal, chair, solar telescope... We look forward to seeing everyone in person. This replaces our regular meeting nights and Wednesday socials remain on Zoom through the summer months. National Update: John Hurley, our National Council Rep gave a GA update. June 24 – 27th. Registration is now open at rasc.ca, log in to receive member pricing and more information on speakers, presentations, and socials. The AGM on Sunday evening is separate, registration is required (free), and this meeting does not require a GA registration. June 20th is the deadline for the Astrophotography Contest.

Richard Wagner, our guest speaker, is a member of our Kingston Centre, Ottawa Centre, a life-member of the RASC, a member of the Science Team of the RASC Remote Telescope in California. Rick presented, "(Not so) Basic Image Reduction". Highlighting changes to consider in your processing, whether more or less, to achieve an image you are happy with. This talk may be seen on our YouTube channel.

Hank's Sun Spot: Hank Bartlett reports Solar Cycle 25 is exceeding predictions and sunspot numbers in May were the highest in almost 8 years. May 11 – June 7/22 with 14 observing sessions. Active regions = 24. Solar Flares – X = 0, M = 13 C = 131 for a total of 144 flares. White light and H-alpha images from Kim H., Keith, Susan G. and Hank B. were shared.

Richard Wagner presents:

Sky This Month June 2022

AAVSO Webinars

25 Jun – Dr. Krzysztof Stanek: "ASAS-SN: Big Science with Small Telescopes" for AAVSO members only

02 Jul - TBA

L&A DSVA

24 & 25 Jun – Laser-guided Stargazing

Tour

02 Jul – Astrophotographers Assemble

09 Jul – Up Close with the Moon

North Frontenac Deep Sky Preserve

18 Jun – The Nearest Star – Our Sun

(1300 – 1600)

Sky Events – June

- 08 Jun – minor planet (41) Daphne at opposition (mag 9.8)
- 12 Jun – Moon occults delta Scorpii in the evening sky
- 14 Jun – Full Moon 07:52EDT
- 16 Jun – Mercury at greatest elongation west
- 16 – 20 Jun – Five planets – Easy to see Mercury, Venus, Mars, Jupiter and Saturn and with binoculars and telescopes Uranus & Neptune in morning sky
- 21 Jun – Mars at perihelion
- 21 Jun – Last Quarter Moon
- 21 Jun – Summer Solstice 05:14EDT
- 21 – 27 Jun – five easy naked eye planets plus Uranus & Neptune & Moon!
- 28 Jun – New Moon 22:52EDT
- 28 Jun – minor planet (387) Aquitania at opposition (mag 9.9)
- 29 Jun – extremely thin crescent Moon <23 hours old

Sky Events – July

- 04 Jul – Earth at aphelion
- 07 Jul – First Quarter Moon
- 13 Jul – Full Moon – largest in 2022 at 14:38EDT

Small Bodies

- ~ 20 Jun - C/2017 K2 PANSTARRS brightening – mag 9? – passes SE IC4665
- 28 Jun – (19844) 2000ST317 occults 12.2mag star 2029449017489761152 (8% likelihood)

Members’ Observing Reports

Early morning risers observing the planets include Elena Z., John H., Fred B., Ken P., Kevin W. and Malcolm P. Solar viewing enjoyed by John H. and Susan G. Laurie G., Susan G. and RoseMarie B. gave mixed reviews of the Tau Herculids. Kevin K. shared images. Susan G. has had good nights with variables. Bernard Day has had many cloudy nights down east. Lunar eclipse gave opportunities for astrophotographers and visual observers including Laurie G., Susan G., Brian M. (photo shared on Facebook), Bruce E. (shared photos), Ken P., Fred B., Malcolm P., Mike H., Stan R., who currently has no truly dark skies where he lives and shared an image of the lunar eclipse on the National website and Tessa C. Leslie R. has been experimenting with GoPro and will have images to share. Bruce E. updated us on the Eclipse 2024 committee (in conjunction with Queen’s U.). RASC is offering eclipse glasses for outreach and they will decide how many to order. Ken P. was part of an outreach event on Lake Huron

for about 30 people last Friday night. Malcolm P. shared images of M104, M22, and SH2-25 (Lagoon Nebula) and happily captured a planetary nebula within – NGC 6337. Rick W. has enjoyed 15 nights of observing in May, 2 so far in June. Stan R. enjoys his backyard observatory and working on a new set-up for solar observing. Kevin K. shared images of aurora in Sept 2014 among others. Kim H. has been enjoying solar imaging.

Announcements by Kim Hay

Our next regular meeting will be Wed September 14th at 7 p.m. Our guest speaker is Andrew Godefroy speaking on “Allouette – 60th Anniversary”.

Summer Break from Regular meetings in July and August will be at Lake Ontario Park (dates above). Other Wednesdays are 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 8:53 p.m.

Created by Elena Zanetti, Secretary

| | REGULAR SCOPE | ELECTRON SCOPE | RADIO SCOPE |
|---------|-------------------------------|--|--|
| MICRO | LOOK AT SMALL STUFF | LOOK AT REALLY SMALL STUFF | FIGURE OUT WHY YOUR RADIO BROKE |
| TELE | LOOK AT STUFF THAT'S FAR AWAY | DETECT COSMIC RAYS | LOOK AT DISTANT HIGH-ENERGY STUFF |
| PERI | LOOK FOR ENEMY SHIPS | EXAMINE THE HULL OF AN ENEMY SHIP FOR STRUCTURAL FLAWS | LET THE CREW OF YOUR SUBMARINE LISTEN TO NPR |
| STETHO | LISTEN TO A PATIENT'S CHEST | BURN A PATIENT'S SKIN | PLAY THE NOISES FROM A PATIENT'S CHEST ON NPR |
| KALEIDO | SEE COOL SHAPES AND COLORS | SEE COOL BREMSSTRAHLUNG | ANOTHER WORD FOR THE "SCAN" BUTTON |
| GYRO | BALANCE BY SPINNING | ANOTHER WORD FOR ELECTROMAGNET | ANOTHER WORD FOR TURNTABLE |
| HORO | GET RANDOM LIFE ADVICE | PREDICT A PARTICLE'S QUANTUM STATE | GET RANDOM LIFE ADVICE FROM EXPLODING GALAXIES |

From xkcd.com

Jokes Frooommm Sppaaccee!

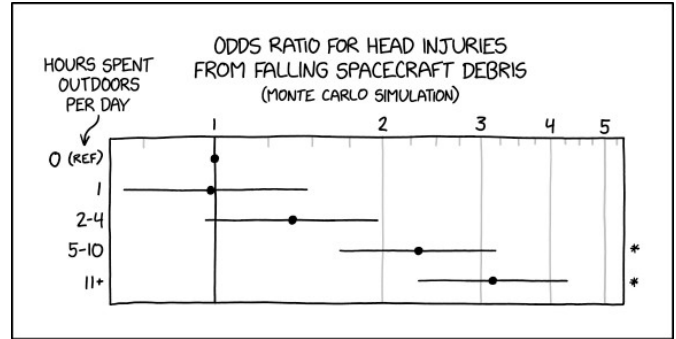
A black hole walks into a bar and orders a drink.
The bartender asks if you would like food with that?
The black hole says "no thanks I'm a light eater"

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.

Why haven't aliens come to our solar system yet?
Because they read the reviews and we only got one star!

knock knock!
who's there?
Solar!
solar who?
so are you going to tell a better joke?



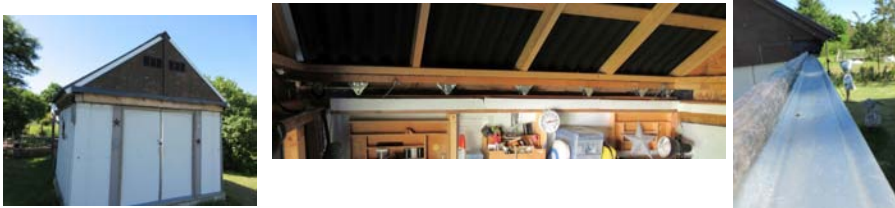
OUR NEW STUDY SUGGESTS THAT SPENDING MORE THAN 5 HOURS OUTSIDE SIGNIFICANTLY INCREASES YOUR RISK OF HEAD INJURY FROM SPACECRAFT DEBRIS, SO TRY TO LIMIT OUTDOOR ACTIVITIES TO 4 HOURS OR LESS.

From xkcd.com

Roof Force Measurements on Three Observatories – by Kevin Kell

One of the challenges of a rolloff style of observatory, is that you have to roll off some heavy portion of the observatory. Often you need height to achieve the correct leverage, or shear mass to get it moving. We have issues here at SCGO, so I embarked on an exercise to measure the force needed to overcome the initial static friction of each of three. Then after renovations, we could quantitatively determine if it was better or worse. I used the luggage scale as seen on page one, gratefully borrowed from Brian Hunter. The sliding max indicator was especially useful.

SCGO- very heavy roof, seven 2" nylon wheels on each side on a soft metal track on wood.



The TARDIS – very heavy building on six Inverted V groove metal Wheels and Angle iron



Serenity- small 4'x4' lightweight building on four Inverted V groove metal Wheels and Angle iron.

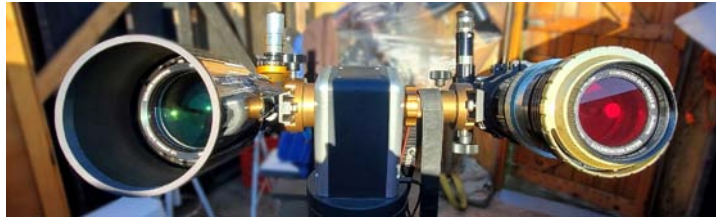


The RESULTS:

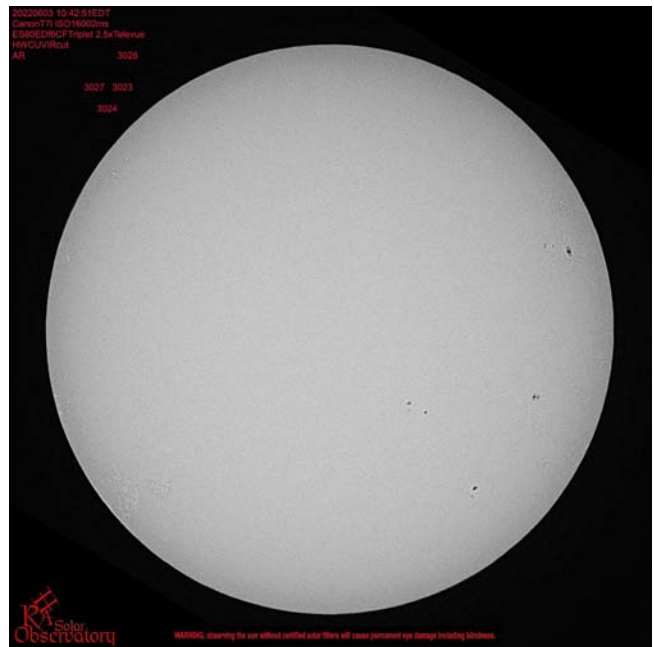
SCGO: 16-18kg
The Tardis: 22kg before oil on track, 16kg after.
Serenity: 6 kg
We will be renovating the SCGO this summer and will be able to compare and contrast

RASC-KC Solar Cycle 25 Monthly Review

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



The month of June started with 3 named sunspot groups on the Solar face emitting “0” eruptions but there was hope. Farside (I do not mean the comic) imaging was indicating large spots that could work their way around the east limb and bring action. Even with this, in the first 10 days of June there were only 12 eruptions of which only 1 reached M Class at 1.2 on the 10th. Still on June 4th cycle 25 was still out performing NOAA predictions (<https://helioforecast.space/solarcycle>) .

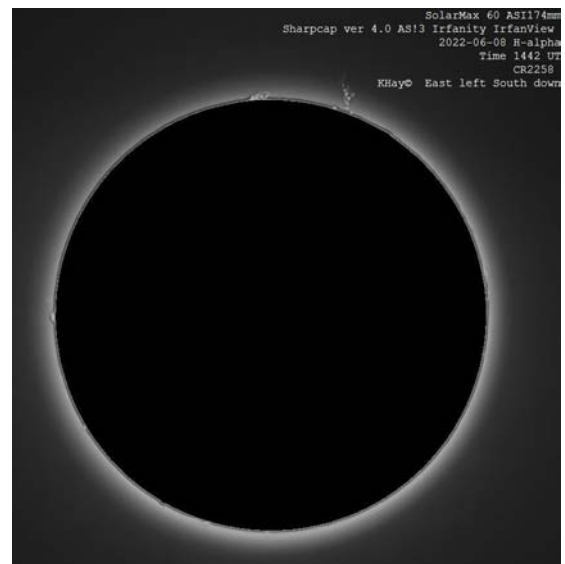


June 3 was my first imaging of the month and the sky was nice and steady.

~~~~~

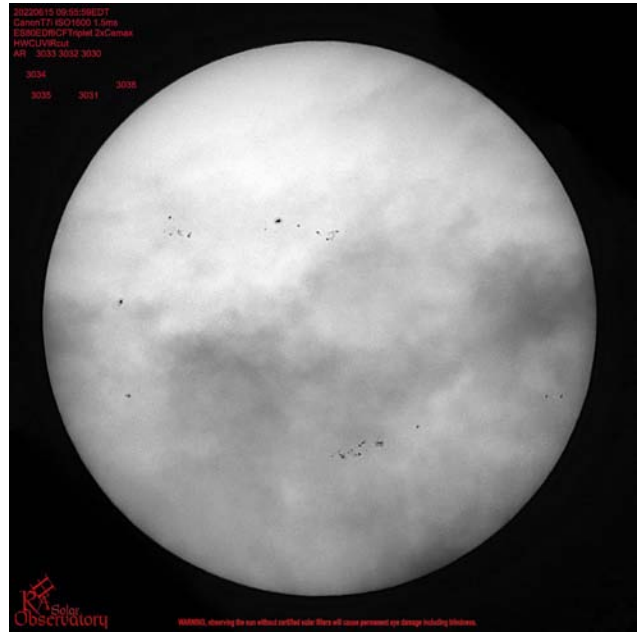
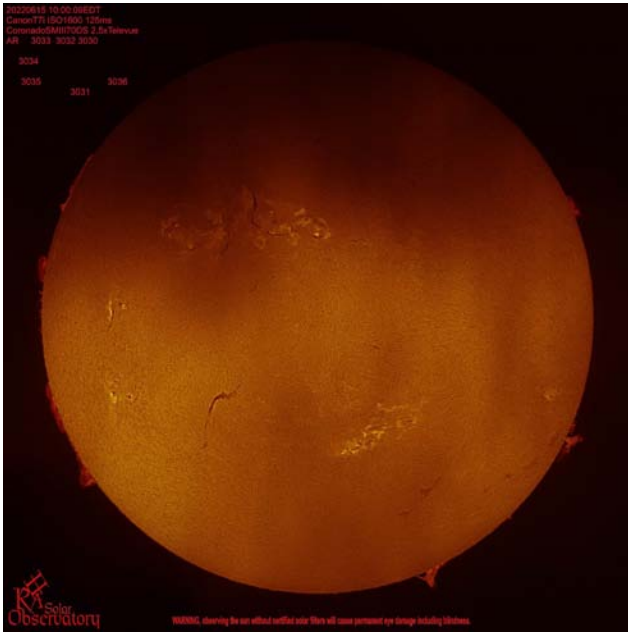
Here is my image not quite tilted the way it showed on Gong, as the camera needed to be moved. I just loved the way the prominence hung there reaching out.

Kim



~~~~~

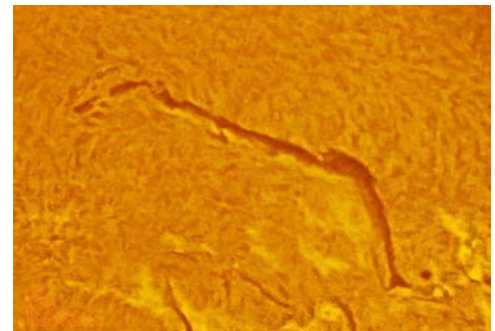
The next 10 days activity grew to 65 eruptions, again with 2 reaching M Class 3.4 & 1.6 on the 13th and 16th respectively. The sun has grown oddly quiet since but prominence activity has stayed interesting. Below 20220615 do not let a cloudy day thwart your imaging.



~~~~~

The last 8 days\* of June were no more exciting as far as active regions but did have some interesting prominences. Especially when this near 400,000km filament reached the N.W. limb of the sun and became a filarom!

\* Regulus deadline noon on the 29<sup>th</sup>.



~~~~~

Although very faint to the eye of the observer on 20220625, I managed to coax much of this huge prominence in the solar N.E.



~~~~~

This is the most disappointing image of the month (20220626) . I am always listening and watching for aircraft transits. Unfortunately I had just paused to take an equipment image with my phone and did not even see the contrail until transferring images later in the day, this would have been a near perfect pass.



~~~~~

Summary of sunspot group and solar flares up to June 29 2022. May numbers are in brackets for comparison. Overall the month was very quiet for flares as shown by the count below and groups were down by a 9. On the sunny side sessions were up by 5!

Sunspot groups = 22 (31)
 Solar Flares
 C = 111 (230)
 M = 3 (21)
 X = 0 (2)
 RHA observing/imaging sessions = 21 (16)

There was one member image submission this month, 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.

RASC-KC Monthly Challenge

****CANCELLED****

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.

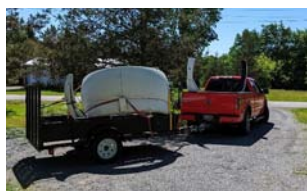
****CANCELLED****

No interest or submissions at this time...



Two articles on our attempts to get equipment out of the RASC-KC storage shed and into use.

1. The Clamshell dome



This has been sitting in the backyard for some years now. Our attempts to motorize the clamshell bits failed, as we attempts to get new weatherstripping from the manufacturer. We needed original paperwork to determine which model it was and that was lacking. It has been used with the Centres 20cm LX200GPS but climbing in and out was very difficult. It is thought that putting this on a small building with a door would help a lot!

We put our a request for proposals and had only one application. So congrats to John and Peggy Hurley! Hopefully you can make this operational some day!

2. Optical Tubes Surplus (surplii?)

Over the years we have equipment donated to us and our previously purchased equipment fail. These optical tube assemblies (OTAs) have been gathering dust (actually not.. they were covered up!).. and we want to get them out in use.. somehow. So to start: documenting, identifying and measuring them:



2a. The Orbitor 3500, the first telescope purchased for outreach activities, some 25 years ago. Newtonian 114mm (4.5") primary, 900mm (35") focal length, F8 focal ratio.

2b. Fotar Model 114900 Newtonian 114mm (4.5") primary, 900mm (35") focal length, F8 focal ratio.



2c. noname model 150750 Newtonian 150mm (6") primary, 750mm (30") focal length, F5 focal ratio.

2d. Buckhorn black Newtonian 200mm (8") primary, 700mm (28") focal length, F3.5 focal length (all approximate)



2e. The Smith Meade newtonian (no image available) most likely a Meade Model 628, 150mm (6") primary, 1200mm (47") focal length, F8. Circa 1977.

If you have any proposals to actually use them, please submit them to us. One such proposal is to have members take them, build Dobsonian telescopes out of them and use them for outreach activities (while stored at the members home!). Let us know what you think!

Other Local Events

L&A County Dark Sky Viewing Area is a great spot for stargazing, astrophotography or deep sky observations with your telescope! Located 37km north the 401 at Napanee Exit 579.

<https://naturallyla.ca/explore/dark-sky-viewing-area-lennox-addington/events-at-la-dark-sky-viewing-area/>

Events at L&A Dark Sky Viewing Area

Our popular Laser-Guided Stargazing Tour events take place on Friday & Saturday nights near a new moon. Each start about an hour after dusk and last approximately 60 minutes. Weather permitting, you'll get a laser-guided tour of the night sky. These events are a great way for novice stargazers to get acquainted with the night sky.

2022 Laser-Guided Tour Schedule

April 29 & 30, 2022
May 27 & 28, 2022
June 24 & 25, 2022
July 29 & 30, 2022
August 26 & 27, 2022
September 23 & 24, 2022
October 21 & 22, 2022

Our monthly Astrophotographers Assemble events are geared toward night sky photographers (but anyone can attend). It's an informal evening where shutterbugs – from novice to expert and everyone in between – are encouraged to come out and photograph the stars overhead. Events begin about an hour after dusk and last all night (if you can stay awake that long).

2022 Astrophotography Schedule

May 7, 2022
June 4, 2022
July 2, 2022
August 6, 2022
September 3, 2022
October 1, 2022

You can see the moon from everywhere, but have you ever looked at it up close? New for 2022, Tim Trentadue will be at the Dark Sky Viewing Area to teach visitors bit about the moon, and you can take a up close look at the surface of the moon through his high powered telescope.

2022 Moon Event Schedule

June 11, 2022
July 9, 2022
August 13, 2022

North Frontenac

has the darkest skies in Southern Ontario and on August 3, 2013 the Township became the first municipality in Canada to receive 'Dark Sky Preserve' status from the Royal Astronomical Society of Canada (RASC).

<https://www.northfrontenac.com/en/open-for-business/dark-sky-preserve.aspx#>

The following events are taking place at the North Frontenac Star Gazing Pad located at 5816 Road 506 between Fernleigh and Plevna. For additional details and updates, please check the events calendar at www.northfrontenac.com. Events begin at sunset and are FREE. Everyone is welcome and don't forget to bring your binoculars and telescopes if you have them.

July 16: Hercules, his Great Globular Cluster and more.

August 12: Perseid Meteor Showers August 13: Sagittarius: Nebulae and Star Clusters Galore.
September 3 and 4 (Labour Day Weekend): Moons: Ours, Jupiter's + Saturn's.

October 15: Our Galaxy, The Milky Way.