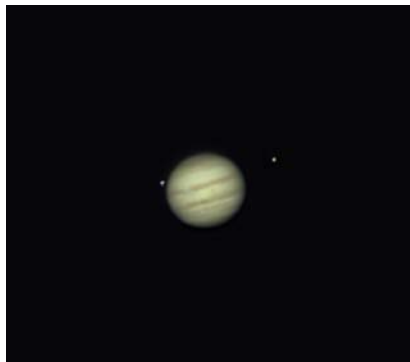


Regulus

2022 October

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



Recent images from Mark DesLauriers and Stephen Craig near the 2022 Jupiter Opposition. Nice Work!

NOTICE: Annual General Meeting Wednesday 2022 November 9th, 7pm EST via Zoom videoconference

RASC-KC Members: Register in advance for this meeting: (to be published in the November issue and emailed to each member). After registering, you will receive a confirmation email containing information about joining the meeting. Voting will be done within the zoom environment.

AGM AGENDA

1. Welcome. Notes on videoconferencing and voting procedures (RASC-KC members only, show of hands in video or participation windows)
2. Approval of Agenda
3. Approval of 2021 AGM 2021Nov10 minutes (later in this newsletter)
4. Approval of Secretary's Annual Report
5. Approval of Treasurer's Annual Report (including auditor's report)
6. Centre Elections: Vice-President, Secretary, Editor, Librarian, National Council Rep
7. Election of Auditor
8. Questions regarding other published reports: President, Vice President, Librarian, Editor, NC Rep, Webmaster, Equipment Loan,
9. Adjourn with thanks

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: Wednesdays 2022 October 5, 19, 26

The next Regular Monthly Meeting (zoom) is Wednesday 2022 October 12th 7pm EDT. Format: Virtual via Zoom only

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

In the October Issue

- * **AGM 2022 Notice**
- * **AGM 2021 Draft Minutes**
- * **The President's Nook – Kim Hay**
- * **Skyward – David Levy**
- * **The Fine Print-RASCK**
- * **The Sky This Month-Rick Wagner**
- * **An update on the Venor 60cm Dobsonian telescope - Kevin Kell**
- * **1282 Utopia Occultation – Rick Wagner**
- * **Notes from Members**
- * **Fall'N'Stars 2022**
- * **Fireball 20220924 00:36:05 UTC – Kevin Kell & Kim Hay**
- * **Google Pixel 6 – Kevin Kell**
- * **2023 RASC Calendars – Susan Gagnon**

Editor: Kevin Kell

The Board structure consists of seven positions of two year terms. The terms are staggered with the President, Vice President and Treasurer's terms being up in odd numbered years and the Secretary, Librarian, Editor and National Council Rep being up in even numbered years. Source: RASC-KC Bylaws (2006). The Executive consists of the Board, and other appointed Officers.

8.10 Duties Of The Vice-President

8.10.1 The Secretary shall assist the President in the discharge of his or her duties, shall preside at meeting of the Council and of the Center in the circumstances prescribed in Articles 7.2.4 and 10.4 and shall have other duties as may be prescribed in Article 9.7

8.11 Duties Of The Secretary

8.11.1 The Secretary shall

- 8.11.1.1 * submit for adoption at the annual meeting of the Centre a report on the number of members in each class of membership at the end of the previous membership year,
- 8.11.1.2 * submit to the Secretary of the Society by January 15th in each membership year the report referred to in clause (a), a list of the current officers, National Council Representatives, and Centre Council members of the Centre, with addresses for the officers and National Council Representatives, and a brief report on the activities and meetings of the Centre during the past calendar year,
- 8.11.1.3 conduct the correspondence of the Centre and report thereon to Council,
- 8.11.1.4 have custody of the seal and the current minutes and documents of the Centre,
- 8.11.1.5 discharge the duty prescribed in Article 10.1.2,
- 8.11.1.6 be responsible for the preparation and submission of accurate minutes of all meetings of the Council,
- 8.11.1.7 send to all members of the Council the minutes of all Council meetings referred to in clause 8.11.1.6, and
- 8.11.1.8 have such other duties as may be prescribed by the Council.

8.11.2 The Secretary shall be a member of the Executive Committee as prescribed in Article 9.7.

- Take minutes of Regular Monthly Meetings and send to the Editor for inclusion in the newsletter.
- Take minutes at Executive Board Meetings (minimum of three executive meetings a year)
- Send out "Thank You" letters to guest speakers

8.13 Duties Of The National Council Representative(s)

- * attend all meetings of the National Council for which he or she is so authorized and as may be reasonably practicable,
- * represent the Centre's interests, and report to the Centre Council the business conducted by and the activities of the National Council.

8.14 Duties Of The Editor

- * The Editor shall be responsible for the publication

of the Centre's publications, may appoint other members of the Centre to assist him or her, and shall have such other duties as may be prescribed by the Council.

Duties Of The Librarian

8.15.1 The Librarian shall

- 8.15.1.1 have custody of and be responsible for the safekeeping of the books, publications, films and photographs, astronomical instruments, archives and other library materials of the Centre,
- 8.15.1.2 operate the Centre's library, including the acquisition of new books and other library materials, the lending of library materials, the maintenance of a current catalogue of all library materials, and the exchange with other organizations of library materials, and
- 8.15.1.3 have such other duties as may be prescribed by the Council.

DUTIES OF THE AUDITOR

11.1.1 At every annual meeting the Centre shall elect an auditor to hold office until the end of the next annual meeting. The auditor shall conduct an audit of the Centre's financial records and shall express an opinion on the annual financial statements to the members of the Centre. The auditor shall not be a member of the Council.

**RASC Kingston Centre
Annual General Meeting
Wednesday November 10, 2021
Virtual by ZOOM based out of the Corporate
address.
DRAFT Minutes prepared by Kim Hay**

Meeting started at 7:00 p.m. with Welcome to all and to New members to the Kingston Centre Edward Darby, Liam Strong, Dean North, David Lawrence, Jack Barnes, John Harding.

David Levy gave an introduction and a reading from Leslie Peltier on Halley's Comet.

The Agenda for the Annual 2021 meeting was presented

- For Motions and Elections only Paid up members of the RASC Kingston Centre Annual Meeting will be able to vote. A show of hands in the video or participation windows.

- Agenda
- Approval of Agenda
- Motion 2021111001 Moved by Kevin Kell seconded by David Levy Approved

- Approval of Annual Meeting Minutes November 11, 2020 (on screen)
- Motion 2021111002 Moved by David Levy seconded by Susan Gagnon Approved.

- Report of Secretary- Presented by Kim Hay
- Read aloud to the members. Motion 2021111003 Moved by Kim Hay seconded by Mark Coady. Approved. This report will be sent to National Office for the Annual Report 2021.

- Report of Treasurer & Financials , Auditors Report- Susan Gagnon
- Presented to the Membership. The auditor's report was read. Report was amended to add that member elected auditor Stephen Craig who had to step down, was filled by Michael Bird and appointed by the Board. Motion 2021111004 Moved by Susan Gagnon and seconded by Gerald Noordhof to accept the financials as presented.

- Elections of the following positions:
- President: It was also called upon to the members for anyone who wished to run. Nominated by Susan Gagnon, seconded by Laurie Graham. Acclaimed Kim Hay President for 2022-2024

- Vice-President : It was also called upon to the members for anyone who wished to run. There was no one. Mark Coady nominates Acclaimed Laurie Graham Vice President for 2022-2024

- Treasurer: It was also called upon to the members for anyone who wished to run. Current incumbent (Susan Gagnon) replied they would fulfill the position for two years Nominated by Laurie Graham, Treasurer for 2022-2024

- Secretary : This position is vacant , and called upon the members three times. It remains vacant

- Librarian: This position was vacant. Kim Hay stated that she would take this position on.

- Auditor for 2022- Motion 2021111005 Moved by Susan Gagnon nominated that Michael Bird would do the Auditing of the books for 2022.

- Submitted Reports by President Vice President (NA),, Librarian, Editor, Equipment Loan, NC Rep (NA), Webmaster (NA) Sent to email list for members reading and questions.- No questions came up during meeting.

- Questions? None
- Awards- Susan Gagnon -Citations (online)
 - A.V.Douglas Award two winners. Dr. Bruce Elliott, Dr. Laurie Graham.
 - Bruce talked on the Outreach activities in 2021 and also that more are planned for 2022.
 - Laurie thanked everyone. Noted that during the Covid times, the outreach has been missed, and the interaction with children and adults for the love of the hobby has suffered with her connection to Astronomy.

- Friends of the RASC Kingston Centre Devin Graham Anscin. This is the first year of this award . A Thank you from Devin to all for the award.
 - Awards were shown to the recipients online, and will be handed to them at a later date.
 - They each receive a keeper plaque and the A.V.Douglas winners have their name put on the large Centre Keeper plaque.
 - Adjournment with Thanks 7:44 pm.

President's Nook - Kim Hay



What a month! We carried on the Summer event at Lake Ontario Park (LOP) bring your own dinner get together on September 7th, one of our Social nights. We had our September meeting, via ZOOM with Dr. Andrew Godefroy, on the Anniversary of Alouette- Canada's Satellite in Space. Fall' N' Stars 2022, in its 22nd year at Johnson's RV Park, Picton on September 23-25th. A grand clear Friday night, temperatures not too bad, and a fantastic Fireball made its way South down the Milky way. See the Fall' N' Stars Coordinator, Susan Gagnon's report.

We did have some bad news on this weekend as well. Wendee Levy, wife of our Honourary President David Levy passed away after a battle with cancer. We have sent a card now, and gathering information on a donation to one of Wendee and David's projects. Our condolences to David (Doveed) and the family at this time of sorrow and grief.

On September 24th, Queen's Observatory held its first open house in two years. Reports from Stephane Courteau said the event was a success and Mike Earl helped out on the deck with his C8. Nathalie Oulette spoke on JWST. The open house dates are out and they are as follows: **Oct 22, Nov 19, Dec 17, Jan 21, Feb 18, Mar 18, Apr 15, May 20, Jun 17. All at 7:00 p.m.**

Talks will be in the Ellis Hall Auditorium then going upstairs to the Observatory and deck with Observatory Coordinators Akanksha and Lawrence.

We are looking for helpers with the on deck to man the telescopes. The Centres Celestron 6 inch and the Gibbs Dobsonian will be going back into use for these events, so there is no need to bring other equipment. We are also looking at a volunteer schedule, so the volunteer times will be rotated and the same people do not have to show up each month. Come for an hour or for the whole night, we would love to have you join us in for the fun on the Deck.

On September 29, 2022 the Discover the Universe had a presentation on "Astrodigenous". It is a portal that is being put together with lots of resources on Indigenous peoples and Astronomy . The team would like input and comments on the layout of the page and the search functions. It is a work in progress, and not finalized yet, so if there are mistakes or omission's, please let them know. This is geared towards teachers, and outreach members so please visit the site at <https://www.astrodigenous.ca>

For the Centre itself, we are still on the hunt for a room for our in house meetings. Queen's still has not opened up, but we would like to gather in person, and also hold a hybrid meeting so others could attend online. If anyone has a suggestion for a possible location in Kingston, please send a note to kingston@rasc.ca

With this, our October meeting will be a ZOOM meeting, and will be all about what our members have been up to over the summer months. If anyone would like to do a short 10 minute presentation please let us know at kingston@rasc.ca. Our meeting night is October 12th. In November we will have guest speaker Dr. Kristine Spekkens from RMC, and also our Annual Meeting and Election night.

Have you ever wanted to help your centre and not sure how? This is one way to learn and contribute in the running of your Centre. Present ideas that will help to shape the future of the Centre. We have several positions that are up for election (see this month's insert on what the positions entail). If you are interested in holding any of these positions, please let any of our Executive know or send a note along to the kingston@rasc.ca email.

Secretary , Editor, Librarian, National Council Representative,(2 year terms), Vice President (1 year term)
Our VP Laurie Graham has stepped down, and we would like to fill this position. This position is also a Director of the Centre. It's a one year term until 2023 in which it will be up again for two years.

We do have work to do on our By-laws ,to bring them in line with the National By-laws, Policy Manual and Member Manual just updating. These are jobs for all the Executive to work on. We also want too plan some Members nights, and need the logistics worked out. More hands make light work, and who knows what we can accomplish.

Till next month, Keep looking up!

Skyward September 2022 - David H. Levy



On first looking through Baade's window

Much have I travell'd in the
realms of gold,

And many goodly stars and clusters seen;
Round celestial islands have I been
With telescope after telescope to the night sky hold.
Oft of one wide expanse had I been told
That Galileo ruled as his demesne;
Yet did I never breathe its pure serene
Till I heard Baade speak out loud and bold:
Then felt I like some watcher of the skies
When a new star cluster swims into his ken;
Through his majestic window looks upon the Milky Way
He star'd at the centre of our galaxy.
Like a diamond shining in the sky, with a wild surmise—
Silent, through the mists of space and time.

(--Keats, Chapman's Homer sonnet, adapted for this article.)

Lying in the western portion of Sagittarius, the archer, is a small region of sky that has unusual importance for astronomers around the world and which to me is one of the most beautiful things in the whole sky. It was most thoroughly studied by the German astronomer Walter Baade while using the great 100-inch Hooker reflector at Mt. Wilson Observatory in California while searching for the center of the Milky Way galaxy. Before this time, the location of the Milky Way Galaxy's center was not well understood.

Walter Baade had an interesting and unusual life. In the mid-1930s, he lost his application papers for United States citizenship. Consequently, in 1941 he was classified as an enemy alien and was held virtually under house arrest. Somehow a compromise was reached and he was allowed to state his address as Mount Wilson observatory. With a monopoly of observing time on the great 100-inch telescope, he concentrated his efforts on the Milky Way galaxy.

One of Baade's most important projects was a search for a region of the sky that could be close to the center of the galaxy. He took good advantage of the wartime blackout over the city of Los Angeles. Intended to help obscure the city from attacking warplanes from Japan, it also darkened the sky significantly so that Baade could try to find areas near the galactic center. Although he did not find it, he did uncover a small area in Sagittarius relatively free of dust. This "window" was slightly south of the main center of the galaxy. The globular cluster NGC



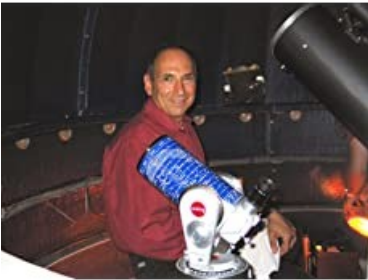
Figure 1: Adam Block/Mount Lemmon SkyCenter/University of Arizona)

6522 is at the middle of this area, and NGC 6528 is near its edge.

Astronomers still use this window to study stars in the Milky Way's central bulge. Important information on the internal structure of the Milky Way is still being better understood by measurements made through this "window". The window's shape is irregular in outline and delimits about 1 degree of the sky, an area of about 2 moon diameters. It is centered on NGC 6522, which might be, at 12 billion years, the oldest star cluster in the sky. Baade's window is the largest of the six areas through which stars in the Milky Way's central bulge can be seen. Stars observed through Baade's Window can be called BW (for Baade's Window) stars, similarly giant stars can be called BW giants. [OGLE](#) and other observation programs have successfully detected extrasolar planets orbiting around central stars in this area.

On a rare clear evening during the summer of 2022, I gazed at the clusters and stars through this window. I shall never forget the exquisite majesty of this distant region which, thanks to Walter Baade, allows me to peer toward the middle of the enormous Milky Way galaxy which is our home.

Skyward **October 2022** - David H. Levy



An obituary for Donald Edward Machholz

Dear Don,

You left us far too soon, my friend. From your home in California and later in Arizona, you lived quietly and well, with a passion for stargazing that dominated your life.

As the English poet Gerard Manley Hopkins wrote, "I am like a slip of comet,/ Scarce worth discovery." He wrote his poem in 1864 but it might have been composed with you in mind. You were born on October 7, 1952, in Portsmouth, Virginia. I first heard of you during the 1970s, when you were popularizing a program to observe all (or almost all) the Messier objects in the sky, in a single night. I did not take the idea seriously for a long time. I have seen all the Messier objects, but I found them over a relaxing period of five years, from Messier 45 (The Pleiades star cluster) during the summer of 1962, to the distant and ethereal galaxy Messier 83, in the spring of 1987. Your idea was to learn the sky far more thoroughly than I did, and catch all the clusters, clouds of gas and dust, and distant galaxies that Charles Messier carefully recorded. (Messier himself was an 18th century hunter of comets, but he is known more for his catalogue.)

Thank you for inspiring me. By the mid-1980s, I was more proficient in observing than I was in earlier decades. One clear night in the early spring of 1983, I successfully observed all but one of the Messier objects. Messier 30 was the only one I missed that night.

By that time, Don, you were already famous. In 1978, after some 1700 hours of searching, you discovered your first comet using your simple telescope. (You never gave up, did you?) I thought of your success on that beautiful quiet night. In 1985, on the final night of the Riverside Telescope Maker's Conference that year, you discovered a second comet after another 1700 hours. You used a beautiful 10-inch cardboard and glass telescope for that second comet. (You really never gave up, did you.) Luck began to go your way after that. Your third comet arrived in 1986. You used a pair of 29 x 130 binoculars for that one. Right in between the passages of your second and third comets, Comet Halley, the most important and famous comet of them all, rounded the Sun on February 9, 1986. I like to think that as the great Halley's comet made its pass through the inner solar system, it was guarded by these two other comets discovered by you.

Don, you never ever quit. No one would have criticized you if you had. Instead, you spent the remaining years of your life searching the sky. You spent almost *nine thousand* hours over the course of your life comet hunting. Through it all, you never lost your passion for watching the sky. You and I share that one important aspect, Don. As many comets as you and I might have found, it was the search that was so important, for "in no better way," as Leslie Peltier wrote, "can we come face to face, night after night, with such a wealth of riches as old Croesus never dreamed of."

In recent years the professional astronomers have taken over comet discoveries. But still you kept on searching. Despite their great big telescopes, you kept going, always searching, with a series of small telescopes. You found two new comets in 1994, one of which broke apart into several pieces.

By the start of the new millennium, amateur astronomers had pretty much given up. Visual comet hunting, was passé. No more. Only not for you. You discovered not one, not two, but three comets since the year 2004 and as of August 2022, you were the leading discoverer of comets by visual means in the world.

Don, I wish I had known you better. I do know I shall miss you, and our friendship which has evolved over the years, very much. I conclude this letter, this obituary, with the end of the Hopkins poem:

"But then her tether calls her. She falls off,
And as she dwindles sheds her smock of gold...
So I go out. My little sweet is done.
I have drawn heat from this contagious sun,
To not ungentle death now forth I run.

Rest in peace my friend.
David H. Levy

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 or third Saturday of each month, at Ellis Hall, Queen's University (which has been closed during the COVID 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

We provincially incorporated as a not-for-profit corporation September 2005 and are a registered Charity with Revenue Canada since 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

October-November – remote zoom videoconference by default..
December – Annual Social Dinner also up in the air!

Current Centre Members as of 2022 Sept 01:

Total: 71
Youth: 1
Adult: 62
Life Members: 8

The Sky This Month - October Skies – Rick Wagner

02 Oct – First Quarter Moon

04 Oct - (23) Thalia occults HIP4031

08 Oct – Mercury at Greatest Western Elongation, mag -0.5 – best morning apparition this year, just above the eastern horizon before sunrise

09 Oct – Full Moon (16:55EDT)

10 Oct – South Taurid meteor shower, very minor shower

12 Oct – Uranus 0.1° south of the gibbous Moon's southern limb

14 Oct – minor planet 1282 Utopia (mag 14.7) occults M34 member star TYC 2853-431-1 (mag 10.4)

15 Oct – see Jupiter tonight with only one Galilean moon (Callisto) visible 00:35-00:50EDT on the 16th

17 Oct – Last Quarter Moon

21 Oct – Orionid meteor shower – dust particles shed by Comet Halley; 20-40 meteors per hour, getting better all night as the radiant rises higher

22 Oct – Venus at superior conjunction – on the far side of the Sun and will soon move into the evening sky after sunset

23 Oct – for the next two weeks look for the zodiacal light – a large faint triangle of light extending up and to the right from the eastern horizon well before sunrise

24 Oct – Moon just a few minutes less than 24 hours before new rising shortly before sunrise in the east

24 Oct – Moon occults Mercury

25 Oct – New Moon (06:49EDT)

An update on the Venor 60cm Dobsonian telescope - Kevin Kell

We have been storing the 60cm Venor dobsonian telescope for a few years now. Doug Angle has been the primary custodian of it over the last decade but needed it gone to do some home renovations. Those are complete and Doug has expressed a desire to move it back to his care.

It has not seen a lot of use in the last few years. We do not have a vehicle large enough to move it anywhere so it has mostly stayed in storage, with a few exceptions. Doug does have a vehicle large enough and has often brought it out to public EPO events and star parties.

In preparation for the turnover, we brought it out last week and gave it a once over. We found that it needed a little maintenance :)

1. secondary cage bag holding washers and cotter pins disintegrating, needs replacement - Done
2. need spare washers and cotter pins - Done
3. needs a storage box to carry with the telescope, spare washers, cotter pins, 2" to 5/4" eyepiece adapter, spare plastic bags to cover secondary mirror, spare 2xAA batteries for the Telrad finder - Done

4. formica on main bearing loose - need repair - Done
5. needs a nameplate - Done
6. TWO secondary cage clamp wires broke and needs repair/replace - Done
7. Primary Mirror extremely dirty - needs cleaning - Done
10. needs two new pins to lockdown Alt and Az movement for transport - Done
11. telrad needs new battery holder, totally corroded; telrad heating element corroded, needs replacement; telrad switch totally corroded, needs replacement; telrad LED light source not functioning: need new telrad - Done
13. corroded power transfer contacts on the poles. - Done
14. dead 12vdc 6AH battery. recharged but did not hold charge - needs new battery (probably a talentcell lithium like the Celestron 6SE has) - Done
15. loose and missing nuts on primary mirror cell holder - Done
16. heavy duty 10x12 tarp and chew holes - needs repair. - Done
17. installed 100ohm 12vdc heater to telrad (0.12 Amps and 1.44Watts)
18. mount nameplate to primary mirror box

Still TODO

- 8. Update the manual and print off a copy
- 9. needs a one page laminated checklist for

setup/ teardown

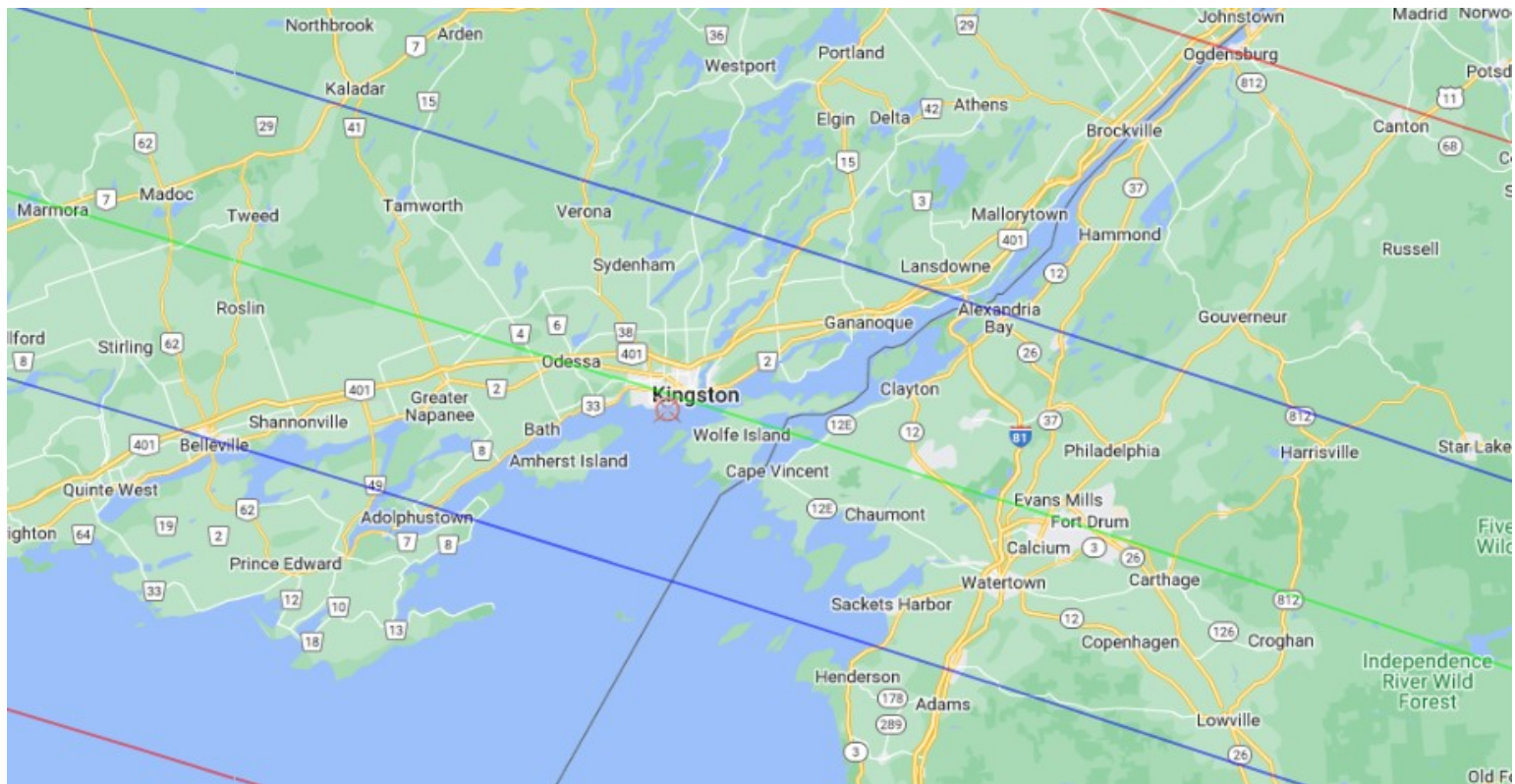
- 12. add two simple 5/4 eyepieces to storage kit; consider dedicating a 2" eyepiece



Above are four images, before the mirror clean, the cotton balls after the cleaning, the mirror after the cleaning and the new telrad with heater and power connection.

1282 Utopia Occultation – Rick Wagner

On the morning of 14 October at about 01:56EDT the small minor planet 1282 Utopia will pass in front of a relatively bright star for people in a narrow band extending from south of Cote d'Ivoire to north of Hawaii. That band includes the city of Kingston.



1282 Utopia is a minor planet orbiting in the outer asteroid belt between Mars and Jupiter with a period of about 5.6 years. It was discovered in 1933 by South African astronomer Cyril Jackson at the Union Observatory in Johannesburg. It is quite dark, reflecting only about 5% of the light that strikes it. This low albedo combined with a small diameter of about 55km makes it quite dim at about magnitude 14.7. So, unless you have a large telescope it will be completely invisible.

M34, also known as NGC1039, is a nice bright (mag 5.5) and relatively rich cluster in western Perseus near the border with Andromeda. It is relatively young at 200-250 million years old. It was probably discovered by Giovanni Batista Hodierna and Charles Messier included it in his catalog in 1764. The 'target' star TYC 2853-00431-1 (from the Tycho star catalogue) is probably a member of M34. It is a blue star just on the cluster's northeast outskirts. At magnitude 10.4 it will be easily visible in small telescopes.

Since Utopia will be invisible in most telescopes the occultation will consist of the star suddenly winking out as the minor planet moves in front of the star blocking its light. For a few seconds we are in the shadow of the minor planet and all we 'see' is its 14.7 magnitude light. A few seconds later as the minor planet's shadow moves on westward the star will suddenly reappear. Depending on your location and the exact path of the shadow, the maximum duration will be 5.7 seconds. At the time of the occultation the star will be nearly overhead.

On the attached map (from <http://www.poyntsource.com/New/Global.htm>) shows the predicted path outlines with the two blue lines. Because the orbit of Utopia isn't known with perfect accuracy the two red lines mark the '1-sigma' boundary. There is a 68% likelihood that the path will be between those lines. So even if you're outside the predicted path it is worth watching.

The star chart clearly shows the bright stars of M34 to the lower right of centre and the target star under the cross-hairs in the centre. The field of view shown is about 1/2 degree wide.



Notes From Members

Collimation of a telescope – Malcolm Park

My approach with the EDGE HD 9.25" is to first attach a camera.

If you have the ability to display your live view on a computer that's best.

Backyard EOS does this I think. Magnify it too.

Either way, go to a moderately bright star and defocus it until it's a donut.

Use the collimating screws of knobs to make the ring symmetrical.

That is a surefire procedure.

Once you know that you are collimated, test your new bahtinov device.

Right now, you don't know that you're truly collimated.



Richard Wagner wrote: If the "centre" of the (optical) field is well outside the frame of the camera then the coma will all point in that direction. If the misalignment isn't too bad then you should see the coma getting worse across the field (increasing in the direction that the open end of the fans point) and should angle in somewhat towards the centre of the optical field.

Mark Kaye wrote: Here is the resultant tri-bahtinov image, which I believe shows both good focus and collimation.



Jupiter – Brian McCracken

This is my image of Jupiter which I showed at our RASC-K chat on 28-Sep-2022.

The image was taken on 23-Sep-2022 at 2245 with a Nikon Z9 mirrorless camera using a 200-500mm zoom and 1.4TC (700mm). Image settings are 1/125 second, f/9.0, ISO1000. Jupiter's moons were enhanced using masking in Lightroom.

Fall'N'Stars 2022



The 22nd Annual Fall'N'Stars Star Party (Photo Credit Randy Boddam) was held on the weekend of 2022 Sept 23-25 at Johnson's RV Park in Prince Edward County, our 3rd year at that site.



We just got back from Fall'n Stars. We had a great weekend with beautifully clear sky Friday night. It was great to get back together with friends and fellow astronomers. Here are my favourite images from the weekend, a panorama of the campsite and a mosaic of the Southern Milky Way. Steve Craig





Fireball 20220924 00:36:05 UTC – Kevin Kell & Kim Hay

Another great fireball event captured by the UWO Yarker 10 (SCGO allsky2) camera system Friday evening at 20:36:05 EDT. At least 5 people saw this visually, directly at the 22nd annual Fall’N’Stars Star Party in southern Prince Edward County Ontario on the weekend. All of the others were looking elsewhere, only to see the ground light, up, moving shadows, and attempted yelling at whattheythought were people and headlights or white flashlights!

The video shows a 5 second event with a lot of flickering/breakup.

The allsky camera system shows the event well to the south. At FNS2022, the meteor started nearly overhead and tracked south. We believe this means that it was relatively low altitude.



Inside the barn where we had dinner and talks on Saturday.

Another observing chair, this one continuous variable height with leg extensions.



Fall’N’Stars.. where the telescope sleep indoors and the astronomers sleep outdoors!

Fall'n'Stars: Registrar's Report by Susan Gagnon

This year's Fall'n'Stars was, in my opinion a great success. Mainly due to the amazing clear skies on the Friday night! There was much observing, astrophotography, and sharing of information. We had many new faces and some absent past regulars were missed. Saturday arrived with no set speaker schedule and several folks presented short topics of interest in a very relaxed informal setting with lots of back and forth discussion. Our guest speaker for Saturday evening cancelled due to family illness and we were disappointed but the socializing carried on. There were 37 people who were registered for some portion of the weekend and 27 who were registered for both nights of camping. Saturday night was cloudy and some

folks did exit at sunset. Sunday morning pack-up was dry, not even any dew. Clean up was quick and easy with the help of many hands. The last of us were out by 10:10. This weekend remains affordable and simple to run, fundraising is not the goal. E transfer for registration was popular and accounted for 53% of registrations. There will be some analysis of the pizza orders to eliminate too many leftovers. There was a modest profit of \$361.70 which will be split evenly with Belleville Centre. Many thanks to all who helped out, from the early process of website/registration update to the final sweep out of the barn. Several folks brought food to share as grazing material in the barn, thank you. Thanks to Steve Burr of Belleville Centre who is our man on the inside at Johnson's RV Park. Steve and Pat Johnson had the barn nicely set up and ready to go by 10:30 Friday morning. Thanks to all who came! It is only a success if you come out and contribute to the critical mass required. As small as our group is, the variety of ways of enjoying astronomy are on full display at these events. Watch for the posting of next year's date!



The Google Pixel 6 – Kevin Kell

In the past we used a dedicated compact Canon camera, an ELPH 120IS for quick astrophotos. It could do only 15 sec exposures. We then loaded it with special CHDK software that allowed one to override and go beyond the initial limits to 60 seconds. It was a pain however to try and load the new firmware, set infinity focus, sec exposure and ISO, in the dark. So we did not use that a lot. Along comes the google pixel 6, native camera app. Mount the camera on a tripod with an adapter, set it for “night sight” mode and it:

- * takes a 240 second exposures
- * aligns and stacks the image
- * aligns and stacks the sky separately fro the ground!

The above is one of the many best results from Friday night. Blown away I was! This is Scorpius and Sagittarius **and** the Milky Way!



And this was the best shot from Saturday :)

Cloud
Cloud
Cloud



2023 RASC Calendars Are Here!!! - Susan Gagnon

Your treasurer has received our order of 2023 Observer's Calendars and they are lovely. Please send your request asap so we can arrange the Annual Parking Lot Calendar Round-Up before it gets to cold. Some folks have already reserved. Email the chat list or kingston@rasc.ca, or let me know by signing into the Social Hour on Wednesdays. As always...\$20.



SCGO Allsky1pi lens issue – Kevin Kell

The 1.55mm lens from the SCGO allsky1pi camera system. After about two years, it seems to have clouded over on the inside of the top lens. At first we thought it was just regular old condensation, but it did not go away. We will attempt to disassemble this on a quiet rainy day in the near future and attempt to clean it.



The Royal Astronomical Society of Canada is saddened to hear of the passing of Her Majesty, Queen Elizabeth II. She was the only Monarch that most members of the RASC ever knew, having reigned for over 70 years. As a Royal Society, RASC has always had a connection to the British Monarch

and their representatives. As an example, here is a note from one of the Queen's ladies in waiting, thanking us for a 2003 Observer's Calendar.

RASC also acknowledges Queen Elizabeth's successor and the Society's new patron, King Charles III, and wishes him a long and successful reign.

Double Asteroid Redirection Test (DART)

DART was the first-ever mission dedicated to investigating and demonstrating one method of asteroid deflection by changing an asteroid's motion in space through kinetic impact.

Nov. 24, 2021 — Sep. 26, 2022

[Ed: I am unsure where these images came from so no credits known.]

