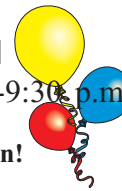


Upcoming Meetings

Friday, December 10, 2010
Regular Meeting 7:30-9:30 p.m.
☞ *Dr. Rachel Kuzio de Naray, RMC*

Friday, January 14, 2011
Regular Meeting 7:30-9:30 p.m.
☞ *various members*
50th Anniversary Celebration!



Meetings are held at 7:30 p.m. at Stirling Hall Theatre "A" on Bader Lane at Queen's University in Kingston, Ontario. Our meetings are co-sponsored by the Queen's Physics Department and include Astronomy lectures open to the public. ★

KAON Public Observing

Saturday, December 11 7:30 p.m.

KAON (Kingston Astronomy Outreach Network) sessions are held at Queen's Observatory on the 4th floor of Ellis Hall. ★

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- ▶ Observing Reports: November . 6



The Cocoon Nebula

Reports & Other Items

The Cocoon Nebula

Brian McGaffney reports in with his latest imaging masterpiece:

The Cocoon Nebula floats like an island within a sea of dark clouds. It is a star forming region that contains three of the major types of nebulosities: emission, reflection, and absorption. These three types of gas clouds are responsible for the red, blue, and black regions shown above. The large central star within the Cocoon has blown a hole in the nebula and is likely responsible for exciting the surrounding hydrogen to emit in H α light.

This faint object is hard to shoot due to its faint nebulosity. Even after 20 minutes of guided exposure it just barely makes an image on the CCD. Total acquisition time was about five

hours; processing about 20 hours.

Taken with Dall Kerkwell 14-inch astrograph using an Apogee U16M CCD camera. Guided at 20 minute subframes. ME mount with 50mm Astrodon filters and taken remotely off site from the observatory. Processing was done with MaxIm, CCDsharp, and PS CS5.

Comet Hartley 2 Up Close

On November 4th, NASA's *Deep Impact* spacecraft imaged the nucleus of this comet from a distance of just 700km. This is the best nucleus image yet, showing much surface detail, many out-gassing jets, and the cloud of particles surrounding the nucleus. What a great supplement to our backyard observations of this autumn's best comet!

From Kingston Centre, the RASC, and Beyond...



KC Facebook Page

Started in mid-October, the Centre's Facebook page has had 185 visits and almost two dozen active users in its first month. While there is an RASC page on Facebook, Kingston is the first RASC Centre to have a Facebook page! Ottawa Centre subsequently started one also. Be sure to look all of these up if you haven't already.

Ph.D. Defense Online

On November 1st, starting at 4:30 p.m., AAVSO IT guy Aaron Price defended his dissertation *Scientific Literacy of Adult Participants in an Online Citizen Science Project* at Tufts University. In a modern twist, his defense was broadcast live on the Internet and viewers were able to e-mail questions for Aaron to answer. It was a very interesting experience! After a short break (while the panel was off deliberating), the broadcast resumed with the happy news that Aaron was now Dr. Price. Congratulations Aaron! ★

An Astronomer's Christmas

Bill
Broderick

From *Regulus*,
Nov-Dec 1993

Twas the night before Christmas and all through our home,
Everything was quiet, even up in the dome.
The telescope was nestled in its cradle with care,
In hopes that the stars might sometime be there.
City lights on the crests of the new-fallen snow,
Gave the lustre of midday to objects below.
But worse was the effect up in the sky—
Light pollution was enough to make astronomers cry!
When suddenly outside there arose such a clatter,
I sprang from my bed to see what was the matter.
Away to the window I flew in a flash,
Tore open the shutter and threw up the sash.
I looked out the window and what did I see?
Why, darkness had descended on the world. Oh glee!
That's what the commotion was all about:
Our power had failed—the lights had gone out!
As I lifted my gaze to the heavens above,
My eyes filled with glory, my heart filled with love.
The Milky Way stretched like an arch overhead—
The stars gleamed in their myriads—I eschewed my bed!
I rushed up the stairs to where the telescope waited,
And opened the dome—I was so elated!
Christmas had come in a wonderful way,
For this amateur astronomer, what more can I say?
As I peered through my scope, I exclaimed with delight,
"Merry Christmas to all, and to all a great night!"

Regulus Needs You!

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

walter2 (at) starlightccd (dot) com

or:

Walter MacDonald
PO Box 142
Winchester ON K0C 2K0

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RASC-KC Board of Directors

President:	Susan Gagnon
Vice President:	<i>vacant</i>
Secretary:	Steve Hart
Treasurer:	Kevin Kell
Librarian:	David Maguire
Editor:	Walter MacDonald
National Council Rep:	Brian Hunter

2009-10 Committee Chairs/Coordinators

Equipment Loan:	Kevin Kell
KAON:	Susan Gagnon
Webmaster:	Walter MacDonald



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PERSONAL PROFIT FROM ASTRONOMICAL STUDY

ONLY AS AN AMATEUR who has profited by the labours of great men, do I venture to speak to-night. It has been a pleasure to me to read what such men have found out, and to verify, so far as possible with very limited appliances, their discoveries.

Among the ranks of the amateur students of **Urania** all sorts and conditions and degrees are found, ranging from such master minds as the late **Rev. T. Webb**, down to the individual who studies the constellation groups with unaided eye, for the simple pleasure of knowing the places and appearances of the stars. It is amongst these last I find myself, yet have I pleasure in the thought that far in advance, yet in the same company, are found these gifted souls.

Those familiar with astronomical research will be quick to recollect that not a few of the ablest investigators have been men who found the time necessary for their studies in the few brief minutes or hours that could be snatched from the engagements of a business career. One thinks of the country physician who first discovered the periodicity of sun-spots, of the busy musician who startled the world with the discovery of a new planet, and of that rural clergyman who found time to compile our *vade mecum*, Webb's *Celestial Objects for Common Telescopes*.

Astronomy, then, may easily be the busy man's science and recreation. One need only look around this Society to find abundant proof of this. From the schoolboy to the man grown grey, each has to work hard and yet devote rare hours of leisure to the pleasures of research. Such a fact is enough to indicate that in such studies there must be found some

gain, for, it is hardly to be imagined that people will continue for years to pursue some line of thought or action unless they find in it some permanent advantage.

Now, so far as pecuniary profit is concerned, astronomy is a niggardly mistress. In other sciences research may lead to results that can be turned to advantage in a material sense. **Lord Kelvin, Prof. Graham Bell, Edison, Marconi**, are all cases in point. But to the astronomer no such lure is held out. It is not for the sake of her donatives we cultivate the acquaintanceship of **Urania**. She holds no horn of plenty in her hands. It is for her own sake we seek to know her.

Enlargement of one's knowledge is an imperative necessity. The measure and character of this enlargement, of course, varies greatly. What is old and trite to one man can be very new to another. Though we can find out what is already known through reading, every one must in a large degree be a discoverer for himself. In fact, what we read has little value until we verify it. A few degrees higher than this is the finding, to be verified by the experience of others, what already we ourselves have seen. In this we can share the feelings of the original discoverer. The sensations of a **Galileo** can be shared when for the first time we turn a telescope upon Jupiter or Saturn. The sudden seeing of the wonderful orb itself is something that no amount of description can prepare for. Perhaps we might describe this pleasure of discovery as being one element in the personal profit that accrues to astronomical studies. Not in the fullest degree, yet to some extent, every stargazer is

"Like some watcher of the skies
When a new planet swims into his ken."

The olden time enjoyed many

advantages we are robbed of. Sometimes we think men of other days had altogether too large a share of life's pleasures. Then the trackless waste came, so to speak, to the very threshold, but now it has been so mapped and laid out that to the outermost limit the adventurer must go to find the utterly new. In spite of this enough remains to tempt the earnest explorer. The prizes are few and, with rare exceptions, for those who are possessed of an excellent equipment. Yet everyone may profit by finding out for himself what may be a matter of general knowledge.

I believe that one of the saving influences in life is having a hobby. No matter how entrancing may be our regular toil, its very monotony tends to make it irksome. A sense of constraint creeps in. We are driven by the demands of our position, and labor becomes a worry. Then it is we require a tonic for the mind. Idleness is no cure. Monotony must be altered to variety, the tension be relieved if we are to carry responsibility easily. Some here can bear witness to the value of astronomical study as a *recreation*. No doubt similar relief can be afforded by other studies. But we know of no more accessible field than the expanse above us, and if we neither have nor wish to have instrumental aid, yet how easy to turn to either sky or book and engross an otherwise tired mind in an exalting theme...

...Permit me to say that one great boon to me has been the association with such men as astronomy has brought me to. I will always cherish the recollection of the gatherings of this Society, and the associations I thereby formed as being amongst the happiest and most profitable of my life.

CHESLEY, ONTARIO. ★

—excerpted from the *RASC Transactions For 1905*, pp.51–56.

THE POST-IYA has indeed been a much needed low-key year for Centre volunteers doing outreach. Dwindling numbers of active members and volunteer burn out are expected as part of the life cycle of a volunteer organization. Volunteer hours are down; money spent on outreach is down. Often the gold standard of Centre community engagement is the level of **Astronomy Day** activities and there were no organized events this year.

Having said that, there were a lot of activities that members took part in. While our commitment to formal support of the Kingston Astronomy Outreach Network (**KAON**) sessions at the Queen's Observatory had to be reduced to 4 from 12, there were several other nights that members attended as well. Members attended many other non-traditional events with their equipment to share the sky. These **events** included cancer society fundraisers, July 1st celebrations, and "Movies in the Square." More outreach opportunities engaged in were: judging at the local science fair, senior's education, public school visits, and the Charleston Lake public observing session. As volunteers, this self-serve, freestyle participation has been a good opportunity to think about the hours we can give and how to set priorities in making those choices. This is a reasonable level of community involvement and I believe that the Centre has fulfilled its outreach mandate for 2010.

Other areas of volunteer involvement have been **website** maintenance and development. Our webmaster continues to expand and improve the site which is our most consistent public contact point. Most questions we receive about membership and activities are as a result of a visit to the website. We now also have a **Facebook** page which will increase our exposure. **Regulus** continues to evolve and the number

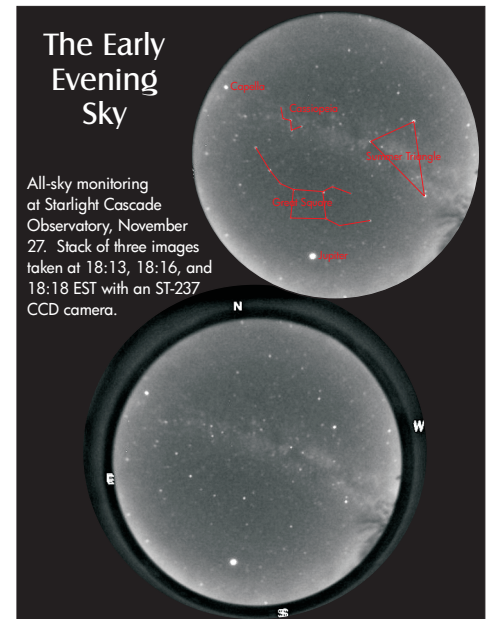
of members getting paper copies mailed out is only six; one is a copy for the Library I believe. The electronic version has added value in that the photos are all in glorious colour and better enjoyed. All submissions are appreciated and encouraged as usual. Reporting on events, observing targets, equipment and book reviews are valuable additions to the content—please keep them coming. In the current event file there is nothing like the Kingston Centre **Chat List**. Timely reports on comet magnitudes, shadow transits, and solar activity, etc. are great inspiration to get out and observe. I recommend members sign up for this list for this type of news on special events, or just to get some sympathy



The President speaks...

when the weather is bad. There has been a much-needed general house cleaning in the Centre **equipment loan** program and perhaps the simplified inventory will encourage another member to take it over for a while. Our **library** continues to grow and many excellent selections have been made this year. Our accounts are in good shape as we head into 2011 and we will have money for equipment upkeep and outreach. The AGM at the national level approved a **membership fee increase** that the Kingston Centre

This year we tried a few workshop style meetings and I am hoping that it will cause a few folks to step up and say "I have something to share" or "here is something I need to know more about" and they will take it upon themselves to work out a plan and execute it. Member presentation nights are for members to share knowledge and skills. They could be great opportunities to help new members or non members who stop by with questions. I learned this summer that visitors to the website sometimes interpret Members' Nights as "Members Only" Nights. We will try to clear that up. I have had some tough acts to follow when it comes to past presidents of the Kingston Centre, but I am glad for this opportunity and I thank the membership for making it possible. There are some new ideas for speakers and meeting themes in the works and I look forward to getting the ball rolling for 2011. I am grateful for the 2010 Executive and all of their support and guidance as we grind away at what is often the duller side of Centre housekeeping. Thank you, fellow executive. ★



All 2010 reports and financial documents are available at:
kingston.rasc.ca/Secure/AnnualReports/2010.php

Treasurer's Report 2009-10

Kevin Kell

Presented at the Centre's Annual General Meeting Friday, November 12, 2010.

KC Treasurers:

Kevin Kell 2010 Jan–present
Kim Hay 2008 Feb–2009 Nov
vacant 2009 Nov–2010 Jan

Auditor: Doug Angle, 2009-2010

Our finances were audited by Doug Angle and his report is available below.

SUMMARY: This was a very good fiscal year for the Centre. This was a combination of a one-time payout from National RASC for life member maintenance (\$742), a near record-setting donation year (\$1748), sell-off of some previous year inventory (\$420) and the lowest expenditure year in a decade (\$1894) left us with a very large surplus. On the downside, low expenditures also are an indication of a low level of activity. Our membership level as of 2010 September 30 was 85, also the lowest in a decade. Total Income: \$5756, Total Expenses: \$1894, Net: \$3862.

We have started to receive donations channeled through RASC National Office again after a two year hiatus, but most of our donations came through directly to the Centre.

INCOME NOTES: membership fees \$2523 (= \$1738+15+28+742), surcharge (\$5) 355 totalling 2878 or 50% of revenue. Calendars—decreased order to 20 (but we did sell out this year, as opposed to past years when we did not). Fund balances at end of year: Banquet \$357, Star party \$547, Observatory \$14698, Reserve \$500, Special Projects \$1500, General Operating \$8199 for a total of \$25803.

BUDGETING FOR THE FUTURE: models and forecasts have shown that we can balance our budget without the \$5 surcharge with

prudent investing of \$20000 to offset this loss, therefore the \$5 surcharge has been eliminated. We are waiting now for it to work through the national iMIS system to take effect any day now.

Our CRA Disbursement Quota

RASC-KC Balance Sheet, Sep 30, 2010

ASSETS	
Banquet Account	357.00
Fall'N'Stars	547.75
General Operating Account.	8,199.12
Observatory	14,698.87
Reserve	500.00
Special Projects	1,500.00
TOTAL ASSETS.	25,802.74
LIABILITIES & EQUITY	
Opening Bal Equity	19,114.00
Retained Earnings.	2,827.56
Net Income.	3,861.18
Total Equity.	25,802.74
TOTAL LIABILITIES & EQUITY	25,802.74

charitable spending surpluses in the past were \$1712, \$2107, \$8087. This year we will run a negative for the first time, approximately \$459–1747 = \$–1289.

WHAT DOES THE FUTURE HOLD?

Until our activity level goes up, our expenditures will remain low and we will continue to aim for balanced budgets in the future. Investment returns should become significant with rising interest rates and more capital under investments. By the summer we hope to have \$20k invested in GICs returning an average of 2% or \$400. We will have to ramp up our charitable spending (from \$459) to not lose too much ground with the Canada Revenue Agency. ★

Auditor's Report 2010

Doug Angle

2010 November 4

I HAVE EXAMINED the financial records of the RASC Kingston Centre. The role of an auditor is not to check every transaction, but rather to sample transaction records sufficiently to ensure that proper record keeping and practices are in place.

I am happy to report that I've found the management of Centre finances to be accurate, orderly and responsible. Expenditures are properly recorded, and consistent with the goals of the society. The Treasurer has done a great job of keeping the financial records clear and organized.

In conducting the audit, I also took a little broader view of the management of the Centre, and here I have some observations.

▶ We don't apply the same rigour to our fixed assets as we do to the financial assets. We own several telescopes and other equipment, held in different locations. It would be prudent to confirm the

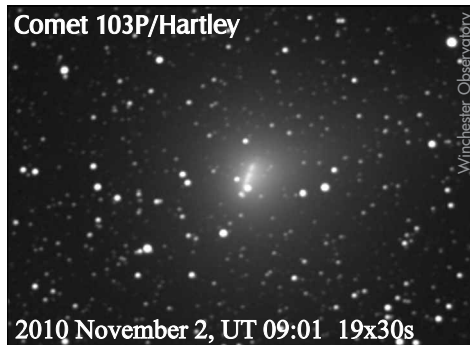
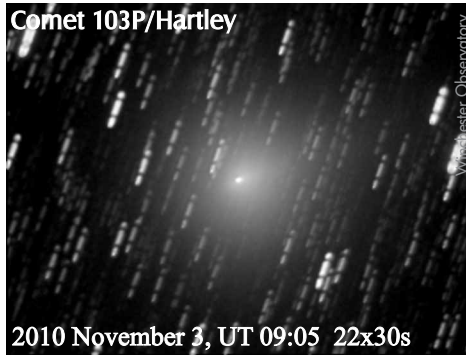
continued existence of these assets. Additions or disposal of assets should be approved and itemized in the minutes.

▶ Several of the funds should be reviewed for relevance. For example, we have an active banquet fund, but have not had a banquet for 3 years. Additions to the observatory fund have been out of proportion to expenses for many years, and there is no current activity towards a major observatory project. Terms of reference for the reserve fund are different for interest and principle, yet these are not delineated in the balance sheet.

These observations are not meant to indicate a problem with our equipment or funds. Rather, the board members are to be commended for their management of the Centre's affairs. I bring these to the attention of the membership and board in the belief that attention to these issues will make the oversight of the Kingston Centre even stronger. ★

Mon/Tue, November 1/2

Walter MacDonald: I observed Comet 103P tonight in my C8. It is nice and diffuse with a stellar core. I was starting to observe a few deep sky objects when I noticed my corrector plate had dewed up, so that was the end of visual observing. Next time I'll put the dewcap on!

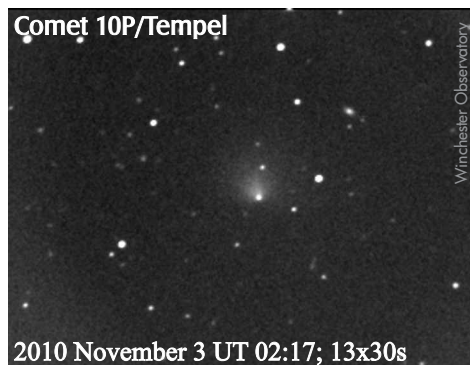


Tue/Wed, November 2/3

Walter: I two more visual sessions with the C8 in the Merry-Go-Round observatory tonight: one in the evening and one in the morning.

As I was observing M57 (sinking in the west now!), four geese flew through the field right over M57! The local light pollution lit their undersides quite nicely! I could also hear them honking, so it was a full audio-visual experience!

I also observed M13, 27, and 15 as well as variables T Delphini and R Equulei. In the dome, I imaged Comet 10P/Tempel which is hanging in quite nicely in Cetus, not too far from Diphda (β Cet). (*Note: This month's images are unfiltered.*)



During a one-hour dawn session I observed W Tauri, U and S Canis Minoris in the C8. With binoculars I observed M35, 36, 37, 38, 41, 42, 44, 45, the Double Cluster in Perseus, and finally a beautiful waning crescent moon with very prominent earthshine. That was a nice way to finish up!

Sunday, November 7

Kevin Kell: I was driving back home after picking up the books from the auditor when I saw a great big fireball. It was 17:41 EST in the west north west. I was just coming up to the county line from Frontenac to L&A.

I noticed it at about 45 degrees elevation in the twilight. It was bright! Brighter than mag -4 or -6? It lasted longer than 5 second and maintained a steady brightness without losing any bits. No trail that I could see. The path ended about 10 degrees off the horizon.

The all-sky camera starts up at 17:45 now and in any event, that time image was still very bright and washed out and would not have caught this one.

Tue/Wed, November 9/10

Walter: Another visual session with the C8 (04:15-05:40 EST). I observed a few more variable stars, saw a bright meteor (mag. 0) just to the right of the Hyades at 04:29. My attempt to find C/2010 V1 failed—I thought I something but it was not

definite. There was some cloud in the SE (the rest of the sky was perfectly clear, of course!). This is another one of those darn horizon-hugging comets. On the upside, I got to see Saturn—the rings are open a little more this year. As I was having breakfast in the house, I caught sight of Venus in the dawn.

Wed/Thu, November 10/11

Kevin Fetter: Just watched another nice Intelsat 1R geo sat flare. At 02:07 UT (Nov 11) it was easily mag 5. While looking at my picture of this flare, I noticed an extra bright star: I see its position matches the variable star Mira!

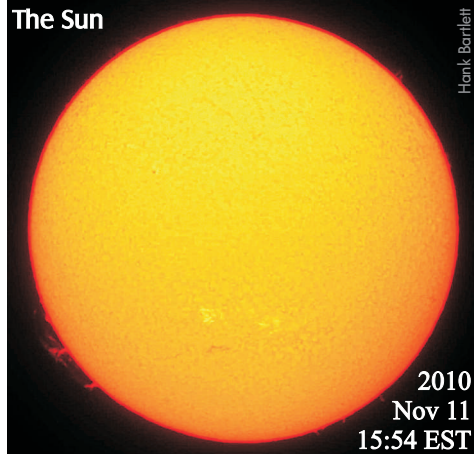


Walter: I had a quick dawn session (04:30-05:30 EST) with the C8 (more variables). For the second night in a row the low temperature was a pleasant -1C with moderate frost. I still couldn't positively identify Comet Ikeya-Murakami.

Hank: This morning the sky was very active, cross winds and currents were very disruptive but at 14:30 things were much better. There is a great deal of activity today on the sun I hope it continues to build, 1123 looks very promising for eruptions the bright area is obviously in some level of burst already. The prominence in the lower left is in reality like spider webbing except of course the web is as thick as a continent on Earth! It is hard to keep all of this in perspective as one observes and thinks "Wow, that looks so delicate and fragile, it could collapse at any

Various Members

minute.” It very well could collapse but it would take many minutes or sometimes hours to do so given its size. This is only conceivable if you keep in mind that EARTH is about the size of the sunspot 1/4 of the way in at about 10:00!



Thu/Fri, November 11/12

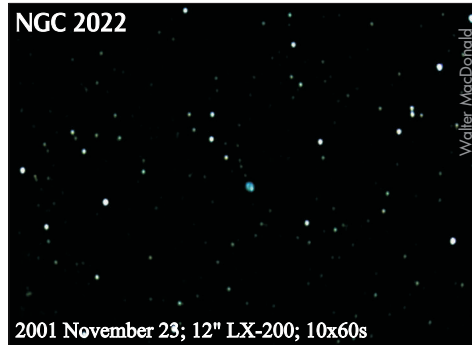
Walter: a mid-night session from 01:25 to 03:10 EST. Low temperature was -3C and there was no wind (chimney smoke was going straight up). There was moderate frost and the trains passing by the south end of town were quite loud.

This was the backdrop to this morning's observing. I visited M1, M42, M35 and its companion NGC 2158, and M48 (which I haven't looked at in years!). The Rosette Nebula was well placed but I couldn't see any nebulosity, just the central star cluster. Going north, I visited the Christmas Tree, NGC 2264, as I figured that it's not too early for Christmas stuff! Next I hopped over

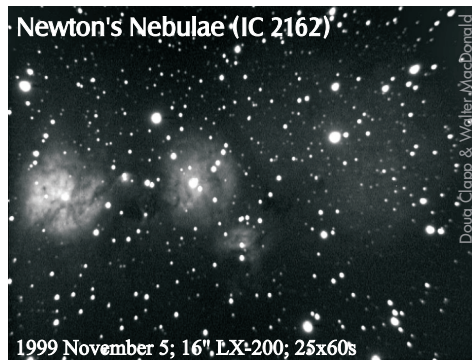


to Hubble's Variable Nebula (NGC 2261) which was easily visible in the C8, even at low power. I was able to see the variable star (R Monocerotis) at the tip too!

Another nebula is NGC 2022. An easy starhop from λ Orionis, it was easy to pick up in the C8, despite being rated at magnitude 12.8.



The toughest object of this session was IC 2162. The field is easy to find thanks to a distinctive asterism, after jumping off from χ Orionis. I first encountered IC 2162 in the form of a picture hanging on the wall of Jack Newton's living room in Florida. (This is why I refer to IC 2162 as "Newton's Nebulae.") It immediately became a favourite imaging target. When I saw how easy it was to starhop to tonight using the SkyAtlas 2000 chart, I decided to try it visually. I was just barely able to see the two brightest patches of nebulosity. This would be a nice object for a bigger scope in a darker sky!



Comet 103P/Hartley was putting on a decent show with its big diffuseness and central condensation and was well worth a visit.

Using 7x50 binoculars I also observed M35,41,42,45,36,37,38, and the Double Cluster. It was a great session!

Saturday, November 15

Kevin K: Kim & I were in downtown Napanee Saturday afternoon and were able to view the high overhead pass of the International Space Station along with another half dozen people at the pot luck dinner.

There was a lot of local light pollution, streetlights all around us and a lot of broken cloud cover, but it still showed up nicely!

Thursday, November 18

Kevin K: I went out for 10 minutes this morning from 05:30 to 05:40 EST and saw no meteors. I did see three satellites and many aircraft, but no meteors.

Hank: I saw one about 4:45 a.m.; nice clear sky and crisp out. Venus was beautiful and bright on the trip into Kingston, the highway is so lonely that early.

Saturday, November 20

Kim Hay: I spent a couple of hours on Saturday doing white light solar and H α solar and I did manage to take some images of the sun, and caught the prominences. ★

