



Regulus



The Newsletter of the Royal Astronomical Society of Canada – Kingston Centre — 2008 September

Coming up...

RASC-KC Meetings

Stirling Hall Theatre "A", Bader Lane, Queen's University
Kingston, Ontario.

Friday 12 September 7:30-9:30

Friday 10 October 7:30-9:30 pm

Meetings are co-sponsored by Queen's Physics and include astronomy lectures open to the public.

KAON Public Observing:

Queen's Observatory Ellis Hall, 4th floor from 7:30 pm to 9:30 pm

Saturday 13 Sept. 9:00-10:30 pm

Saturday 11 October 7:30-9:00 pm

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Badly shielded, excessive and wasted lighting on the roof of Victoria Hall.



Note the new University Avenue streetlights. They are designed to illuminate building walls for artistic and psychological effect, and seem to be doing a darn fine job of it as well.

All photos by Kevin Kell

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Notes from the Prez is composed of photos, captions, and articles on pages one, two, three, and part of page four.—*Ed.*

Telescope Donation 2008 July 15

We have acquired a 20cm (8") f4 Newtonian OTA (optical tube assembly) from member John Crossen of the Buckhorn Observatory outside of Peterborough. Thanks John!

The intent is to get the OTA mounted in some fashion and use it in the Equipment Loan Program for members to sign out and use. The tube length is just over 66cm (26") and outside diameter is about 25cm (10"). Mass is under 10kg.

So, the idea is that if any member is interested, write up a short proposal with what you would like to do with it, to turn the OTA into a functional telescope. Include the proposal along with any drawings, parts list, estimated price list etc to [kingston\(at\)rasc.ca](mailto:kingston(at)rasc.ca) by September 30th. As John mentioned below, mounting this either equatorially or Dobsonian fashion is equally possible.

This is aimed at any ATM'er (Amateur Telescope Maker) who is interested in building this system without having to worry about niggling details like mirror grinding, polishing and figuring. In early October we'll pick a proposal, back the financial plan and hope to get the telescope up and running by the end of the year (December 2008). In the interim we'll inspect, test, and consider recoating the mirror.

Visit <http://kingston.rasc.ca/equipment.php> to see what we have already in our equipment loan web page. We have a lot of Dobsonian mounts and though it may be faster and cheaper to build another one, it would be nice if we could get this on a tracking equatorial mount.

John's original Note:

> I have an 8" Newtonian telescope that has been sitting in my gear room for the last two years. Rather than looking at the walls, it should be looking at the stars.

The scope consists of the optical assembly which contains a brand new diagonal mirror (purchased two years ago from Island eyepieces), the metal tube itself and the focuser. The primary mirror needs recoating which Alan Ward of Moon Ward optics (I have his contact info) can do. After that, you can use it in a Dobsonian mount, or pick up some rings and put it in an equatorial mount. It is an F4 scope, so it will be great for astrophotography. It is also very compact and portable.

So why am I giving it away? Because I've just had two more telescopes donated to BHO and they need some work, too.

References:

<http://kingston.rasc.ca/Committees/atm.php>

<http://kingston.rasc.ca/equipment.php>



Photo by Kevin Kell



This is one of three images from the peak time of the Perseid Meteor Shower taken on Tuesday August 12th at 04:33 looking east with Orion in the lower right and the Perseid meteor on the left very near the horizon. This is a 15 second exposure at ISO 400 equivalent with a Canon Powershot A540 camera (x6 mpixel). The image was slightly contrast-enhanced to show the meteor more clearly.

Kevin Kell

Sky Is the Limit 2008, by Kevin Kell

The Sky Is the Limit event has come and gone...Good experience, good turnout.

First, a reminder to all potential volunteers to any event we sponsor. You must let the event coordinator know you are coming, and what you can contribute. The event organizers only gave us a limited amount of tables, and there were some issues with organization and space management. We had people tell us in advance that they could stop in and help; many thanks to them!

Moving on, we did get setup by 09:00 on the grass (at first it was to be on the asphalt) and the crowds were pretty slow for the first hour or two. Then the masses descended and it was pretty well nonstop until 2pm or so. We packed up at 3pm after a bit of sunburn and headed home.

Our best guess was approx 475 people stopped in to look around, pick up handouts and view the sun and moon through the scopes.

Telescopes: we had:

- *the RASC-KC 20cm LX200GPS with a sub-aperture baader film solar filter, running off the portable power centre and inverter;
- *a member's PST (Personal Solar Telescope);
- *a member's Coronado SOLarmax 40;
- *a member's Celestron C4.5 next (mostly watching the 3 day old crescent moon); and,
- *a member's 20cm Dobsonian mounted Skywatcher with full aperture baader film solar filter

Some more wisdom learned from this event:

* don't bring high-end expensive equipment, as the vast majority of our visitors are sub-10 year olds with face paint, sticky and dirty hands who like to touch everything, including sticking their thumbs onto eyepiece surfaces, and both hands onto a full aperture 20cm solar filter :(

Do bring that old wide angle eyepiece which rattles a bit, or which you don't mind getting smeared.

* Handouts work better as a package of stuff. In the middle of the day we started handing out a Skynews magazine with other stuff inside (usually planetary society) along with the star chart, what's up, colouring pages, satellite passes, etc as well as stuff inside. The thinking here goes that no one will look at the material at the event as it is wayyy too busy and they are also more likely to lose multiple pages of paper if they are loose. The magazines helped. We disposed of all our current stock of old magazines that we have had since last year at Astronomy Day, KAON, and other events.

* We do need something taller at the shade tent, like a tall flag or an inflatable. One of our volunteers had to walk around the site a bit to find us (we had been moved from the original preplanning location).

* The "bring one telescope per person" rule showed itself again. Normally if you have a telescope at an event for viewing, it needs to be manned 100% or covered up and out of service. We were short, or time was divided between locations, two scope operators and it showed at times with attention being split.

* Always bring your own tables and chairs as the organizers may not get it quite right.

* The recently purchased 2-step ladder with a handrail works great for short folk. Having the hand grip stops a lot of them from using the telescope for support. These are the same ones we now have at the KAON sessions.

* The nature of the event (families with little kids) meant that there was not a lot of time that anyone actually stopped and looked in detail at the displays. Most stopped for 30 to 60 seconds to look through the telescopes, and were off again.

* A popup shade tent donated by Hal worked well. It kept sunburn down to manageable levels and the new pegboard display held posters in place without any issues at all. Setup and tear down of this folding accordion-style shelter was quick and easy.

Thanks again to the volunteers: Hank Bartlett, Leo Enright, Steve Hart, Kim Hay, and Ruth Hicks. We had a couple of other members stop in and chat as well. Good to see you!

Pictures from the event will be posted online later.

--

Kevin Kell, RASC-Kingston Centre President

Chairs: Equipment Loan Program, OAFNT, Observatory



Kevin Kell + listener + booth + scope = Sky is the Limit



Kim Hay, telescope, clouds and Sun and Sky is the Limit

Ken Chilton Prize to Walter MacDonald**Summer KAON Review**, by Susan Gagnon

Congratulations to Walter MacDonald for being awarded the Ken Chilton Prize!

From the minutes of the March 2008 RASC National Council meeting:

Moved by Peter Jedicke, seconded by James Edgar, that, whereas supernovae are used as probes of the universe in leading-edge astronomical research, and whereas the Puckett Supernova Search Team has been very competitive with professional search programs in making these valuable discoveries, the Chilton Prize be awarded to Society members who have found supernovae as part of the Puckett Supernova Search Team. The list of honourees is in the Appendix. It should be noted that five members included in the list have already won a Chilton Prize.

For the Chilton Prize, to RASC members who have found supernovae as part of the Puckett Supernova Search Team, the honourees are:

Eric Briggs (Toronto Centre)
Debra Ceravolo (Ottawa Centre)
Lou Cox (Ottawa Centre)
Steve Gauthier (London Centre)
Walter MacDonald (Kingston Centre)
Ajai Sehgal (Ottawa Centre)
Jennifer Tigner (Victoria Centre)
Dave Toth (London Centre)
Dave Lane (Halifax Centre)
Paul Gray (New Brunswick Centre)
Jack Newton (Victoria Centre)
Peter Ceravolo (Ottawa Centre)
Doug George (Ottawa Centre)

Fee Increases pass at Toronto GA Kim Hay

In May, everyone was sent notification that a fee motion would be presented for a fee increase. Due to the new Charitable tax laws, fees were no longer allowed to be subsidized, and members would have to pay their fair share of belonging to the RASC, and still be able to receive all the benefits.

At the Annual meeting on June 30, a motion to increase the fees was passed. The fee increase amounted to \$67.00 for Regular membership; this will result in the centre receiving 23.00 plus what centre surcharge we have (which is \$5.00). Youth membership will be \$42.00 which means the centre receives \$13.70 per youth; we have no surcharge in place.

The renewal form will show the National and Centre portion (which includes a surcharge), and a total amount (\$72.00). Please send the total amount to the National Office, and the Centre portion including the surcharge will be returned to the Centre.

This will hopefully cover membership fees for a few years, and we shall see motions at National Council meetings to pass for spending funds on Astronomy programs.

If you have any questions about your renewal membership form, please do not hesitate to bring it to a meeting, or send me an email ([cdnspooky \(at\) persona.ca](mailto:cdnspooky@persona.ca)).

June, July and August were no better for observing than the previous months but the talks carried on and the public were in faithful attendance. Torrential rains with just the briefest glimpse of the sky at the end seemed to be the pattern.

Observing in August included three distant lightning shows followed by a view of Jupiter and a bit of the moon. The talks were good and the current group of grad students is keen on public outreach. They are also very much involved in plans for IYA so come on out and get to know them. We were sad to say goodbye to Tara Parkin as she has moved on to McMaster for the next phase of her education. The good news is that James Sylvester has taken on a more permanent role as observatory coordinator in addition to his TA duties this school year.

Efforts to tidy and make the warm room more spacious and efficient are paying off with the removal of old computers and a general rearrangement of the furniture. Equipment that was purchased for the room and has been languishing in storage for months now has new hope for actual installation.

Please keep your eye on the RASC-KC Centre website and on the Queen's Observatory website for speakers and topics as they are announced. We are a bit desperate for new blood in the RASC volunteer pool for these evenings so if anyone would like to come forward it would be appreciated. We like to take advantage of the partnership with Queen's Observatory as long as it lasts. Public outreach has never been easier.



The newly rearranged warm room at Queen's University Ellis Hall Observatory. Same number of seats arranged facing west, allows for traffic to and from the dome deck without disturbing any talk as much.

—Photo: Kevin Kell

KAON July 2008, by Kim Hay

Saturday night at the KAON Open house we had over 44 members of the public show up. Though skies did not cooperate and we had a few rain drops, with more solid showers by 10:20 pm, we had come up to the deck to see a member from the June Open House with her telescope that needed some fixing because the secondary mirror was loose. Kevin and I helped to roughly align it. Next step is for her to try the telescope at home; if it is still not aligned, she will be bringing it back. We will be putting the collimation tool in the bag, so if anyone thinks they need their telescope finely tuned and aligned, bring it to the next Open House.

Susan Gagnon gave a spectacular talk on "Stars of a Different Colour," explaining why stars are different colours and what the colours represent. Many handouts were available to the public, along with a chart of Stars within the constellations Scorpio and Ophiuchus that have different temperatures and colours. Also available as handouts were the "What's Up" and Starmap created by Hank Bartlett.

A new package created by Susan for the public contained information on learning constellations, starhopping, planning your observing session, binocular observing, use of averted vision, atmospheric effects, and different objects that you can observe. This is an excellent package for beginners, or for those who want to review their techniques. It should be included in our New Members' package.

Helpers for the evening were Tara and Carla representing Queen's. Tara will be leaving Queen's to attend McMaster University for four years to complete her education. We wish her well. James Silvester was at Mont Megantic visiting the Astronomy Festival held yearly in July.

The RASC was represented by Susan (our speaker), Stephen Hart, Kevin Kell and myself. Hope to see some of you out at our KAON open house, till then clear skies.



It was a dark and stormy night at the August KAON session with lightning coming in from over Lake Ontario. Kevin Kell

Sky & Telescope and Astronomy Magazine Subscriptions, by Kim Hay

Many items have changed in the renewal process for *Sky & Telescope* and for *Astronomy* magazine subscriptions.

Now, anyone can go online and renew their own subscription for *Sky & Telescope* without coming through the local treasurer. Though I would gladly help anyone out, you now have the option of sending in your payment by mail, or by paying with your credit card. The Club plan is

only available with *Astronomy*, which still needs to come through the Treasurer.

Sky & Telescope magazine renewal is found at <http://www.skyandtelescope.com/> and hit the renew button located on the top of the screen, which will take you to the magazine renewal page. Your bill has your membership number, and you need it to renew online. The line will be formatted like this:

The line will be formatted like this:

0748840011111111113 3390517

Make sure you count the numbers used (9) in total. It will then bring up your name and address, which you confirm, and then pay by credit card. The whole procedure, by mail or by credit card, seems to take two months, so don't leave your subscription renewal until the last issue, or you will miss out on the next one.

If you're interested in subscribing to *Sky & Telescope*, price is \$37.95 US per year.

For *Astronomy* Magazine subscriptions, we have a Club plan. Prices are \$48.50 for 12 issues per year, and if you purchase two years, it is \$88.00 US. Sample *Astronomy* magazine at <http://www.astronomy.com/asy/default.aspx>

If you want to subscribe to this magazine, I need your full name and address. Contact me at the meeting, or send me an email at [cnspooky \(at\) persona.ca](mailto:cnspooky@persona.ca)

—Kim Hay, Treasurer

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A Plea for Dark Skies from the Most Unlikely Place, by Susan Gagnon

Starry, Starry Night (The Dark-Sky Movement)

In 1846, an amateur English astronomer named William Lassell, armed with nothing more than a telescope of his own devising, discovered the largest moon of Neptune (he called it Triton). In 2008, even the redoubtable Griffith Observatory in Los Angeles is useless for astronomy because a thick blanket of "light pollution" obscures the heavenly bodies from the human eye—naked or lens assisted. But take heart, denizens of midnight. There's a growing movement afoot that hopes to cut down on lamps that shine up instead of down and thereby to help preserve ocular access to the Milky Way (and the health and safety of nocturnal creatures damaged by overexposure to artificial wattage). It's time, the dark-sky confederates say, to take back the night for stargazers of the romantic as well as the scientific kind. (for more information on the International Dark-Sky Association, go to DarkSky.org.)

This paragraph accompanies an astrophoto bereft of credit or description. What it does have is the briefest of titles D.100. It is number 100 in a special design 100 issue of Metropolitan Home, a design magazine that I pick up perhaps once a year. It is a glossy, colourful magazine that focuses mainly on furniture and architectural design. This issue expands the view to include the honey bee, Greenland and some environmentally friendly activities.

I have not read every issue of this magazine but I would hazard a guess that the phrase *Light Pollution* has not been used here before. It is about as far from an Astronomy magazine as you can get in subject matter not to mention the usual news-stand-real-estate-pecking-order. I was curious to know how this happened so I emailed the magazine with some questions for Michael Lassell, Features Director for Metropolitan Home.

Q. Are you a descendent of William Lassell?

A. I'm definitely not a descendant, but the possibility exists that we are descended from the same person.

Q. Are you an amateur astronomer?

A. I am not an astronomer of any kind. I've just always been fascinated by the stars. When I was in Cub Scouts as a kid, my favorite projects always involved the constellations. And because I grew up in suburban New York City, I had the planetarium at the American Museum of Natural History at my disposal.

Q. Is there a general knowledge of the effects of light pollution among people you encounter in New York?

A. Anyone who lives in New York knows that you can't see the stars here because of the lights from the city. It's much worse now than when I was a child, when you could still see the Milky Way every now and then.

Now you have to go out of town. Happily, I have traveled quite a bit. I went to college at Colgate University in Hamilton, New York, and was there during the Great Blackout of 1966. Let me tell you, when the lights went out in Hamilton, New York, it was really, really dark.

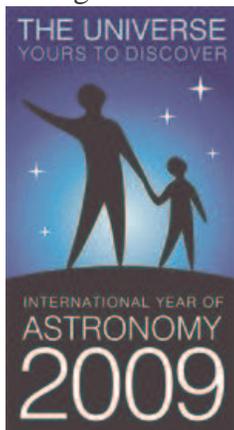
I can also remember being on a cruise ship in the Mediterranean and being unable to go to bed one night because the sky was so clear. It was like seeing something I had never seen before, right above my head.

I had never heard of the Dark Sky movement until someone brought it up at a meeting when we were preparing for the Design 100 issue. But EVERYONE on staff jumped on the idea. From the minute we heard about it, that item was a certainty.

It was absolutely our hope that a mention in MET HOME would introduce the movement to a million or more people, who might never otherwise know of it, and the response has been very positive.

Thank you very much for your interest.

Michael Lassell



Kingston IYA 2009 by Kim Hay

Though we may not have had any centre meetings through the summer, the IYA team has been busy. We have had two planning meetings with Queen's and RMC, and have lined up a great series of events for IYA2009.

First we have secured the IYA webpage for the Kingston Core group at rasc.kingston.ca/iya. This is where all our events will be placed on the Google calendar that has been set

up by Kristine Spekkens of RMC, but maintained by Kristine and Kim for all events.

James Silvester created a Kingston IYA2009 trailer, which was shown at the August KAON event, but will hopefully be shown at the September Kingston Centre meeting.

Here is the event list as we have it now, but some events and times need to be firmed up and we will keep you up to date. Please look it over, as we will need lots of volunteers for one or more events. So if you see an event that you may want to help out with, for even a couple of hours, please contact one of the RASC-KC committee members at a meeting, or send an email to Kim Hay at [cdns spooky \(at\) persona.ca](mailto:cdns spooky (at) persona.ca)

Calendar of IYA2009 Kingston Events Sponsored by RASC-KC, Queen's University, and RMC

- 10 January 2009 KAON: Official Canadian Start up date is 10 January 2009, using a full moon as the launching point.
- 15-16 January 2009: Official International Start date in Paris
- ?? January 2009: First Public Lecture at RMC; Kristine Spekkens to coordinate
- 14 February 2009: KAON
- 14 March 2009: KAON
- 14 April 2009: KAON
- 2 May 2009: Astronomy Day
- 9 May 2009: KAON
- ?? May/June 2009: Relay for Life
- 13 June 2009: KAON
- 16 June 2009: 2nd Public Lecture at Stirling Hall- UC Professor Sandra Faber - Stephane Courteau to coordinate
- July 2009: Sky Is The Limit Festival
- 11 July 2009: KAON
- July Open Air Movie-"Contact"? Field questions from audience? Kristine Spekkens to coordinate
- 8 August 2009: KAON
- 19 September 2009: IYA extravaganza at Lake Ontario Park (a combined event that all three groups are working on): Two afternoon lectures – night time observing. This replaces the September KAON event.
- 10 October 2009: KAON

14 November 2009: KAON; Queen's U. possibly holding short talks on History in Astronomy /observing?
12 December 2009: KAON; IYA2009 Ending festivities.

RASC-KC IYA Committee

Susan Gagnon
Kim Hay
Peggy Hurley
Kevin Kell
David Maguire

Queen's University IYA Committee

Stéphane Courteau
Judith Irwin
Dave Hanes
Melanie Hall
James Silvester (Queen's & RMC)
Joel Roediger
Pascal Elahi

RMC IYA Committee

Kristine Spekkens
Greg Wade

Gemini contest, by Jim Hesser

As part of the IYA2009 celebrations, Stephanie Cote, Group Leader of the Canadian Gemini Office, distributed Gemini Contest information by regular mail. We have sent out notification through our communication channels.

The contest is for One Hour of Gemini Imaging Time for Grade 9 to 12 Students in Canada. One entry per school.

The contest info is now posted at

http://www.hia-ihc.nrc-cnrc.gc.ca/cgo/contest08_e.html

and the flyer is downloadable at

http://www.hia-ihc.nrc-cnrc.gc.ca/cgo/Gemini%20contest%20flyer_bil.pdf

— Jim Hesser, www.astronomy2009.ca
Canadian Chair, International Year of Astronomy 2009

New Kingston web site address: kingston.rasc.ca

We applied for and were given a subdomain name off the main rasc.ca web domain. This will allow us to make explicit references to pages, images, or areas of the website. For example: kingston.rasc.ca/iya instead of more complex processes like: www.rasc.ca/kingston then click on IYA or 130.15.144.99/rasc/iya

We have re-coded a lot of the main page links so that they will work properly, but it will take the next few months to track down all of the perhaps-broken code.

We should have this soon. You will be seeing more of it used on our publications and letterhead.

—Kevin Kell, RASC-Kingston Centre President

Calculating Local Sidereal Time for 2008, by Leo Enright

Following a suggestion by one of our Centre members after our June meeting, I have decided to publish a brief summary of some of the essential information of my talk about calculating Local Sidereal Time. Before reviewing the method of doing the calculation, I would like to highlight an observation made at the time of the recent RASC's GA at York University in Toronto – an observation that confirms my statement in June that a sidereal clock should be an essential piece of furniture in an astronomical observatory, since using local sidereal time should become 'routine and second nature' to an observer of celestial phenomena and celestial events – as much as using solar time is 'routine and second nature' in our world of business and daily interactions. All those of us who did the tour of York University Observatory can recall vividly the rather cramped room (indeed, a very cramped room for the tours that had more than 8 or 10 people) where, in a prominent position on one wall were several red LED displays of readouts of the current time, given in several ways, one of them being, of course, Local Sidereal Time, given precisely for the longitude of that location. Whether it is planning for an observing session with a large telescope at a university facility or with a smaller telescope at an amateur's backyard observatory, knowing the local sidereal time immediately tells the observer what stars are crossing the meridian and what stars or planets are in "the ideal spot for observing" at that time. AND knowing the sidereal time allows the telescope user to instantly set his/her telescope's R.A. setting circle – without having to do any calculations whatever, so that, for the remainder of that observing session, she, or he, can very quickly "use the setting circles" to locate any object in the sky.

Eons ago sidereal time was discovered when observers noticed that individual stars rose earlier each night than they did the previous night. As timekeeping was refined, it could be seen that those individual stars rose about 4 minutes earlier each night. Over the course of the year, the sun might rise and appear to cross the sky 365 times per year, but those individual stars appeared to rise and cross the sky 366 times per year. In my own observatory (also many years ago!) after I had acquired a chronometer showing both solar and sidereal time, I observed that once each year – always in early December – the local sidereal time "gained on" and "passed" the solar time set to UT (Universal Time, that is, 5 hours ahead of our Eastern Standard Time, or in the summer 4 hours ahead of our Eastern Daylight Time). This past year, on 2007 December 8th at about 7h UT, the local sidereal time readout was also about 7h. [To be ultra-precise at 07:00:00 UT, it was 06:59:58 LMST.]

Knowing the above information, I can easily calculate the local sidereal time for the following year (both at my location and at other locations of similar longitude). I have devised a very simple method of calculation that can be done mentally – without any pencil, paper, or calculator, AND it is accurate to within a couple of minutes, often to within a few seconds (as is proven by doing it using the formula and a calculator). If the date is December 8th, for Local Sidereal Time, use the same numbers as for UT. For all other dates following December 8th, simply add to the UT numbers the following amount: 2h per month; 1h per fortnight; 30m per week; and 4m per day.

As an example, if you wish to observe on 2008, September 10 at 11:30 p.m. EDT (which is Sept. 11, 3:30 UT), you would count from Dec. 8th to Sept. 8th – 9 mo. and add 18h, and count 3 days (Sept. 8th to 11th) and add 12m. Sidereal Time would be (3 + 18 hours and 30 + 12 minutes) 21h42m. Checking any atlas immediately shows me that it is the ideal time to observe the stars and deep sky objects between Right Ascension 21hours 30 minutes and 22 hours 0 minutes, that is, those in the constellation Equuleus, because they will be crossing the meridian at this time, as will be the stars on the eastern horn of Capricornus and in the western part of Aquarius. Also, for this year, it's a perfect time to check out both Uranus and Neptune since the former is in central Aquarius and the latter just above the eastern horn of Capricornus!

As a second example, perhaps I wish to plan my observing session at the time of the New Moon (Great idea!!) beginning on the night of September 19th at 10 p.m. EDT. That is Sept. 20 at 2h UT. My mental

calculation is as follows: Dec. 8th to Sept. 8th – 9 mo.; add 18h, and count Sept. 8th to 20th – 12 days – add 48m. The Sidereal Time would be 20h48m. Checking any atlas shows immediately that the stars of R.A. 20h48m and therefore the stars crossing the meridian are those in Delphinus and in the northern part of Cygnus. It is a perfect night to explore those fascinating clusters in Delphinus and the numerous objects in the vicinity of Deneb and of the North America Nebula!

What makes this method of calculating the local sidereal time so valuable is its simplicity and accuracy, and the amount of time that it can save the observer in planning her/his observing session. It is extremely easy to remember the few require facts – which are only the "starting date" and the numbers of hours or minutes to be added per month, week, and day.

A VERY ACCURATE DETERMINATION OF SIDEREAL TIME: Though I will not elaborate on the derivation of each of its four parts, as I did in the talk in June, I do wish to include the formula to be used for the very accurate determination of local sidereal time. Normally an ordinary calculator or a scientific calculator would be used. The formula may be used at any time this year in calculating sidereal time, and it should be employed if one has a sidereal clock to set. This formula uses hours and decimal-fractions thereof. After the answer is obtained, a conversion is made to hours, minutes, and seconds. The four parts are these: 1. The Local Sidereal Time at 0h UT on Day 0 of the current year at 0 degrees Longitude (Greenwich); 2. The amount by which Sidereal Time gains on UT per day, multiplied by the number of days in the year up to the day considered; 3. The amount Sidereal Time gains on UT per hour multiplied by the number of hours "in the final day with which we are concerned"; and 4. An amount of time subtracted depending on our longitude west of Greenwich.

Where d = the day of the year and t = the time in UT, the formula for local sidereal time at my location for 2008 is as follows:

$$LMST = 6.602914992 + 0.0657098244d + 1.00273790934t - 5.11123737$$

Though it takes longer than the speedy calculating explained above, and requires a calculator, I can determine that at my location, as an example, on September 14th at 10 p.m. EDT (Sept. 15 – day 259 – at 2h UT) the Local Mean Sidereal Time is 20h30m57.6s. [Accuracy to within a hundredth of a second is not available in the 'mental calculation method'!] For those who live in the Kingston area and realize that their longitude may not be precisely the same as my longitude, there will still be a high level of precision, though the fourth number in the formula may be adjusted by those who know their longitude with great accuracy.

I trust that a knowledge of local sidereal time will assist regular observers in planning their observing sessions, and that an ability to calculate sidereal time quickly, as explained above, will speedily lead good observers to the most desirable locations in the sky for them to do those observations.

Let the meetings begin!

I hope everyone enjoyed the break in the meeting schedule this summer, I certainly did. Your executive still had a busy season with KAON nights and meetings with RMC and Queen's faculty for IYA plans. I look forward to seeing everyone at the September meeting and please send along a note to me at [sdgagnon\(at\)kos.net](mailto:sdgagnon(at)kos.net) if you would like to get in on the 'what I did this summer' theme for that night. So far we have 3 speakers, plenty of room for a few more.

Susan



Regulus



The Newsletter of the Royal Astronomical Society of Canada – Kingston Centre — 2008 September

RASC-KC Board of Directors

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Vice President: Susan Gagnon

Secretary: Steve Hart

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Our Honorary President Enjoys Another Fabulous Eclipse Venture, by Leo Enright

At about noon on August 6th, I had a wonderful phone conversation with our Honorary President who had just returned home from a lengthy eclipse trip to Siberian Russia and was still euphoric with the incredible elation that always accompanies a cloud-free experience of totality – especially if it is to a place where there were doubts about whether clear skies would prevail. Still feeling the effects of jet-lag, David Levy and his wife, Wendee, were back at home in Arizona, glad to recount the highlights of an unforgettable trip to Novosibirsk and the incredible experience of standing on the centre-line of the moon's shadow as it crossed the Russian steppes from north to south before mid-day on August 1st. They were part of a large contingent in an expedition organized by Sky and Telescope, and they had enjoyed wonderfully clear skies between the time of second and third contact, though there had been plenty of clouds to add to the tension in the hours before first contact of the lunar disk with the sun.

Of the many solar eclipses that David had seen – in places as diverse as Central Manitoba in 1979 and Antarctica in 2005, this was one that had a very special meaning for him, and one to which he had looked forward for many years. [It is true that David and I had frequently discussed it as one that was very special since it was, following the one we both, as Kingston Centre members, had seen in Manitoba in 1979, the very first solar eclipse whose path would cross Canadian soil, but alas only a few Canadians, including a half-dozen member of the Calgary and Edmonton Centres, in an aircraft flying above the Arctic

The Royal Astronomical Society of Canada— Kingston Centre

Newsletter Submission Info:

I can take most common formats, although I prefer plain text. Pictures should be sent as image files in attachments separate from the articles. Please avoid the use of capitals, asterisks etc for formatting, as I use the publishing software's formats for this kind of emphasis.

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2008 Publication Deadlines

For the month (Deadline)

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Archipelago, had a chance to see it FROM or ABOVE Canadian soil.]

For David, this event's special attraction was that it was an eclipse from the very same saros series (Saros Series126) as the one that his astronomical hero and mentor, Leslie Peltier, had observed on June 18, 1938; in fact, this eclipse was only the fifth one later in that series. (Specifically, of the 72 eclipses in that particular saros, the June 1918 one was Number 42, and this one was Number 47.)

As might be expected, David and Wendee were already, on August 6th, engaged in planning their next astro-venture, one that would take them to a location not far from the two RASC Centres of which David is Honorary President, Kingston and Montreal – namely, to the Adirondack Astronomy Retreat in upstate New York. That venue in August has now become an annual event for David and Wendee – drawing a number of enthusiastic participants to a campground with dark and unpolluted skies, near Plattsburg, NY, a place where observers, both young and old, may avail themselves of one of the eminent masters of amateur astronomy, and one who is always willing to share the wonders of the sky in any way he can.

Having received the good news about David's successful trip to Siberia, I was elated that his preparations and expectations had been duly rewarded with great weather and with an incredible view of a "solar-minimum type of corona".

"Great report, David! Hearty congratulations from me and from the other members of the Kingston Centre! You did it again."

Kingston Cosmic & Events Calendar, September—October 2008, by Joseph Benderavage

	Date	Events	Local Time	
S E P T E M B E R	01	Labour Day		
	02	Double shadow transit on <i>Jupiter</i>	14:40	
	06	Antares 0.3° N of Moon	23:00	
	07	First Quarter	10:04; Double shadow transit on <i>Jupiter</i> 20:12; <i>Jupiter</i> stationary 23:00	
	11	<i>Mercury</i> greatest elongation E (27°)	00:00; <i>Venus</i> 0.3° N of <i>Mars</i> (25° E), 16:00	
	12	<i>Neptune</i> 0.8° S of Moon, occultation visible in E of N. America	10 p.m.; <i>Uranus</i> at opposition, 10:00	
	12	Regular Meeting Stirling Hall "A"	7:30-9:30 pm. Members Night	
	13	KAON Observing, Ellis Hall Queen's Observatory	<u>9:00-10:30 pm</u>	
	15	Full Moon ("Harvest Moon")	05:13	
	20	Moon 1.0° N of Pleiades (M45)	00:00	
	22	Last Quarter	01:04; Equinox 11:45	
	24	Moon 0.7° S of Beehive (M44)	18:00	
	26	Regulus 1.7° N of Moon	11:00	
	27	Zodiacal Light visible in N latitude in E. before morning twilight for next 2 weeks		
	29	New Moon	04:12	
	30	<i>Mercury</i> 1.1° N of Moon	07:00	
		PLANETS for September: <i>Mercury</i> : not easily observed; <i>Venus</i> : very low in WSW after sunset; <i>Mars</i> : not easily observed; <i>Jupiter</i> : low in S after dark, sets in WSW soon after midnight; <i>Saturn</i> : very low in E in morning twilight, late in month		
	O C T O B E R	04	Antares 0.1° N of Moon,	07:00
		07	<i>Jupiter</i> 2° N of Moon,	03:00; First Quarter, 05:04; Draconid meteors peak, 21:00
		10	<i>Neptune</i> 0.9° S of Moon,	06:00
		10	Regular Meeting Stirling Hall "A"	7:30-9:30 pm; P. Mortfield, "Remote Controlled Astrophotography"
		11	KAON Observing, Ellis Hall Queen's Observatory	<u>7:30-9:30 pm</u>
		13	Thanksgiving Day	
		14	Full Moon ("Hunter's Moon"),	16:02
		17	Moon 0.8° N of Pleides (M45),	07:00
		21	Last Quarter, 07:55; Orionid meteors peak at midnight (ZHR=20)	
		22	Moon 0.9° S of Beehive (M44) at midnight; <i>Mercury</i> greatest elongation W (18°),	06:00
		23	Regulus 1.9° N of Moon,	17:00
		27	Zodiacal Light readily visible in E. before morning twilight for next two weeks	
	28	New Moon,	19:14	
29	Vesta at opposition (m=6.3)			
31	Antares 0.1° S of Moon,	14:00		
	PLANETS for October: <i>Mercury</i> : very low in ESE in morning twilight in second half of month; <i>Venus</i> : very low in SW in evening twilight; <i>Mars</i> : not easily observed; <i>Jupiter</i> : low in SSW after dark, sets in WSW in late evening; <i>Saturn</i> : rises in E near 4 am, low in ESE in morning twilight			