



Regulus



The Newsletter of the Kingston Centre of the Royal Astronomical Society of Canada – April 2005

6:15 A.M. January 21, 1984 --

Coming up...

RASC Kingston Center Monthly Meeting

Queen's University
Stirling Hall Theatre D

Friday April 8, 2005 at 7:30

Peter Jedicke - Astronomy in
Hawaii: Research, Outreach,
Observing --and Politics

Friday May 13, 2005 at 7:30

Laura Gagné – “Sirius dating in
Egypt” and
Stephen Gagné “To see or not to
see? That is the Question. Reading
the weather for observers.”

Kingston Astronomy Outreach Network Public Observing

Queen's Observatory
Ellis Hall

Saturday April 9

AstroYak

Friday April 22 7:00 pm

at the home of Kevin Kell and Kim
Hay, xxxxxx. Visit
[http://members.kingston/~rasc/
indexsec.htm](http://members.kingston/~rasc/indexsec.htm) for directions

Planet Line-Up

By Ruth E. Hicks

*A necklace, glowing in the sky,
Is how our planets looked,
Some low, some high.*

*Mercury, (an elusive little ball),
Then Jupiter, and Venus
In all their glory shone.*

*Still further on the string
(Joined by stars as well)
Were Saturn (that lovely pearl),
And Mars, glowing redly in the Morn.*

*To see others, (which were there we're
told)*

*One needs equipment, fortitude,
And protection from the cold.*



*Photo by Doug Angle with a
Canon EOS 20D digital SLR.
Watch for a review of this
camera in the next issue of
Regulus*

Kingston Centre of the Royal Astronomical Society of Canada
Box 1793 Kingston Ontario
K7L 5J6
<http://www.rasc.ca/kingston>
infoline: 613-377-6029

email: kingston@rasc.ca



President's Tid Bits

By Kim Hay

Spring, its here right! It arrived March 20, 2005 at 7:33 am. The morning walk was cool -3C and an easterly wind but the woodpeckers were banging on a tree in the woods, the crows were cawwing, and the doves were cooing, yes they too were ushering in the new equinox, Spring. Don't let old man winter fool you!!

Spring, its astronomical meaning, with the Spring Equinox the Sun rises exactly in the east and travels through the sky for 12 hours and sets exactly in the west. The sun will continue to follow a higher and higher path through the sky, with the days growing longer and longer, until it reaches it highest point in the sky on the Summer Solstice.

What does this mean for astronomers?

Well, gone are the early evening observing sessions after dinner, and it means we will need to observe later in the night, and our observing time is cut short, so we must treasure the time, and clear skies we get.

But it is also a great time, to get out and enjoy the other astronomical activities that we like to do. Our monthly meetings, our members observing nights, our public observing nights at the Queen's Observatory, and one of the highlights of the year, Astronomy Day! This year it will be held at the Isabel Turner Library, south

of the Cataraqui Mall. We will have sidewalk displays, and scheduled talks inside the library, solar observing and nighttime observing at the Queen's Observatory. So mark April 16th, on your calender and come out and enjoy the spring fun.

We also have the summer starparties to go to, and here are a few around the Ontario area but there are more further east and west, go to http://www.telusplanet.net/public/fenertyb/sp_list.htm or for a complete listing) If you come across a starparty, please let me know!

| Date (2005) | Starparty | Location |
|---------------|--------------------------|---|
| May 5-8 | Frozen Banana Star Party | Munro Park, near Powassan, Ontario |
| July 30-Aug 4 | Stargazing Manitoulin | Gordon's Park Manitoulin Island, Ontario |
| Aug 4-7 | Starfest | Mount Forest, Ontario |
| Aug 11-14 | Manitoulin Star Party | Dark Gordon's Park Manitoulin Island, Ontario |
| Sept 9-11 | Algonquin Adventure | Mew Lake Campground, Algonquin Provincial Park, Ontario- Toronto Centre |
| Sept 30-Oct 2 | Fall 'N' Stars | Thomasburg, Ontario Belleville/Kingston Centre |



Astronomy Day, April 16, 2005

Susan Gagnon

Astronomy Day Chair.

As most folks know by now the Astronomy Day plan for 2005, is a day at the Isabel Turner Branch of the Kingston Frontenac Public Library, on Saturday, April 16th. There have been sign up sheets at the last few meetings. If you have not had a chance to get your name on a list and are interested in coming out to participate send a note to Kingston@RASC.ca, or just show up.

The Library does not open until 9 am, this means that we can set up scopes to be ready to go at 9 but indoor activities will be starting a bit later 15 to 20 min.

We are going to explore a different format including the usual info tables, solar observing and displays but also some brief 5 to 10 minute presentations. So far

Don't forget the meteor showers, it's getting warmer, and much easier to stay out and observe these marvels of the universe. It's a way of looking at the past comets that have come by, as we pass through their debris field. The meteor showers are listed in your Observers Handbook 2005 on page 218.

Though our early dark skies are gone for now, they will be back, why not come out and enjoy the company of your fellow astronomers and talk astronomy!

we are have...

Kim: Solar Observing

Ken: Lunar Observing

Doug: Observing Equipment

Susan : Charts

We are also hoping to have someone do a summary of what will be visible at the evening session at Queen's in the p.m. That should round things out nicely. Each person will present 2 or 3 times through the day with one presentation each half hour. It will be 9:30 or 10:00 before the first talk. We will work out the details at the regular meeting the week before, on the 8th.

Remember you don't have to have a scope to do the solar observing, you can take over someone else's while they get a break. **NO SCOPE SHOULD BE UNATTENDED BY MEMBERS DURING SOLAR OBSERVING.** So there is always a need for more bodies than scopes. There is also a great opportunity to talk astronomy to people standing around, tell them what you like about the hobby. Promote the use of binoculars since that may be something they have. Let them know starting out in astronomy can be low expense and low stress.

This is always a fun day and with the Library it is a shorter day than at the malls where you have to set up at 7 am and cannot tear down until 6pm. This year lots of time to get dinner and relax (and talk about what worked what did not) before going to Queen's. Come on out and enjoy the day.



Members Observing Schedule

Ken Kingdon

APRIL - "Beginners night" at Camden Lake Provincial Wildlife Area. Learn how to identify the Constellations, and how to star-hop to the showpieces. No scope? ... binoculars are fine.

10-DAY FLOATING PERIOD: WED., MARCH 30 through to THURSDAY, APRIL 08.

CONTACT: Ken Kingdon must first be notified. You will be advised upon the first clear day when we will go out.

TIME: plan to arrive on-site about 8PM. We finish about 10PM..

DIRECTIONS to the Camden Lake Wildlife Area are:

From the Hwy. 401 exit (#599) at Odessa, drive north all the way (20 minutes) on County Road #6. Proceed through Yarker, and stay on CR#6 through Colebrook north on CR#6 (ignore the Centennial Park Road) to the hamlet of Moscow. Another 1 km north brings you to Card Road. Turn left (west) onto Card Road and stay on it for 3 km to its western terminus in the big parking lot. You can setup scopes anywhere on the grassy portion of the parking lot.

May - Trip to ARDEN, our top local site within an hour's drive **NOTE:** this is the final deep-sky outing for the next few months.

Weekend #1 Fri, Apr. 29 or Sat.

Apr.30 , or if cloudy...

Weekend #2 Fri., May 6 or Sat., May 7.



RASC-KC Equipment Series: Focus on Power!

By Kevin Kell

This is the first in a series of short articles describing the equipment of RASC-KC.

A relatively recently acquired piece of equipment with Trillium Fund Grant money was the 1200watt Motomaster Eliminator Powerbox (\$250) from Canadian Tire.



1200watt Motomaster Eliminator Powerbox front view Photo by Kevin Kell

This is a **huge** battery pack on wheels that is still a two person carry when you want to haul it in or out of vehicles or up stairs.

It was purchased in the fall of 2004 with an eye to power the Meade LX200GPS telescope. The Meade is the only telescope in the RASC-KC inventory that requires power to operate. It can run on one of the two donated 7 amp-hour battery packs fine for a night or two but in

the context of the public observing sessions, those little batteries didn't get recharged as often as they should have. Hence the Super Dooper Terminator... errr.. Eliminator Powerbox..

The box contains a 60amphour sealed lead acid battery and a 1000 watt power inverter with two 110VAC jacks and a 12VDC jack. It also comes with a wall charger (this puts electricity back **into** the battery) and can take up to 20 hours to fully recharge.



Side of the unit with a battery test button on top and the power switch for the AC inverter underneath it. Photo by Kevin

Normal operation of this battery pack would be to charge it up the previous day and take it out with the telescope. The telescope comes with a 110vac wall adapter power supply which can be plugged into the Powerbox 110VAC Inverter. It does seem kind of silly to take 12vdc from the battery, invert it up to 110VAC and then take it back down again to 12VDC which the telescope actually

runs on. But there is another alternative. The telescope comes with a 12VDC cable with a standard “vehicle auxiliary male power plug” on one end, which plugs into the Powerbox, and the female dc power plug on the other end, which plugs into the telescope.

I’m guessing that this power system would have enough “oomphh” to run the entire scope for at least a week of observing sessions, even with added dew heaters which we don’t have yet. This may be a little overkill for the KAON Public Observing Sessions but it can certainly be useful in the future at star parties or other telescope gatherings where it could power the scope of every member simultaneously!



Occultation of Antares

Kim Hay

Wow, my first official occultation of the Moon and Antares.

First off I kept waking up all night, hoping it would clear, and shortly after midnight it did, and Vega was shining brightly in the bedroom window low in the east.

Got up shortly after 4:00 am est (9:00 UT) and clear everywhere except the south where the moon and Antares were.

At 5:00 am edt (10:00 UT) looked again, and clear it was. Though some low cloud on all the horizons, it was clear where it needed to be.

Now the particulars.

Location: Yarker, Ontario (Starlight Cascade Observatory)

W:76:45:47

N: 44:22:39

Elevation 100 m

Starting observing at 10:34 UT (5:34 edt)

Wind 5 km- gusty N/NW

Temp -15C

Transparency - 3 out of 5

Equipment: 4 " SCT (100 mm) 26 mm eyepiece

7 x 50 binoculars on tripod- Carl

Wetzlar's bino's- old set

1 atomic clock with seconds, and 1 tape recorder.

1 Rukls atlas

I was also doing a lunar parallax project at the same time.

For the Parallax project, the terminator of course appears to move with the ecliptic. However, the edge of the moon appeared much brighter than the middle, and the Mara seemed much darker than normal.

The moon visually looked like more than 1/4 of it was lit (in the last quarter phase).

As the sun rose, still below the horizon some of the features on the moon (Montes Apenninus) were lit up on the unlit quarter of the moon, as well as the (Montes Alpes).

Looking at the edge of the moon, you could see ridges against the dark sky that was lightening up. As the sun rose, and the sky got brighter and the moon took on a pink hue, the terminator seemed to fade

away from its bold stand it took earlier in the morning.

Now the timings of the occultation:

Disappearance: 11:05:05 UT(6:05:05 est)

Reappearance: 12:19:29 UT (7:19:29 est)

The reappearance of Antares was like a bright beacon, nothing, nothing, nothing then BAM- there it was . Fantastic.

Though my feet were frozen, as the temperature dropped to -16C and my cheek was frozen from sitting up against the eyepiece, it was well worth taking the day off work. I am glad that mother nature cooperated and it cleared.



Observing report

Ken Kingdon

One of my personally favourite deep sky objects is "Thor's Helmet" (NGC 2359). It's located approx. 8° east of Sirius in Canis Major, RA 7h18m, dec-13°. From Kingston's light polluted skies, it gets washed-out, but from the dark skies between Arden and Sharbot Lake, it can be easily observed, even without a nebula filter. The helmet appears to have two protruding "bison's horns", just as seen in old viking movies. "Thor's Helmet" is a stellar wind-blown nebulous shell around a Wolf-Rayet star, located at the center of the shell. This type of star is much more massive and hotter (25,000-50,000°K) than our Sun, and violently expels its outer layers of gas at velocities approaching 2,000 kilometers per second. Located

10,000 light years away in an area of the Milky Way Galaxy that contains clouds of interstellar gas, the expelled material collides with the gas and dust, producing the nebulosity. A medium scope clearly shows the violence manifested by the "bison horns". Wolf-Rayet stars are somewhat rare, thus making this nebula an interesting object for observation. It is #34 on The RASC Finest NGC List. Try a nebula filter, and magnifications up to 200x to get the optimum view. A representative image of Thor's Helmet is at:

<http://www.mindspring.com/~sb635/ngc2359st8.htm>



Astronomical Tourist Attractions in the Kingston Area

Kevin Kell & Kim Hay

We have been asked by numerous visitors, "What is there to see in the Kingston Ontario area that is a person with an Astronomy interest might like to see?"

The answer is this web page <http://starlightcascade.ca/tourism/> with links, photos and some background information about anything that we can think of with astronomical links in the Kingston area.

Often we find that "locals" are the worst informed of their own local attractions. Have *you* gone to see the Prison Museum? The Steam Museum? Hell's Holes?

The following are the ones we have come up with and photo-documented. The pages will be updated with more images, directions and maps as time goes on. Can you think of any more? We are especially interested in large public sundials, or outdoor public art.

Churchill Park Sundial

marking Kingston's 300th year and the 500th anniversary of the birth of Copernicus. Located in Kingston bounded by Brock, Napier and Mack Streets.

City Park

Marks the location of the original Kingston Observatory site. Bounded by Bagot, Barrie, West and King Streets.

Queen's Ellis Hall Observatory

Home of the 16" telescope. Located on Queen's Campus on University Avenue.

Holleford Crater

Kingston's own 500 million year old meteor impact crater. Located about 30 minutes north of Kingston along highway #38, and east of the town of Hartington.

Miller Hall

Geology Museum with a Holleford Crater display and meteorites. Located on Queen's Campus on Union at Division Streets.

Queen's Old Radio Telescope

Marking the now demolished Queen's Radio Telescope site. Located in Kingston at the western end of Woodbine Road.

Queen's Stirling Hall

Home of the Physics and Astronomy Department and a mini-museum. Located on Queens Campus on Bader Lane.

If you know of any other astronomically related site (artwork, sundials, historic sites, etc) please contact us.

URL: <http://starlightcascade.ca/tourism/> was created by Kevin Kell & Kim Hay
Unless otherwise noted, all photos by Kevin Kell & Kim Hay



Kingston Center Activities

Doug Angle

On February 26, several members of the Kingston Centre gave an introduction to astronomy to about 60 people at the **Little Cataraqui Creek Conservation Area**. Topics included an overview of the Kingston Center equipment, how to use star charts, and common observing targets. Although the original plan was to spend one hour doing presentations and one hour doing observing outside, but the weather didn't really cooperate. It did clear up right at the end of the scheduled activities. By this time, most people had left, and only a handful spent a few minutes observing with the telescopes. All who came had a good time.



Kim introduces the session at the Little Cat Astronomy night.

We have another session scheduled with the Little Cat for May 7. Come out to help, chat with the public, or simply to see the presentations.



Hank and Dave check out a portable planetarium at AstroYak



Sue, Norm, and Kevin wait their turns while members of the public watch a presentation

Once a month, Kevin and Kim open their home for **AstroYak**. This is an evening

of informal discussion of astronomy and related sciences. And unrelated sciences. And unrelated stuff that has nothing to do with science. And anything else that strikes our fancy at the time. We've covered such topics as moon atlas, winter driving, CCD cameras, current events, interference filters, ISS passes, cats, astronomy day, favourite cars, all-sky camera heaters, and the relative merits of Astrophysics vs Takahashi refractors.

AstroYak is once a month on the 3rd Friday. The next AstroYak is April 22 at 7:00. Directions are available on the centre website, or at the regular meeting. So come out to Yarker and join us.



**The Kingston Centre
of the RASC**

Email address: kingston@rasc.ca

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.

E-mail: angle@personainternet.com

Post: Doug Angle,

1910 Keeley Rd.

RR#1, Sydenham Ontario Canada

K0H 2T0

Deadline for the April issue is **March 18**

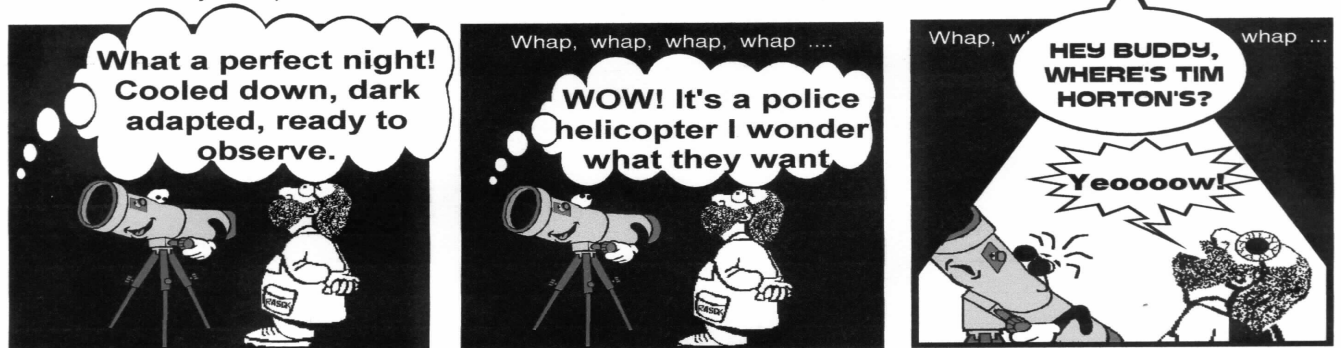
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Contributions are more than welcome.

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NEWT by E. Kiptik



some characters in this cartoon are adapted from The Print Shop Ensemble III

Kingston Cosmic & Events Calendar

by Kim Hay

For more information, refer to the RASC 2005 Calendar, or the RASC 2005 Observers Handbook, available from Kevin Kell, or from National Office. Also see <http://www.rasc.ca/kingston>

| Date | Events |
|----------------------------|--|
| March 30 to April 8 | Floating Members Observing Night to be held at Camden Lake Wildlife Area |
| Apr 1 | Last Quarter Moon 19:50 |
| Apr 3 | Daylight Savings Time Begins - 2:00 am Set your Clocks Ahead 1 hour* |
| Apr 3 | Jupiter at Opposition |
| April 8-9 | FLASF Science Fair The RASC-KC donates prizes for Astronomy Related projects |
| Apr 8 | Regular Meeting Stirling Hall Theatre D 7:30 p.m. Peter Jedicke Astronomy in Hawaii: Reseach, Outreach, Observing --and Politics? |
| Apr 8 16:32 | New Moon Annular –Total Solar Eclipse partial phase visible in most of S of USA. – NOT HERE |
| Apr 9 Saturday NEW TIME | KAON Observing Session - Ellis Hall Queen's Observatory 9:00-11:00 p.m. http://members.kingston.net/rasc/pubobs.htm |
| Apr 11 | Moon 1.3 ° S of Pleiades best in E of North America |
| Apr 16 | Astronomy Day RASC-KC at Isabel Turner Library Night Observing at Queen's University 8:30 -10:00 pm. |
| Apr 16 | First Quarter Moon 10:37 |
| Apr 22 | Astro Yak at the home of Kevin Kell & Kim Hay visit http://members.kingston/~rasc/indexsec.htm for directions |
| Apr 24 | Full Moon 6:06 |
| Apr 24 | Penumbral Lunar Eclipse visible in all of N.America seen best in West |
| Apr 26 | Mercury at greatest elongation W |
| | (27°) not easily observed- |
| May 1 | Last Quarter Moon 2:24 |
| May 4 | η-Aquarid Meteor Peak 7 pm |
| May 7 | Little Cataraqui Conservation Area Public Event 8:00 pm- 10:00 pm |
| May 8 | New Moon 4:45 Ceres at Opposition |
| May 13 | Regular Meeting Stirling Hall Theatre D 7:30 p.m. Laura Gagné –“ Sirius dating in Egypt ” and Stephen Gagné “To see or not to see? That is the Question. Reading the weather for observers.” |
| May 14 | KAON Observing Session - Ellis Hall Queen's Observatory 9:00-11:00 p.m. |
| May 16 | First Quarter Moon 4:57 |
| May 19 | 2 shadows on Jupiter from the moons (7:45 and 8:pm) |
| May 20-23 | RASC General Assembly Kelowna, BC www.rasc.ca/ga2005 |
| May 23 | Victoria Day Holiday |
| May 24 | Moon Occults Antares 4:00 am Antares is 0.8° of moon |
| May 27 | Astro Yak at the home of Kevin Kell & Kim Hay visit http://members.kingston/~rasc/indexsec.htm for directions |
| May 30 | Memorial Day (USA) Last Quarter Moon 7:47 |
| May 31 | Mars 1.5° N of Moon 5:00 am |