Regulus

The Newsletter of the Kingston Centre of the Royal Astronomical Society of Canada - February 2005

Coming up…

RASC Kingston Center Monthly Meeting

Queen's University
Stirling Hall (Physics)
Theatre D

Friday Feb 14th at 7:30pm
Members night

Friday March 11th at 7:30pm
Friday April 8, 2005 at 7:30

Kingston Astronomy Outreach Network Public Observing

Queen's Observatory
Ellis Hall
Saturday February 12
Saturday March 12
Saturday April 9

AstroYak

Friday Feb 25 7:00 pm
Friday Mar 25 7:00 pm
at the home of Kevin Kell and Kim Hay, xxxxxxxxxx

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of the Royal Astronomical Society
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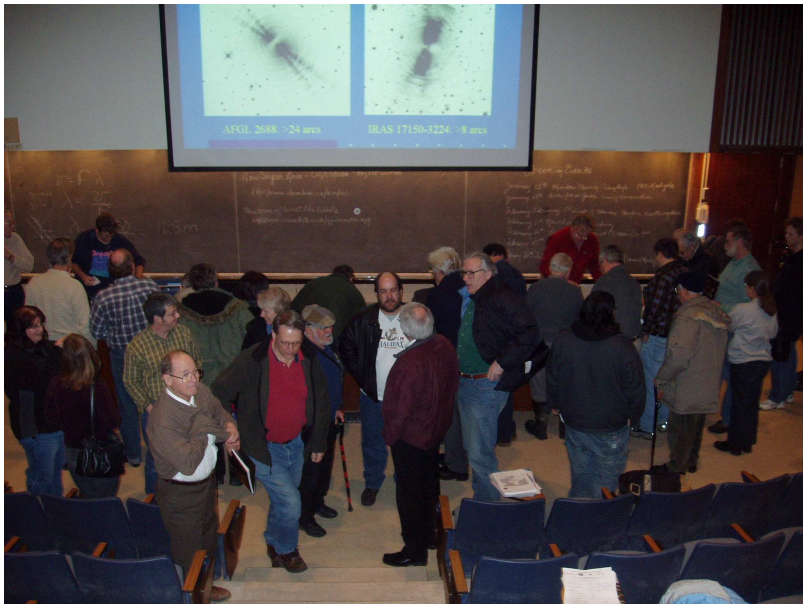


Members chat during the break at the January meeting.

RASC Kingston Centre January 2005 meeting

While only nineteen centre members and eleven guests used the "sign in" book, over sixty people attended the January 14, 2005 Kingston Centre general meeting. (This included several members of the RASC Belleville Centre.) Kim Hay opened the meeting and announced the dates of several upcoming RASC events. Ken Kingdon then introduced our guest speaker Dr. Sun Kwok.

Dr. Sun Kwok gave a fascinating talk entitled "Cosmic Butterflies" covering the origins of planetary nebulae and relating how results from investigating their mysteries has affected other fields, such as speculation on the origin of life and the mapping of dark matter.

After the break, a wine raffle and a 50/50 draw were held. Kevin Kell then gave the "Sky This Month" presentation, which was followed by an "Introduction to Observing" talk by Ken Kingdon. The meeting closed with observing reports, and then centre executive reports plus committee reports.

Errata: In the January issue of Regulus a chart showing the path of Comet Malcoltz was published. This chart was reproduced with the permission of Astronomy magazine, Kalmbach Publishing Co.

President's Tid Bits

By Kim Hay

Wow, is it cold outside! In the Kingston and surrounding areas, we have plunged into –35C with wind chill factor, in January, on and off with temperatures rising above 0C some days to +12C. This is not a typical winter in this area for sure.

But despite these cold temperatures, and the nights that are mostly cloudy some of us have had some clear nights and mornings for observing. Dress warm, dress in layers, and keep something warm to drink close by. Get out when you can, even for a few moments, with your binoculars or with your eyes alone, there is a lot to see up there.

In January we observed Saturn, which is visible in the early evening, and Jupiter after midnight. Early morning shows us three more planets, Mars, Venus and Mercury, though the last two are quite close to the sun, and proper care and filtering should be taken to view these planets. We have had 5 major X and 15 M class flares off the sun from sunspot 720 alone, which may have taken out a satellite and caused some scientific instruments to be put in safe mode, but these only produced a slight green band of aurora, with one aurora on the night of January 18. Comet Machholz is dimming but still visible with binoculars and small telescopes in a dark sky. It's gone past the Pleiades and is going north.

If you missed our meeting in January you missed a very informative and visually pleasing tour through the universe as we observed several different types of Cosmic Butterflies, the Planetary Nebula, which was presented by Dr. Sun Kwok, of the University of Calgary.

Our February meeting will be a Members night, consisting of small presentations by Centre members and a Question and Answer period by you the member! At the January meeting I challenged everyone to come to the February meeting with ideas and suggestions, on what you the member would like from the Kingston Centre, and what you would like the Centre to do this year. If you cannot make the meeting and still have suggestions, please send a small note off to kingstonexec@lists.rasc.ca or contact the Centre phone line at 613-377-6029.

If you wish to present a topic at this meeting or other meetings, please contact Norm Welbanks, our Vice President at skyguy@sympatico.ca . We would like to hear what our members have been up to, and have them share their astronomical experiences with us.

Our website is being updated http://members.kingston.net/rasc/ . Its not in its final form yet, but then again a website is always evolving. Thank you Kevin Fetter for making this happen.

There is some sad news in the Astronomy Equipment front. Mr. David Lunt, founder and principal optical designer of Coronado Technology Group in Tucson, Arizona, died on January 16th. Some of you may already own a Coronado Solar Telescope, and you my friend are very lucky.

Here are a few links on the above story in case you want to know more.
http://skyandtelescope.com/news/article_1444_1.asp
You can also hear David and Wendee Levy's interview with David Lunt and Gerry Hogan from back in 2003.
http://www.letstalkstars.com/030916.ram

If you have some pictures or drawings of your observations, please send them. These could go into the Regulus or on the Kingston Centre website under the members area to share with others.

It will be a very busy year at the Kingston Centre. There is a general announcement list that has been created for all Kingston Centre members with email addresses, and only Centre announcements will go out on this list; it is not a discussion list. If you do not wish to be alerted of notices please let us know. if you do not receive a notice but have an email and we don't have it please let us know at kingstonexec@lists.rasc.ca .

We have an aurora hotline which is a phone list that when one person sees an aurora they call the next person and so one, always let the person know who started the list, so we know when to stop calling. We have around 5 members now, but if you would like to be added to the list let me know at kim@starlightcascade.ca . It does not matter if you live in the city or not, as this could be a good experiment in light pollution and transparency.

We also have many upcoming events. Members and Public Observing Sessions, nights at the Little Cataraqui Conservation area, Astronomy Day, Sky is the Limit Festival, Fall N Stars 2005 and much more to come.

Won't you come out and enjoy some of these events with us; we would like to see you there.

West Coast Greetings

Angelika Hackett

Thank you for another great issue of Regulus, and Happy New Year to the Kingston Centre from the West Coast! It has now been 20 years since we moved from Kingston to the Vancouver area, and I do enjoy keeping in touch with a few people and hearing about RASC KC activities.

You might be interested in hearing that I enjoyed a fantastic display of Geminid meteors on Dec. 13. I had never seen them before (not too many clear nights around Vancouver at that time of year, plus terrible light pollution where we live), but was fortunate enough to be in Palm Springs, southern California, with a perfectly clear sky. There was light pollution, too (I wasn't able to get out of the city into the dark desert), but nevertheless I counted about 60 meteors per hour. I observed from around 11 p.m. until midnight, local time, and was impressed by how bright, slow and long-lasting they were. It was a pity there was no-one observing with me -- we would have had lots of time to shout, point, comment, etc., while the meteor was still there! One exceptionally bright one traveled half-way across the sky towards the south-west, leaving a long trail, and finally exploded above the mountains. I'm not sure how bright they have to be to qualify for a fireball. What a great show! Meanwhile, my family back home had, as usual, a cloudy sky.

Best wishes for 2005 and clear skies to everyone!

Responsible Lighting and Your Home, Part 1

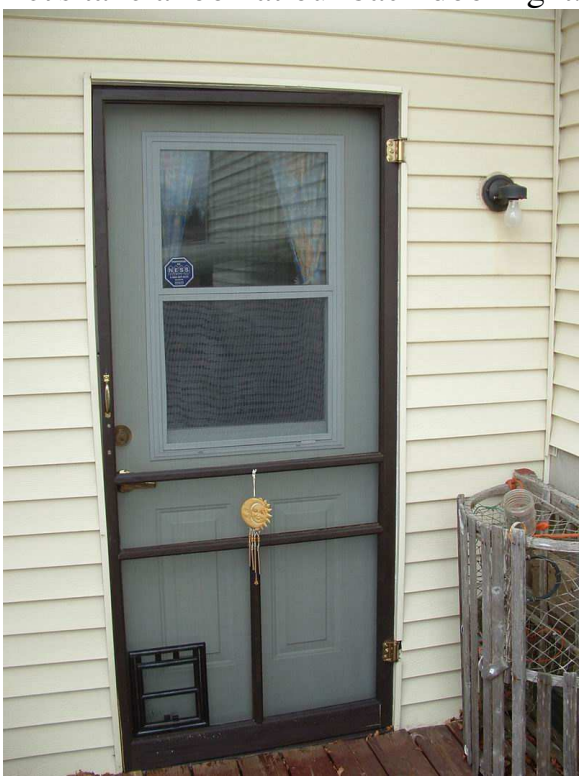
by Kevin Kell

Hi! How is *your* lighting? Before we go off making a fuss about other people's light pollution and responsible lighting, perhaps we should take a look in our own backyards, or at least at our own homes. This is the first of a series of articles on exactly that, looking at our own home lighting with respect to the principles of responsible lighting.

What is Light Pollution?
Light pollution is a generic term that encompasses many different aspects of improper lighting.. The three major components of light pollution are light trespass, glare, and urban sky glow.

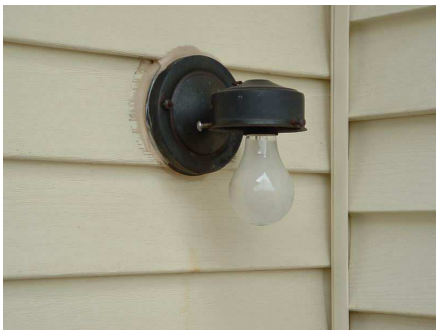
Basic tenets for responsible lighting:
- Use light only where you need and use it
- Use full cutoff fixtures to use the light where you want it and no where else.
- Use the appropriate wattage and not more than you need
- Use a motion sensor, or timer to reduce the time of lighting to when it is needed.

Let's take a look at our back door light.

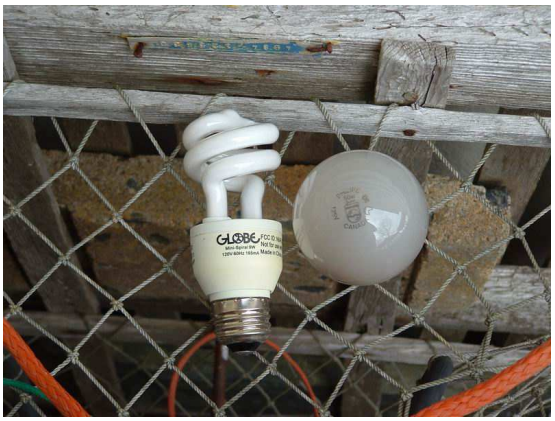


It was an unshielded 100 watt incandescent bulb when we moved in. When you were outside looking at it, the glare was incredible… to the point of being dangerous. Thus it violated responsible lighting in that it contained all three components of light pollution:
1) The neighbours could see it from there back yard, trespassing on their dark areas.
2) You literally could not see anything else but the bulb glare.3) The light went everywhere, including up contributing to suburban sky glow.

So, the first thing we did was to look at the tenets: - use light only where you need and use it. Well that answer was yes, we both needed and used it in the back door area.

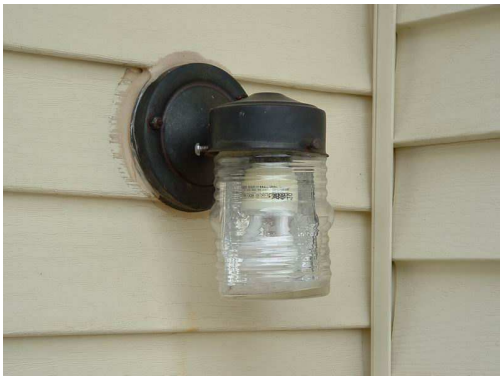


Were we using an appropriate wattage?
Heck no, it was way too much! So we replaced it with a 50 watt incandescent bulb, reducing both power consumption by 50%, but also reducing the glare level and the sky glow component. However it still was trespassing onto the neighbours property and causing direct line of sight glare and some skyglow.

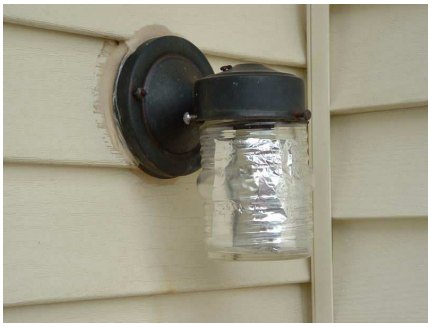


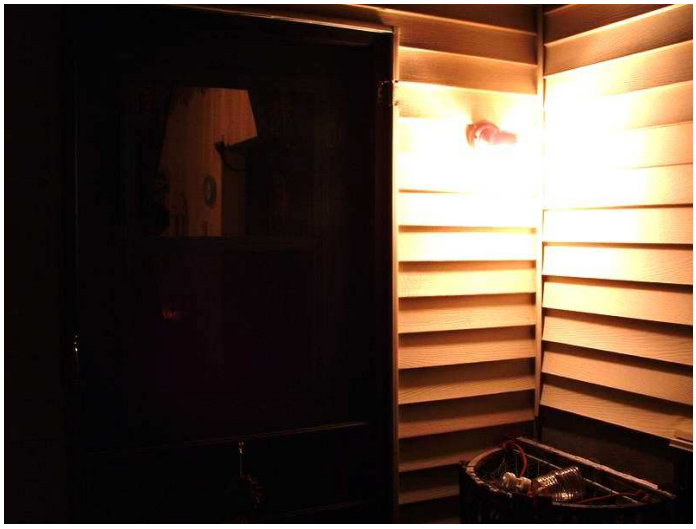
Then along came Compact Fluorescent bulbs. We were able to replace the 50w incandescent with a NINE watt CF bulb and get the same amount of light to boot.

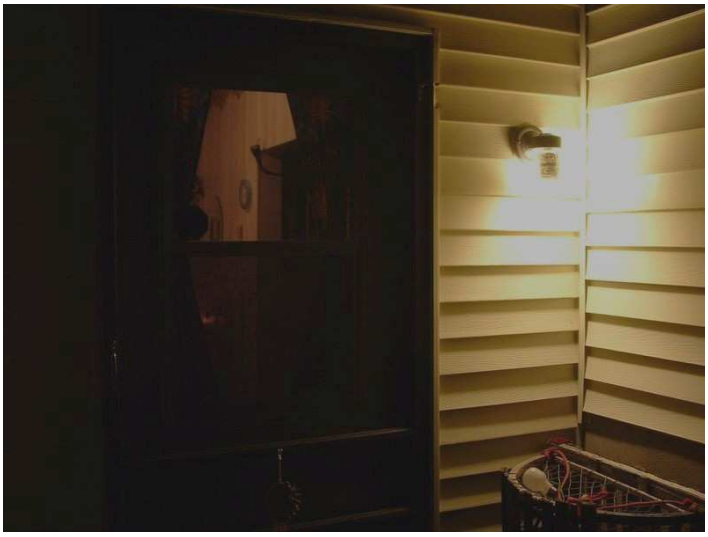
Then we tackled the other issues of glare and sky glow by adding a glass enclosure with a piece of aluminum foil.
Since compact fluorescent bulbs do not get nearly as hot as incandescent bulbs, we felt it was safe enough to add aluminum foil folded up a couple of times to acts as a full cut off fixture addition.



This completely blocked the direct line of sight glare into your eyes and you could see much better in the back yard area. In addition, it stopped the direct light trespass onto the neighbours property.



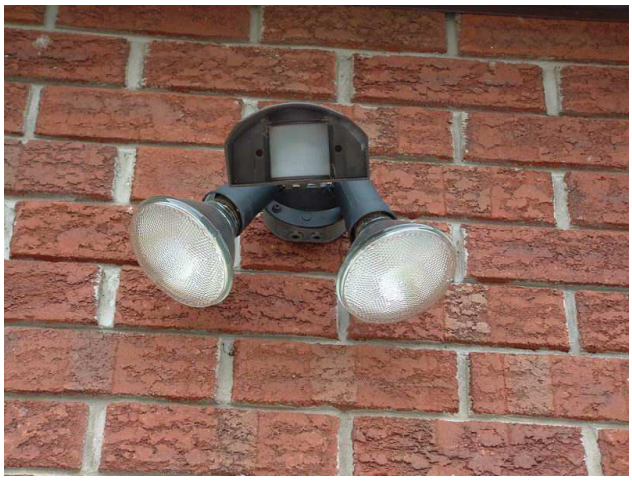




Picture on the left is the "before" image of the light, with direct glare and overpowering brightness.

Picture on the right is the "after" image with no direct glare (although some reflected glare off the siding of the house). Notice however that the camera exposed more because of the reduced light levels and now you can see some details of the door and the lobster trap that you could not before. So even the bright reflected light you see in the "after" image is actually artificially brighter than it really was. Next time I'll try for a fixed exposure for a more accurate comparison.

In summary, we reduced the amount of wattage by OVER 90% (100w down to 9w), reduced the absolute amount of lumens (light quantity) by about 50%, eliminated GLARE, eliminated LIGHT TRESPASS and greatly reduced the SKYGLOW that our back door fixture caused.



Next month we tackle the garage flood lights!

"Clear Skies!" ... hmmm how about "Clear Dark Skies!" instead?

Members Observing Sessions

Ken Kingdon
Observing Chair

The RASC Kingston Centre had a private Observing Session on Saturday January 15th between 7:00-9:00pm at the home of Doug & Suzanne Angle, about 15 minutes north of Kingston. Twelve members attended, which is darn good for wintertime. For scopes, we had the Centre's 24-inch "Venor" and the 8-inch "Barney", plus my own 12.5-inch PortaBall, and Tessa Clarke brought her binoculars.

The temperature was minus 8°C, and the wind was calm. Most of us were dressed warm enough to be comfortable, albeit all of us got cold toes eventually. I switched to my -100°F snowmobile boots, and in just 30 seconds my toes warmed back up... wearing only one pair of thin socks! A few took a brief break for re-warming indoors. Everyone was fine with the weather, and all "explorers" stayed to the end of the event.

With lots of cloud cover since a month ago when this evening was scheduled, we were very lucky that this night had the clear skies that we needed. Just when I left my home in Kingston at 6:30pm, a lake-effect snow squall began, but very quickly ended after I swore at it! RASC Kingston Centre has had a busy month, so the only Saturday we could schedule during January had to fall at the 1st Quarter Moon, limiting any serious deep-sky observing.

"The moon on the breast of the new-fallen snow,
Gave the lustre of mid-day to objects below.
Then, what to my wondering eyes should appear,
But the bright Comet Machholz at the zenir."

With 2 cm of snow on the ground compounding the bright Moon, this comet did require binoculars to initially find it, but once located, it was naked-eye visible as a tailless fuzzy spot. When viewed with the 24-inch, it had a bold and large coma with a very bright, stellar-like nucleus. The nucleus had a hard edge, giving an impression as if we were looking right through the coma to the solid body of the comet itself... a neat view, thanks to the 24-inch aperture. The dusty tail was distinct, but with the big 24-inch Dobby pointed at zenith, it was difficult to move the scope along the full length of the tail, or to follow the comet as it moved across the nice one-degree FOV of Doug's new 31mm Nagler eyepiece.

The Moon was also a nice target, and the shadow terminator clearly displayed one of the concentric impact rings around Mare Nectaris known as Altai Scarp. A fine image of the entire Moon was also projected from the 24-inch onto a flat surface for all to see together. Saturn was nice and high, with serveral moons visible, including Titan that now has the Huygens probe sitting on its surface after its arrival the day before. We looked, but could not find it. :)

A nice assortment of Messier and NGC objects were seen, but toward the end, a misty haze slowly increased as the next day's fresh supply of clouds approached. Suddenly it was time to go.

Private Observing Sessions

Ken Kingdon
Members Private-Observing Chair

During 2005, the RASC - Kingston Centre will be trying to get out and actually accomplish more observing together. There are two truths that apply to astronomy: (a) both beginners and experts learn more by observing together, and, (b) on overcast nights, you cannot observe... so make the effort to get out under those clear skies.

For each month's observing session, current targets of opportunity will be available on hand-outs. Also, those working on a Messier List or a Finest NGC List will be given the help and inspiration they need. All YOU have to do is attend! No scope?... our Kingston Centre has plenty of fine "loaner" scopes to help you enjoy the universe.

We will use either of two strategies for our monthly Member's private sessions:

(1) to beat the cold in winter, or to avoid mosquitos in summer, we will meet at member's homes from time to time on a scheduled Saturday.

(2) to beat the clouds, in some months when darkness comes early, we will have a quick 2-hour session 7-9 pm by using a "floating" date - the first clear night in the darkest period of the Moon. It may turn out to be a weekend, or perhaps a weekday... but these brief 2-hour viewing sessions should provide a lot more reality than staying at home to watch a Reality TV Show!

I welcome suggestions from our membership to further this initiative.

Clear skies... use 'em, or lose 'em

The Kingston Centre of the RASC

Note changes to our mailing list servers.

We now host our Kingston executive email list and the kingston member chat list on the national email server,
provided/donated by St. Marys University.

Email address: kingston@rasc.ca
Exec email: kingstonexec@lists.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 March issues is February 18

Kingston Cosmic & Events Calendar

by Kim Hay

For more detailed information, please refer to the RASC 2005 Calendar, and the RASC 2005 Observers Handbook. Available from Kevin Kell, or from National Office, http://www.rasc.ca

Date	Events
February 2	**Last Quarter** Moon at 2:27
February 2-10th	**Floating Members Observing** Contact Ken Kingdon if you want to be contacted to observe kenkingdon@hotmail.com
February 7	**Winter Star Party** Florida Keys, **www.scas.org** February 7-13
February 8	**New Moon** at 17:28
February 11	**RASC-Kingston Centre Regular Meeting** Stirling Hall Theatre D 7:30 p.m. Members Night, Your Q & A's www.rasc.ca/kingston/
February 12	**KAON Observing Session**- Ellis Hall Queen's Observatory 7:30-9:30 p.m. for more information visit http://members.kingston.net/rasc/pubobs.htm
February 15	**First Quarter Moon** at 19:16
February 16	**Moon** is 1.5° S of the Pleiades 1 am edt. best view West North America
February 23	**Full Moon** at 23:54
February 25	**Astro Yak** at the home of Kevin Kell & Kim Hay visit http://members.kingston/~rasc/indexsec.htm for directions
February 26	**National Council Meeting** in Toronto 10:00 am till 5:00 pm
February 26	**Little Cataraqui Creek Conservation Area Public Talk 7:00 pm** Come out and help or come and enjoy the talk http://www.cataraquiregion.on.ca/
February 26	**Zodiacal Light** visible in the West after evening Twilight for the next two weeks.
February 27	**Jupiter** 1.9°S of Moon best in West NA.
March 3	**Last Quarter Moon 12:36**
March 3	**Moon Occults Antares 6:00 am**
March 10	**New Moon 4:10**
March 11	**RASC-Kingston Centre Regular Meeting** Stirling Hall Theatre D **7:30** p.m. Speaker to be Announced www.rasc.ca/kingston/
March 12	**KAON Observing Session**- Ellis Hall Queen's Observatory 7:30-9:30 p.m. for more information visit http://members.kingston.net/rasc/pubobs.htm
March 12	**Mercury at greatest elongation E(18°)** best evening view in 2005
March 17	**First Quarter Moon 14:19**
March 17	

	 **Happy Saint Patrick's Day**
March 20	**Spring Equinox 7:33 am**
March 25	**Full Moon 15:58** **Good Friday** **Astro Yak** at the home of Kevin Kell & Kim Hay visit http://members.kingston/~rasc/indexsec.htm for directions

March 26	**Jupiter 2.0º East of Moon 8:00 am**
March 27	**Easter Sunday**
March 28	**Zodiacal Light** visible in West after evening twilight for next two weeks
March 30	**Venus at superior conjuction**

All times in Eastern Standard Time

Zodiacal Light: Under extreme clear conditions, after sunset, you may see a faint cone-shaped region extending up several 10's of degrees of where the sun set. It is sunlight reflecting off the planetary dust that is lying in the plane of the ecliptic. This dust is material left over from the collisions of minor planets and meteoroid s. ***for more information*** *, see page 233 in* ***2005 Observer's Handbook***

Elongation: the angular distance of a planetary body from the Sun as seen from Earth. A planet at greatest eastern elongation is seen in the evening sky and a planet at greatest western elongation will be seen in the morning sky

The Newsletter of the Kingston Centre of the Royal Astronomical Society of Canada, Regulus is published 6 times per year on paper and 6 times on our web site. Views and opinions expressed herein do not necessarily reflect the official position of the Royal Astronomical Society of Canada or its officers and members.

Subscriptions: Members of the Kingston Centre receive Regulus as a benefit of membership. Advertisements are free to members of the Centre. Commercial advertising is $20/quarter, $40/half page, $100/ full page and should be in electronic format. Contributions are more than welcome. Submitted material may be edited for brevity or clarity.

Effective 2004 January 11th WebSite Passwords for Member-only Secure areas: