Regulus

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

Coming up…

RASC Kingston Center Monthly Meeting

Queen's University
Stirling Hall (Physics)
Theatre D

Friday Jan 14th at 7:30pm
Speaker: Dr. Sun Kwok
"Cosmic Butterflies"
See the introduction below.

Friday Feb 11th at 7:30pm
Friday March 11, 2005

Kingston Astronomy Outreach Network Public Observing

Queen's Observatory
Ellis Hall
Saturday January 8
Saturday February 12

AstroYak

Friday Jan 28 7:00 pm
at the home of Kevin Kell and Kim Hay,.

Please note that on January 14th, 2005 we are fortunate to have a very special guest speaker at our RASC meeting. Dr. Sun Kwok is from the University of Calgary and he will present:

COSMIC BUTTERFLIES: THE COLOURFUL MYSTERIES OF PLANETARY NEBULAE

Sun Kwok's talk provides an easily understood explanation of these wonderful objects, illustrated with beautiful images of these planetary nebulae. He summarizes his talk as follows:

At the end of a star's life, it wraps itself in a cocoon by spilling out gas and dust. Sometime later, a butterfly-like nebula emerges from the cocoon and develops into what astronomers call a Planetary Nebula. Recent observations by the Hubble Space Telescope have revealed the details of this transformation. In this talk, we will summarize our modern understanding of planetary nebulae and show how research on Planetary Nebulae has impacted other fields ranging from the mapping of dark matter to new insights into the origin of life.

Dr. Sun Kwok has authored two recent books on planetary nebulae published by the Cambridge University Press: The Origin and Evolution of Planetary Nebulae in 2000, and Cosmic Butterflies published in 2001. This wonderfully illustrated book is likely the very best for learning about planetary nebulae, and signed copies may be purchased at this meeting. You can get more interesting information about this book at the website:http://www.saao.ac.za/assa/html/kwok.html

Guests are welcome, and we sincerely hope to get a good attendance from our members in order to attract other special speakers to travel to Kingston in the future.

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President's Tid Bits

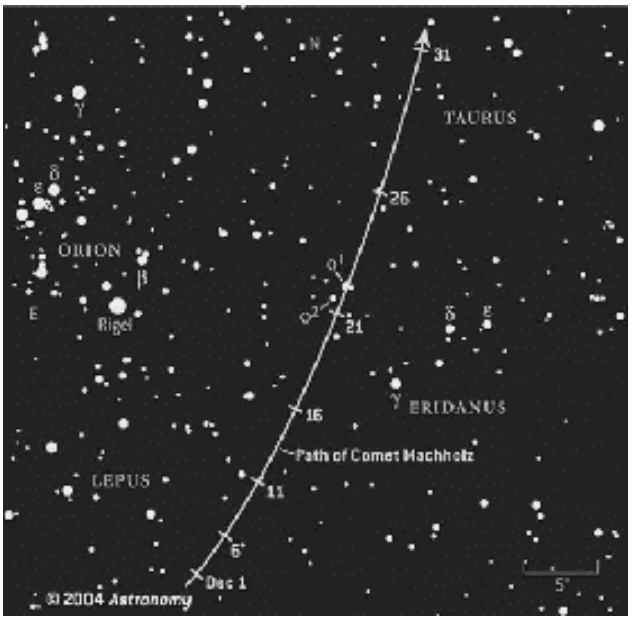
By Kim Hay

Welcome to 2005!!

New Year's always a good time to reflect, to acknowledge, and move on with new ideas and new dreams.

Mr. Murphy has been booted from the RASC-KC door, as our Past President Peggy Hurley mentioned in the December issue of Regulus. We are moving on.

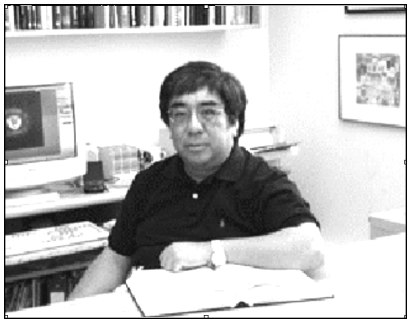
The year 2005 will be a busy year, not only in Centre events but also for observing. We are treated right now with a naked eye comet, Comet C/2004 Q2 (Machholz). Many members have already spotted it. It is a faint fuzzy, with no explicit tail but apparently one can be seen in higher apeture. It is brightening and by January 4-7, 2005 it will be by the Pleiades (M45). On January 5, it will be closest to Earth, so this is genuinely an Astronomers Holiday gift.



The map above shows the new Comet Machholz as it courses through Lepus, Eridanus, and Taurus in December, brightening from magntiude 6 to magnitude 4 during the month. On January 7, 2005, the comet's tail brushes the famous Pleaides cluster — a fine binocular or telescopic sight (map by Roen Kelly) for more information on its discovery please visit the Astronomy Magazine site at http://www.astronomy.com/asy/default.aspx?c=a&id=2465

We will be holding our public observing (the KAON -Kingston Astronomy Outreach Network) session on January 8, 2005 with the Queen's University Observatory at Ellis Hall, 7:30 pm. up on the platform. Clear or cloud we will be there.

Our January monthly meeting will be on January 14 at 7:30 pm. with guest speaker, Dr. Sun Kwok, who is famous for his book, Cosmic Butterflies, The colourful mysteries of Planetary Nebula. Dr. Kwok is currently working at the University of Calgary on advanced stages of stellar evolution, stellar winds, planetary nebulae, interstellar chemistry, and infrared spectroscopy. For more information please check out http://www.iras.ucalgary.ca/~kwok/kwok.html



Dr. Sun Kwok

In February, we have our monthly meeting on February 11, at 7:30 pm Stirling Hall Theatre D, at the time of publication, the speaker was not yet known, but surprises can be fun, so come on out and find out who is speaking and enjoy talking with others.

February 12, the KAON (Kingston Astronomy Outreach Network) with Queen's University will be holding its public observing session at Ellis Hall.

We will be doing a public presentation on February 26, of an Introduction of Astronomy and the

Spring Sky at the Little Cataraqui Creek Conservation Area on Division Street at 7:00 pm. If you would like to assist in this event, please contact me, Kim at kimhay@kingston.net. It will be a short talk, with some slides and if clear we will be setting up outside for an observing run.

Our member Don Cooke set up the November 2004 public talks at the Little Cataraqui Creek Conservation Area and they have asked us to come back. Don was the Centre's Events Co-ordinator for the last couple of years, but by the time this newsletter goes to print, Don & his wife Alice will be on the Rock, in Newfoundland planning his new observatory, and trips on his 4 wheeler in the white powder. We will all miss Don very much, and we hope to carry on his program at the Little Cat. We wish you good fortune; good hunting and clear skies Don and Alice.

I would like to thank all of last year's (2004) Executive and Committee chairs for their hard work and dedication to the Centre and its members. Its volunteers that make a Centre grow and flourish and make it strong. We have a few committees without chairs that were not filled at the Annual meeting. Manpower is what is needed, be it a small contribution to an event, or taking on the chair of a committee, we appreciate all help. We as an Executive and working members on the Committee's can only do so much, and only do what **you** the members would like to see done.

It's an open door policy, and if anyone would like to just drop a line, leave a message or bring forth an idea at a meeting that's great. We will have a suggestion box at the meeting. You can phone or write- contact information is on page 1. We even have a Centre chat list, where members post their observations, ask questions, and have general discussions on upcoming observing events. If you would like to join, subscribe to kingstonrasc@lists.rasc.ca its that easy. We have members spread all over the world; it would be nice to hear from everyone.

We are here to help **you**, but we need to know what you want. I would personally like to hear from everyone of our members, that is my New Year's challenge to **You**!

So go out and observe and share the sky with a friend, or read that favorite Astronomy magazine or book you received over the holidays, but enjoy yourself in the wonderful world of Astronomy!

Venus Transit June 8, 2004

Ken Kingdon

At 4AM EDT June 8, 2004 I awoke to find a completely cloudless sky overhead in Kingston, Ontario, but there was very poor transparency low to the horizon... just as predicted by the Clear Sky Clock website for "The Observatory on the Lake" located near to our planned viewing site.

I met Dave Pianosi at 4:45AM at Tim Horton's, and he reported he had just driven through heavy fog patches on his route. After coffee, we departed northward from Kingston via Sydenham Road, and arrived 1/4 hr later on a sideroad along the waterfront at the SW end of Loughborough Lake (pronounced "Low-boro"). A severe haze limited visibility over the water to 2 km, but at least it was not an impenetrable blanket of fog. The glassy-calm lake was absolutely serene, with a forest across the lake providing a gorgeous telescopic background. Dave Pianosi remarked: "It's an Ansel Adams photographic scene".

Loughborough Lake is deep, cool, very clear, and is the most southern lake in all of Canada where you can catch a fine Lake Trout. Loughborough Lake is 20 km long with average width 1 km, and is surrounded by well-forested slopes climbing steeply 30 metres above the lake. This "bowl effect" helps contain any fog, while still being only 2 minutes drive to the upper-level open fields, if last-minute fog had necessitated an escape to relocate.

Soon Dave and I were joined by fellow RASC-Kingston members Steve Manders, Kim Hay, Kevin Kell and Doug Angle and we all promptly armed our scopes with solar filters, and set-up digital still and video cameras, and a precision atomic clock (remember Kevin Kell's "precision clock" thread last winter on the national RASCals list... now its value was about to pay dividends). From the extreme SW end of Loughborough Lake, our line-of-sight vector was over Davidson's Beach (see topo map at the CSC mentioned above), and oddly, passed over Mark Kaye's cottage with its roof-top "Observatory on the Lake". Unfortunately, Mark Kaye could not join us on this day.

Ten days earlier, an "exploratory visit" had been done to this waterfront site, and now we expected everything would be fine. Excitement built as we anticipated the event about to unfold. Sunrise came at 5:24AM EDT (UT 09:24), but after several minutes, not even a trace of the Sun was visible by naked-eye through the heavy mist! After all that planning... I got that sinking feeling!

During those first 12 minutes as the Sun rose through the heavy mist, Kevin Kell found a way. Using his video camera, which being infrared-sensitive, could cut right through the dense haze without any problem whatsoever. The camera's LCD monitor clearly displayed the Sun with our first look at Venus! The video camera determined the true position of the still naked-eye invisible Sun. All scopes were then quickly pointed in the correct direction on the far shore, but still NOTHING was visible!! The haze was so thick that the dim Sun was impossible to see through our solar filters. Cautiously... one person at a time, from smallest to largest aperture... we each removed the solar filters from our scopes, and for the next 2 minutes had incredible views through the heavy mist as we panned around the Sun. Imagine this scene... a huge red Sun with a big black Venus, this transit all framed by Pines on the scenic horizon 1.5 km away, with flights of ducks, geese, gulls, terns and herons all flying near or right across the face of the Sun. All this seen with daytime acuity, everything visible in scopes up to 10-inches with absolutely no filters [do NOT try this unless you are accompanied by experienced observers]. For those two minutes, this scene had a physical connection with life on Earth that was unforgettable. At that time, the Sun looked like Jupiter because two horizontal streamers of cirrus clouds just happened to play the part of Jupiter's own Equatorial Belts, and Venus acted like a Callisto doing a shadow transit. Cool!

As the Sun rose higher, its upper edge began to brighten, and quickly we all re-armed our scopes with solar filters. During this part of the transit, we still could not see the very low altitude Sun through the solar-filtered scopes, but now there was enough brightness for a naked-eye view to work nicely. Easy to understand how sun spots were first discovered by the ancients - just look at the Sun at dawn on a misty day. As brightness increased further, the #14 welder's glass became useful. By 15 minutes after sunrise, the Sun with Venus in transit finally climbed out of the mist and into a blue sky, and henceforth, solar-filtered scopes were finally used. This higher altitude also gave improved seeing for the balance of the transit.

The Sun also had two central sunspots, one of which was clearly bi-polar. Our filters revealed a large patch of faculae above Venus (correct orientation view). Venus at 58 arcseconds seemed large (1/32nd of the Sun), just as I anticipated, judging from my best ever view in late September 2002 at Fall'n'Stars when Hank Bartlett showed me a 30-arcsecond diameter Venus in mid-afternoon with his 8" scope; then Venus was half-white, half-black, set upon a sky-blue background... a magnificent sight.

Third contact, as viewed in my 82-mm apo-refractor at 60x seemed to show extremely fine black speckles - like rain streamers from a heavy T-storm cloud on a summer's day - but no pronounced Black Drop effect was apparent.

Fourth contact was even cleaner, nil Black Drop effect, resulting in a sudden ending that tended to catch us almost off-guard, thinking that we should somehow yet see the Black Drop effect.

Venus transited from the celestial east toward west, so when it was all over about 7:24AM, Venus had officially transformed from an "evening star" to become a "morning star" that precedes sunrise. A couple of weeks later, Venus had moved far enough west from the Sun so that it could be safely viewed naked-eye... and it was amazingly brilliant. Venus remained a "morning star" for the balance of 2004.

The Loughborough Lake site may have been a classically beautiful observing spot in Canada, but perhaps the most intriguing place on Earth was near Marseille, France where there was a "double" transit. Yes, along a narrow track, the International Space Station crossed right over Venus crossing the Sun!

Some of my thoughts for the next Venus or Mercury transit event:
1. Heavy mist or low level fog can give a series of pleasing appearances as the transit moves above the mist gradient, so a waterfront site is a great place to observe a transit, contrary to my initial fears about water vapour obscuring the event.

However, the next Venus transit on June 5th, 2012 will begin locally at Kingston just after 6PM EST and continues through sunset; at that time of day, mist/fog should not be apparent. Being a western view, RASC-KC may consider a visit to the Camden Lake site.

2. The next Mercury transit begins at 3PM ET on Nov. 8, 2006 and proceeds right through sunset. Again, Camden Lake for RASC-KC is a good choice. At that time of year, clouds could be problematic, but a video camera may solve this problem. I suggest having a video camera available (rent one if necessary).

3. Viewing together as a group to enjoy the view also gives the advantage of having more expertise and more equipment to help quickly resolve any problems.

4. The initial unfiltered binocular view through very heavy mist was actually one of the best, so don't forget to bring those binos [but do NOT use any unfiltered instrument on a clear day].

5. Use an atomic clock, as Kevin Kell did June 8, 2004 to get very accurate timings. These timings were amongst the very few done across all of Canada, and were reported at the St.John's 2004 GA of RASC.

I want to thank Kim Hay who has put together a Venus Transit website for our Loughborough Lake gathering of RASC-KC at:
http://www.kfetter.100megs26.com/rasctransit/venustransit.html

And to see a gallery of Kevin Kell's fine pictures on this website, click on the thumbnail images.

This event was much better than any of us had predicted, and we are all looking forward to another Venus transit on June 5th, 2012 (1st contact just after 6:00PM EDT). Hope to see YOU there!

Venus Transit Times
from
RASC Kingston Members

Observer	3rd Contact	4th Contact
Ken Kingdon	11:05:05	11:25:00
Dave Pianosi	N/A	11:24:54
Kevin Kell	N/A	11:23:58
Doug Angle	11:04:51	11:24:56
Kim Hay	11:05:46	11:25:12

Predicted time of 3rd contact was 11:05:22, and of 4th contact was 11:25:12. All times are UT. Predictions from ESO observatory for Montreal, Quebec area.

Editor's Corner

Doug Angle

Regulus is always looking for submission from members. How about writing an article? Tell us about your favourite astronomical objects, a memorable observing session, book, DVD or equipment reviews, your astronomical travels, or an essay on an astronomy or related science. This can also be an excellent way to learn more about new areas within the field: do some research on a topic, or find a lunar crater or deep sky object, and write about your experiences. We would particularly like to hear from our distance members: Tell us about your sky conditions, equipment, and of course, your observations.

I can take most common formats, although I prefer plain text. Pictures should be sent as image files in attachments separate from the articles. Articles can be sent by email to" Angle@personainternet.com or by paper mail to xxxxxxx.
R.R. #1 Sydenham,
Ontario, Canada
K0H 2T0
The deadline is usually the 3rd Friday of each month

From the Treasurer

John Hurley

As you're out going Treasurer I just wanted to express my thanks to everyone who helped make things so easy for me. I enjoyed helping everyone with their questions and concerns with both the Centre and National Office. I also wanted to say a special thanks to Susan Gagnon for her work with the banquets over the years and to Hank Bartlett and his wife Di for helping with the Raffles in past years. With their help I was able to enjoy some time at the meetings and just talk with many of you. In my years as Treasurer the Centre has been able to work on many projects and has been very successful. We are in much better financial shape than when I took over and someday we may even have the observing site so many of you have been hoping for. I am sure that the Center finances will be in good hands with Kevin Kell. I am looking forward to serving as your National Council Rep for the next two years, and being able to visit with more of you at the breaks. Once again, thanks to everyone for all your help and support.

Public Observing Sessions

Public observing sessions are coordinated between RASC-KC and the Queen's Observatory. Sessions are held the 2nd Saturday each month. The Ellis Hall Observatory will be open to the public, and we will use the observing deck just beside the observatory. The next sessions are:
January 8
February 12

All sessions are from 7:30 9:30.

Group Discount

Kevin Kell

As an astronomy group, our members are eligible for group discount with Astronomy and Sky & Telescope magazines. This applies to either new or renewing subscriptions. The discount is $10 off the regular subscription price, or $39.95 for Sky & Telescope and $40 for Astronomy. (All prices in U.S. Dollars). To get the group discounted price, your subscription or renewal must be processed through the centre, so contact Kevin Kell if interested.

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!

Our next two months involve each kind of these sessions, as follows:

We will start the RASC 2005 observing year on Saturday, January 15, 2005 at 7pm at the home of Doug & Suzanne Angle, 1910 Keeley Rd, Sydenham. (From the 401, go north on Sydenham Rd., nearly to the village of Sydenham. Turn right on Keeley Rd., 3km to xxxx) If it's cloudy, we cancel and instead will see you at the Jan.28th "Astro Yak in Yarker".

For Jan.15th, Comet Machholz will be at its peak, giving a magnificent view through our club's 24-inch Venor Scope, and a good selection of Planetary Nebulae.

In February, a "floating" date will be used during the period February 1st to 10th, and upon the first calm, clear night you will be advised of where we will meet. For those who have to work the next day, such a brief 2-hour session from 7-9 pm will allow observing some pre-planned targets, while our cars provide re-warming if required. Location: TBA. To get your name on the advisory list, advise Ken Kingdon by January 20th by e-mail kenkingdon (at) hotmail.com or phone (xxx-xxxx). I will then send location details to those on the advisory list during the day of the best clear sky between February 1st to 10th.

I welcome suggestions from our membership to further this initiative.

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

ISS Transits the Sun

Ken Kingdon

Way back in August 2003, I christened my new Baader solar filter by observing the International Space Station transit the Sun. Despite the unbelievable 657 km distance to the ISS, the sharp silhouette permitted me to actually see details on the ISS... each cabin-section had different shapes, and all the solar panels were distinct and razor-sharp. For an instant at that first sight, I thought that a flying dragonfly was a interrupting my ISS transit event! Since the ISS typically only transits locally two or three times a year, and clouds may interfere, I do try to see them whenever I can.

On Wednesday, June 16th 2004 at 08:16:38 AM EDT, I successfully observed my second ISS transit of the Sun, which also happened to be my last successful one during 2004. Kevin Fetter had kindly e-mailed me its terrestrial track, so my chosen observing station was right on a spot where the ISS track crossed at the north end of Brule Road, near Westbrook, Ontario. Due to large parallax effects, the ISS track width to intersect the Sun is actually quite narrow (maybe 6 km wide), so you must be stationed well within the designated zone.

I used my Baader-film solar cell on my 82-mm Kowa refractor working at 60x power. There was a light cirrus-cloud ceiling at 27,000 feet which did not diminish the Sun, but had an unexpected and beautiful effect... I could watch these cirrus clouds quickly moving past the Sun - outboard of the Sun - just like one sees clouds pass by a Full Moon. Because of the enormous light-reduction through a solar filter, normally there is only a black void outboard of the Sun, so these beautiful gossamer whisps were quite unexpected. This improved the scene in an appealing way. Adding even more interest to the scene, the Sun happened to have numerous large sunspots on that day.

Right at the appointed time, the ISS shot across the disc of the Sun taking only about 1 second to cross the Sun. Today the ISS was at a distance of 750 km and its huge solar collectors and central body were clearly seen. But there was less detail than during my previous sighting August 18th, 2003 when the ISS was closer, at 657km. In any and all cases, this event is absolutely guaranteed to make you utter one word: "WOW"! After all... it's the only way to actually see the fully-assembled ISS, because it was built in space, not on Earth.

If you have a solar filter and wish to examine the ISS as it transits the Sun, plus other cool satellite events, e-mail your latitude & longitude to our RASC Kingston Centre member Mr. Kevin Fetter at: kfetter (at) yahoo.com

I want to take the opportunity to personally thank Kevin Fetter. It is my understanding that Kevin has unfortunately not yet witnessed the ISS transit the Sun. So, thanks Kevin Fetter for arranging the show.

December 2004 Meeting of the RASC Kingston Centre

Steve Hart

It was a dark and stormy night... However, the twelve centre members who braved a weather forecast of "rain turning to freezing rain turning to snow" were rewarded with an evening of good conversation, Seasonal Snacks and an interesting talk by Brian Hunter.

As usual, the meeting began with "the monthly sky". Brian ran the presentation, which featured a guide to finding Comet Machholz augmented by tips from Ken Kingdon. Then, Brian Hunter gave his talk entitled "The Astronomical Tourist". His talk centred on the both the scenic and astronomical attractions of Herstmonceux Castle in Great Britain and of the Arkaroola Wilderness Sanctuary in South Australia.

If I was touring that part of Great Britain, I'm now not sure

how much attention I would pay to "the castle" itself. After hearing Brian's talk, I'd probably head straight for whatever exhibits where open at the former RGO domes. For anyone who likes high-tech toys or the history of astronomy, it was fascinating to hear about some of the accomplishments made during the era when the Royal Greenwhich Observatory was located at Herstmonceux.

In contrast to the equipment or history of Herstmonceux, it was his account of the natural wonders of Australia and the southern sky which made Brain's tale of his 2003 trip to Australia memorable. Leaving aside the wonders of Australia's flora and fauna, southern sky features such as the Southern Cross, the Jewel Box, the Coal Sack, and Small (SMC) and Large Magellanic Cloud (LMC) are breathtaking when viewed from the exceptional dark sky of the Arkaroola Wilderness Sanctuary in the Flinders Ranges of South Australia.

The break was brightened by interesting conversation and various snacks and seasonal treats. For some of us, it was difficult to tear ourselves away from both food and conversation.

After the break, the following centre business took place:

Diane Torney presented the 2004 annual secretary's report, which was voted on and approved.

Norman Welbanks was elected centre Vice President for 2005.

The meeting closed with observing reports, the most notable being Ken Kingdon's report of viewing Comet Machholz.

All in all, a very satisfying meeting, despite the weather making it difficult for many members to attend.

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 address:
kingstonexec@lists.rasc.ca

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E-mail:
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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 & Time	Events
January 1, 2005	**Earth** at perihelion 8:00 pm. (147,099,100 km)
January 3	**Quadrantid meteor** peak at 7:00 am. visit http://members.kingston/~rasc/meteor.htm for more information
January 3	**4th Quarter Moon** at 12:46
January 5	**Comet Machhloz** closet approach to earth. It is brightening and will be near the Pleiades from January 4-7 for more information on the comet and its discover see http://www.astronomy.com/asy/default.aspx?c=a&id=2465
January 8	**KAON Observing Session**- Ellis Hall Queen's Observatory 7:30-9:30 p.m.
January 10	**New Moon** at 7:03 est. Closest Lunar Perigee of 2005
January 14	**RASC-Kingston Centre Regular Meeting** Stirling Hall Theatre D 7:30 p.m. **Guest Speaker**: Dr. Sun Kwok
January 17	**1st Quarter Moon** at 1:57 est.
January19	**Moon** 2.0°below the Pleides 7:00 pm est.
January 25	**Full Moon** at 5:32 est.
January 28	**Astro Yak** at the home of Kevin Kell & Kim Hay visit http://members.kingston/~rasc/indexsec.htm for directions
January 31	**Jupiter** 1.5° of Moon best seen in Western North America
February 2	**Last Quarter** Moon at 2:27
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.
February 12	**KAON Observing Session**- Ellis Hall Queen's Observatory 7:30-9:30 p.m.
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
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.