

Upcoming Meetings

Friday, March 11, 2011

Regular Meeting 7:30-9:30 p.m.
All About Meteorites

Friday, April 8, 2011

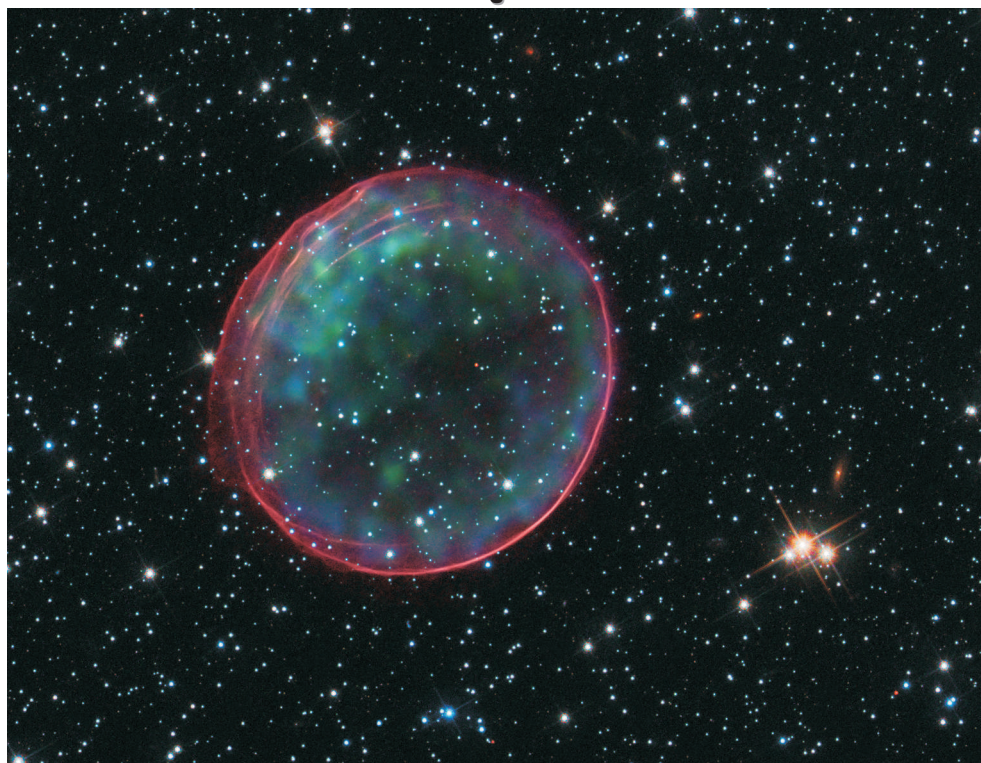
Regular Meeting 7:30-9:30 p.m.

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

More info at kingston.rasc.ca

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SNR B0509-67.5 in the Large Magellanic Cloud

This 23 light-year diameter nebula was created by a Type Ia supernova 400 years ago. This image is made up of visible light, H α , and X-ray data. Photo credit: NASA, ESA, the Hubble Heritage Team (STScI/AURA), and NASA/CXC/SAO/J. Hughes. More at: spacetelescope.org/news/heic1018



Reports & Other Items

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

Fitzgerald Telescope Update

Kevin Kell reports that the Centre's Fitzgerald scope is in need of some routine maintenance:

- ▶ primary mirror cleaning (secondary is not too bad)
- ▶ paint touch-up
- ▶ focuser tube
- ▶ collimation check

A more generic issue is that it moves too easily in altitude. Does anyone remember the rules of thumb for placement of the altitude bearings for more/less friction? We can always adjust those, or perhaps roughen up the altitude bearings themselves. The azimuth motion is not as bad.

That's about it. The scope is

holding up very well since we built it in 1998. Anyone interested in taking a shot at this should contact Kevin.

Closest Asteroid Approach

Asteroid 2011 CQ1 (1.3 metres in diameter) passed just 0.85 Earth radii above the Pacific Ocean on February 4th. This close encounter has changed CQ1's orbit: before it was an Apollo asteroid; now it is an Aten asteroid.

More New Features in ECU6

New features continue to trickle into the latest ECU 6.0 release:

1. Planets are now drawn with a black ring so that transits can be seen.
2. Planetary nebulae can be

filtered by size. (This is handy for excluding all those thousands of pesky one arcsec diameter planetary nebulae!)

Comet Halley

It just dawned on your editor that it has been 25 years now since Comet Halley passed through perihelion! Where does the time go? *Regulus* readers are encouraged to send in their reminiscences (and especially photos) of that apparition.

Our Collective Noun

A recent discussion on the RASC e-mail list came up with some possible names for a group of astronomers: cloud, cluster, nebulousity, galaxy, magnitude, aperture. Two other

Continued on next page...

...Reports

...continued from front page

possibilities suggested were “focus group” and “star party.” *Regulus* readers are encouraged to send in more suggestions!

Other Items

Slooh has closed its Australia observatory because it only had 13% clear nights over the last two years...the **Kepler** mission has discovered a star system with six planets...evidence is mounting that Saturn's moon **Enceladus** may have an underground ocean. ★



Observing Reports

2011 got off to a lacklustre start as clear nights were in short supply through January and February, so this instalment of the Centre's collective observing log is unusually short.

Sunday/Monday, January 23/24

Kevin Kell: -33C this morning in Yarker...the all-sky camera seems to have survived...it still needs more heat in the dome however: the snow is not melting away!

Walter MacDonald: A clear night finally, but very cold with a low temperature of -30C. Fortunately(!)

continues on page 7...

Regulus Needs You!

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

walter2 (at) starlightccd (dot) com

or:

Walter MacDonald

PO Box 142

Winchester ON K0C 2K0

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The Moon & Venus at Dawn

2011 March 1 05:45 EST

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THE EVENING BEGAN with some of us meeting for dinner at the **Queen's Inn** before the meeting. This is something that is usually announced on the chat list and when we have a guest speaker they are invited to join us as a guest of the Centre. If you are on the chat list you will be able to tell if there is a group going. If more than six are coming out we need to reserve so watch the list and get your name in. The food is good, the beer is cold, and all is well priced.

PUBLIC STAR NIGHTS

As with most recent meetings we began with what's happening next that may be of interest to the members. More often than not the **KAON** Open House session at the Queen's Ellis Hall Observatory takes place the following (Saturday) night. **Joel Roediger** will be the speaker February 12, and his topic is *Astronomy in the Middle East*. The Observatory website is maintained by the Observatory Coordinator, **Nathalie Ouellette**, and she usually posts the speaker and topic in advance. If it is clear, several of us will be there to help out with the deck observing; if it is cloudy I usually go to hear the talk. Sometimes it is pretty busy even on a cloudy night and we can do a little telescope info session in the hallway. February 26, a Saturday night, we will be assisting the Little Cataraqui Conservation

Authority in an evening of *Navigating the Winter Sky*. I will have a starter star-hop demo inside and if it is clear we will get outside for a sky tour. If it is clear people are encouraged to bring along a scope or binoculars and do a little one-on-one star tour with the public. They are always appreciative and amazed.

UPCOMING MEETINGS

As a reminder there are a few date and location changes for monthly meetings coming up this year and everyone should be checking the website regularly for updates. In **May** we will be unable to use our usual room, Stirling A due to construction and we are on the hunt for a new venue. We hope to make it an observing meeting. We are interested in a local campground on Loughborough Lake but the owner is away for the winter. Our back up plan includes an offer from Doug Angle of his place near Sydenham for that observing session. The **June** meeting will be on Wolfe Island at Tim Seitz's summer property and that will also be geared to observing. The **October** meeting will be on October 22, a Saturday, between 2 and 4 p.m. in the Wilson Room at the Central Branch of the Kinston Public Library downtown. It will be geared to the telescope as a Christmas gift. A tentative date for **Fall'N'Stars** is September 23, 24, and 25. If you would like to be on the organization committee let me know. Feel free to volunteer, the job of outhouse patrol is spoken for!

QUESTIONNAIRE

I announced an open invitation to the membership for someone not on the exec, never been on the exec, to offer to work up a questionnaire for a September mail out to the membership. You would make up some

questions but you would reasonably expect the executive and other members to come up with questions as well. We need some feedback on meetings, speakers, newsletters, the chat list, and anything else that is on people's minds. We still have a vacant VP position that would be great to fill.

OUR EVENING SPEAKER

At 7:45 we got to our speaker for the evening. **Professor Larry Widrow** is a Professor at Queen's in the Department of Physics, Engineering Physics and Astronomy. His Ph.D. subject at the University of Chicago in 1988 was *Zero Modes and Anomalies in Superconducting Cosmic Strings*. Since then Professor Widrow's experience has grown to include a wide variety of visiting appointments around the world. The topic for the evening was *The Tangled Past of Andromeda and Triangulum*. We were presented with a historical perspective of the human discovery and exploration of these two objects as it has evolved with the scientific method. We were brought up to date with the investigations of interactions objects in the Andromeda group which includes Triangulum, dozens of smaller galaxies, globular clusters, and millions of individual stars. The data has been generated by the Pan-Andromeda Archeological Survey (PAndAS). This 3 year project has imaged the area extensively and built models to reflect how things got to where they are today and what future trajectories may be anticipated. The daunting process of sorting through the dozens of possible models generated and finding what may fit with reality has begun. We were treated to a sample of the models created showing galactic interaction and galactic structure development

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Susan Gagnon thanks our main speaker, Professor Larry Widrow, after his talk.

and the amount produced from running the intricate models created could be overwhelming. This data will be mined for years to come. It was a great talk and gives the most jaded observer new reasons to swing their scope around to visit these old friends with renewed interest. Larry Widrow is very audience-friendly and fields questions easily during the talk and afterwards. There were quite a few questions. After the talk was finished we conducted the usual draws with 50/50, a copy of *The Lunar Observer* (ALPO), and a lovely scarf donated by Tessa Clarke. We adjourned at 9 p.m. and after some chatting and chocolate (thanks Kim!) some of us went to Wendy's to continue the socializing.

KEVIN REPORTS:

Our guest speaker was Dr. Larry Widrow and we had him out for dinner at the Queen's Pub on Brock street. It was a crowded night with some large groups in but we managed

to get in and out before the real rush.

The meeting went ahead at 7:30 p.m. in Stirling A with 15 minutes of announcements and then we launched into his talk on *The Tangled Past of the Andromeda and Triangulum Galaxies*.

It was a great talk, with lots of questions from the 13 people in attendance. Thanks to Tessa for donating a raffle prize. We had the break, there were no observing reports so we broke for the night just after 9 p.m.

We brought up the May meeting (Stirling Hall will be closed) and are awaiting confirmation of an outdoor venue north of Kingston.

The June meeting will be on a Saturday out on Wolfe Island, but again this is awaiting confirmation and directions.

October will be in the Kingston Public Library Downtown Main Library on a Saturday afternoon.

That leaves September, November and December for this year. We

brought up the idea of moving away from Stirling Hall and the too-large amphitheatre design to Ellis Hall and a smaller classroom size for starters, with tables for people to use. There was also some talk about actually moving the meeting night from Fridays to Saturdays before KAON, allowing perhaps a two for one night of talks, observing and more contact with the observatory folks.

No firm decisions or booking have been made on this last concept, just asking people to think about it for a month or two.

SUSAN COMMENTS:

I have to say that I thought it was a great evening, from dinner to Wendy's!

Thanks to all who came out and made it fun. A great speaker really helps!

One more reminder to check the website on a regular basis since we are trying to change the schedule and locations of events a bit. ★

KAON Report: 2011 February 12

Kevin Kell

IT WAS A COLD AND BLUSTERY NIGHT at the Kingston Astronomy Outreach Network/Queen's Observatory open house last night. A half moon, high cloud haze, a snowy deck, and the wind made viewing a little challenging. We had a full house, plus overflow, for Joel Roedegeer's talk, followed by lots of folks and lots of little ones out on the deck and up in the observatory afterwards. Kim was able to take in Joel's great talk on historical middle eastern Astronomy. We estimated 60-70 guests were present.

Targets of opportunity were: Jupiter with Ganymede, Io on one side and Callisto on the other, very near Jupiter itself; the Moon with its great 1/2 phase shadows; M42, the Great Nebula in Orion; Betelgeuse; M45, The Pleiades. Most everything else was very washed out, with

Cassiopeia and the Big Dipper barely visible to the naked eye.

The last of the guests left about 9:15 p.m. (after a 7:30) start and we were packed up by 9:30, leaving behind another 50 RASC starfinders and 25(?) Mary Lou's New Telescope books, along with some RASC brochures.

Doug Angle was there, along with a host of grad students including Nathalie Ouellette (the Queen's Observatory Coordinator), James Sylvester, Terry Bridges, and a couple more whose names I do not recall.

We also checked out some of the Ellis Hall 3rd floor classrooms and would pick the series down the left corridor 319 (cap60), 321 (cap56)—my favourite, 323 (cap 68), 332 (cap 64) with movable tables and chairs over the larger fixed tables and

chairs of the other rooms on the floor. The fixed table rooms, 324 (cap80), 327 (cap80), were a little larger. Any of them we think, though, would be a welcome improvement. ★

The civilized man has built a coach, but has lost the use of his feet... He has a fine Geneva watch, but he fails of the skill to tell the time by the Sun. A Greenwich nautical almanac he has, and so, being sure of the information when he wants it, the man on the street does not know a star in the sky. The solstice he does not observe, the equinox he knows as little; and the whole bright calendar of the year is without a dial in his mind.

—Ralph Waldo Emerson, 1841

RASC Position Statement on Green Laser Pointer Usage

The Royal Astronomical Society of Canada's (RASC) mission is to encourage improved understanding of astronomy for all, through education, outreach, research, publication, partnership, enjoyment, and community. The RASC advocates the safe and responsible use of green laser pointers (GLPs).

Recent reports indicate a rising trend in the illegal targeting of aircraft by people on the ground misusing consumer laser devices. This practice threatens the safety of aircrew, passengers, as well as people and personal property under flight paths. The RASC wishes to add its voice to those of the health-and-safety sector, aerospace industry associations, law-enforcement agencies, and government in calling for greater public awareness of the issue,

for safe and responsible use of laser pointers.

Green Laser Pointers have established legitimate applications as effective teaching aids in astronomical education, observing, and public outreach, if used safely. The eye is very receptive to the wavelength of the green laser pointer, making it a very effective instrument for pointing out features in the night sky. People attending education sessions and star parties at science centres and observatories can experience the green laser beam apparently reaching out to the planets, stars, and nebulae.

The RASC, Canada's leading organization dedicated to astronomical education and public outreach, has developed a voluntary Green Laser Pointer best-practice a

policy to promote the safe and responsible use of GLPs for astronomy education and outreach. The RASC has established freely available guidelines for public education on the responsible use of laser pointers in astronomy. In keeping with the RASC's commitment to informative and safe education and public outreach, it encourages everyone who uses a green laser pointer to follow the guidelines at:

rasc.ca/education/other/glpuse.shtml.

203–4920 Dundas St W,
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(888) 924-7272

Website: rasc.ca ★

RASC-KC 2010 Secretary's Report

Steve Hart

WE CURRENTLY HAVE a total of 85 Centre members: 77 Regular, 1 Youth, and 7 Life.

Except for July and August, Regular Meetings were held on the second Friday of each month at 7:30 p.m. in Theatre A or D, Stirling Hall, Queen's University.

▶ JANUARY 8: Member's Night featuring short presentations by Susan Gagnon, Doug Angle, Fred Barrett.

▶ FEBRUARY 12: Dr. Daryn Lehoux "The Antikythira Mechanism"

▶ MARCH 12: Member's Night featuring short presentations by Susan Gagnon, Kevin Kell, Leslie Roberts, Fred Barrett.

▶ APRIL 9: Member's Night featuring short presentations by Leslie Roberts, Bob Hilson, Kevin Kell.

▶ MAY 14: Fred Barrett "Picture Stacking With Registax"

▶ JUNE 11: Randy Attwood "The Apollo 11 Landing—and How It Nearly Failed"

▶ SEPTEMBER 10: Terence Dickinson "A Personal Quest for the Finest Stargazing Location in the World."

▶ OCTOBER 8: Member's Night featuring short presentations by Fred Barrett, Ken Kingdon, Doug Angle.

▶ NOVEMBER 12: Annual General Meeting.

▶ DECEMBER 10: Dr. Rachel Kuzio de Naray "Revealing the Dark Side of Spiral Galaxies"

The Kingston Centre offered public observing for Astronomy Day. Displays and public observing were offered at the charity event "Relay for Life." Members also gave presentations at several area schools, local clubs, and offered public

observing at the Charleston Lake Star Party. As well, a judge and a prize were contributed to the area Science Fair.

Public observing sessions were held at the Queen's University Observatory, in partnership with the Queen's University Physics Department.

The Fall 'N' Stars 2010 star party, hosted jointly with the RASC Belleville Centre, was once again a great experience for all who attended.

Work continues on a Remote Operated Telescope.

2011 EXECUTIVE:

President:	Susan Gagnon
VP:	vacant
Secretary:	Steve Hart
Treasurer:	Kevin Kell
Nat'l Rep.:	Brian Hunter
Librarian:	David Maguire
Editor:	Walter MacDonald

Respectfully submitted,

Steve Hart

Secretary, RASC Kingston Centre ★

The iPad: A Useful Astronomy Accessory?

Hal Boden

THE IPAD IS NOW one of a number of light-weight, easily portable computers with attractive features for the user with moderate needs. In my case it has the latest Apple mobile operating system with 14GB of memory and built in GPS, Wifi and 3G data capability. The **display** has good resolution and is attractive for images and is easy on the eyes for reading because of the adjustable brightness. It can be held at a comfortable distance so that it does not require neck straining head positions. The **touch screen** is a delight to use even for someone with large digits. Input and output is restricted but there are ways around these restrictions. For instance printing can be done by e-mailing to an e-printer. Brother multi-purpose printers can scan and send the image to the iPad wirelessly.

The ready availability of a wide range of **apps** at minimum cost is an attractive feature of the iPad. A number of these are of potential interest to the amateur astronomer. Their precise location is provided by the GPS and true north is available from the digital compass. There is also an app giving atomic clock time which might be useful for studies of occultations. I have checked the time versus my GPS unit and they agreed to about a second. There are several **astronomical atlas apps** which provide an image of the sky at which the iPad is pointed. The azimuth is controlled by the digital compass and the altitude by the accelerometer. One at least points the way to the object which you are seeking. These programs are visually appealing and provide for the present need for immediate response. For taking

notes this can be done by typing, dictation or by voice recording. For those with computer control of equipment this can be done by remote control from a warm room using LogMeIn. This provides a replica of the remote computer screen with a mouse for manipulation. The response appears to be in real time in the tests I have done.

Not all nights turn out to be clear so the iPad provides the opportunity for distraction as well as communication with home base using **Skype**, etc. There are always **books**, the radio, or **podcasts** on the iPad to help pass the time. Most of the features described are available by other means but not all are available in one easily portable unit at such low cost for software. The instant accessibility is also a relief for those used to the Microsoft prolonged startup. ★

Outreach at Little Cataraqui Conservation Area

Kevin Kell

LAST NIGHT we were at the Little Cataraqui Conservation Area for a presentation on *Navigating the Winter Constellations*, given by our own Susan Gagnon.

Susan spoke for about an hour on the basics of navigating the winter sky, using naked eye, binocular, charts and planispheres. Another ½ hour of one-on-one Q&A followed and due to the cloudiness, we packed up and headed home just after 20:30 (having started at 19:00). There were about 10 people in attendance.

We passed out Starfinders, ETU

workbooks and application forms and we had a good session.

Susan, Kim & I were in attendance. I don't think we've ever met any of the attendees but we invited them to the observatory open houses and to our meetings.

SUSAN COMMENTS:

Several had commented on being to the website and downloading stuff. One woman had astrophotos that she had taken (camera club member). Like Kevin said, small group but had a good chat.

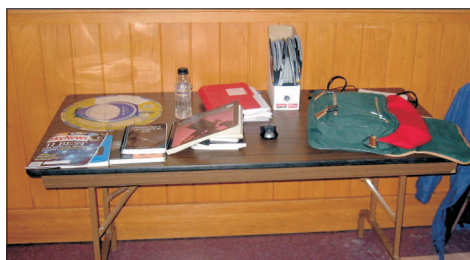
HANK COMMENTS:

I always found small group more

personal and enjoyable, usually no weirdos, no high end techys just honestly interested amateurs and novices. [To which **Kevin Fetter** replied: *That's because I wasn't there!*] I need to find my astromojos again. ★



Susan gets ready for her talk.



Thus Time drifts on: the firmament above is old, but never ages; and the Science that seeks its secret and writes its story is old, but yet ever has the bloom of youth upon her cheek.

—John A. Paterson

it was not usable because the steam plume from the local dairy plant passed right over the house! Normally the plume does not make it this far south, but the wind was blowing in just the right direction and the colder temperatures made the plume persist longer.

Sunday/Monday, January 30/31

Kim Hay: Scorpius rising in the South East, and the Summer Triangle in the North East, Venus at -4.2 what a wonderful site to see first thing in the morning.

Kevin Fetter: Yes, a nice sight to see = clear sky! It is nice to see after six straight nights of cloudy skies. This will make the 5th clear night I have had this month = a crappy month. [Still better than December and January in many places!—Ed.]

Tuesday/Wednesday, March 1/2

Kevin F: While moving my mount, I notice a bright flash. I did a check and Gorizont 26 is the one causing it. It's located at around RA $8^h 24^m$, dec $+7^\circ 16'$.

Hank: You have clear sky? Only one star here in the 'burg and we are under an auroral storm.

Kevin F: While going back to Gorizont 26, I noticed another flashing geo sat called TVSAT1, and it didn't seem to take to long between flashes (every 27 seconds, to 7th magnitude). Just as I aimed at it, the clouds showed up. ☹ So that's it for the night, darn means I won't get to see the flashing from Superbird A later.

Hank: That is the story with a lot of my lunchtime solar—just as I aimed at it, the clouds showed up. ☹

Kim: ...you should see our graphs on the solar and meteor data, it has been an exciting last few days...thanks for the thanks people (re: Kim's image of

Kevin Kell: Mark this date down on your calendars and make sure to take the day off: the 2nd transit of Venus across the sun will occur on Tuesday, June 5, 2012 local time (June 6th UT). From most of North America the Sun sets while the transit is still in progress, so for those of us intending to observe/record/experience this event, we will be looking for a good western horizon view.

For those who like to play with simulators, what azimuth angle will the sun be setting at on that day and at what time?

WEB LINKS

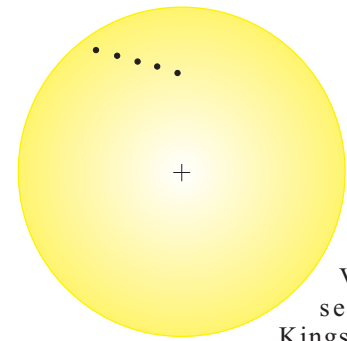
eclipse.gsfc.nasa.gov/transit/venus/city12-2.html
eclipse.gsfc.nasa.gov/transit/venus0412.html
transitofvenus.nl/details.html

Editor's Note: The third web link is an excellent site: it automatically detects your geographic location and altitude from your browser's IP info and lays out all the transit info for you! Even better, there is a Google Map window with a marker you can drag around to try out different observing spots. There is also a plot of Venus across the sun (relative to the zenith). What a great web page!

Walter MacDonald: I'm looking forward to this. It is a nice bookend to the sunrise transit we saw in 2004. I hope it's clear! (Or at least that I can drive not too far to get clear skies.)

Mark Kaye: A few people travelled the world for the last transit so that they could see the entire event. I maintain that we had one of the best views here. I climbed up onto the roof of our house and watched the

the Moon & Venus which appears on page two of this issue), it was good to get out...alas this morning if full of cloud...last night when I got home there were a few stars out, but no aurora was to be seen.



The 2012 transit of Venus as seen from Kingston from ingress until sunset.

Sun rise through the mist and I was able to see Venus without optical aid or filters. It was an amazing sight, one that the people who had the Sun high over head for the whole eclipse missed. We will get the same thing in reverse this time, we will get to watch the ingress and then the Sun will set. Should be quite a sight and if the weather is good, not worth the trouble of travel. So between the two events, we hopefully will get one full transit.

Hank Bartlett: Mark, I agree 100%. I set up in the school field as the sun rose from behind trees and saw the same as you, it was fantastic! There was a mist like you sat and it allowed naked eye visual and imaging without a filter with the C4.5". Then after sunrise back to the RHAO for SN10" imaging. I know it sounds early but BE PREPARED.

Mark Kaye: The trouble with this is, the likelihood of clear skies is inversely proportional to the amount of preparedness. I was totally unprepared in 2004 (*sheesh, was it that long ago?*) and it was clear. Do not say I did not warn you...★

Wednesday/Thursday, March 2/3
The geo sat I observed the other day (catalogue #22041) is putting on a nice show: it's flashing to 7th mag at 23:58 UTC (Mar 2). It is so darn reliable!★

At the recent meetings of the American Astronomical Society in Columbus, Ohio, a paper of great interest to Canadians described a search for lunar-type craters on the Canadian shield. **Dr. C. S. Beals**, Dominion Astronomer, told of the results of this search which was based on three million serial photographs in the Canadian Air Photo library.

The Canadian shield was chosen for the search because of the probability that most areas of this Precambrian region have remained geologically undisturbed for a very long time. Since there are no sediments younger than 500,000,000 years, craters formed in that interval may still be detectable, though most of them will have been removed by erosion.

Already in Canada in recent years three craters have been discovered for which meteoric impact is the most logical cause. These are **Chubb Crater**, Ungava; a Labrador crater at lat. 58 deg. 02 min. found by **Dr. V. B. Meen** and on which further word is awaited; and the **Brent Crater** in Algonquin Park, revealed by Dominion Observatory studies, and on which investigations are still in progress.

FIVE METEOR CRATERS?

As a result of the recent search of aerial photos, nine objects were marked for further study. Four seem to have a volcanic origin, but the other five are more likely the results

of impacts by meteorites. The four of probable volcanic origin are located as follows: in the Rocky Mountain region, lat 52 deg. 08 min., long 119 deg. 52 min; near Old Fort Rae, Great Slave Lake, N.W.T.; near Kangok Fiord, Baffin Island; and near Lake Leveque, Mecatina River, Quebec.

Craters for which a meteoric origin is more probable are as follows: A circular feature near **Macamic Lake**, Que. about a mile in diameter. This may be a depression in the basic rock which has filled up with sediments. No ground examination has yet been made.

At **Clearwater Lakes**, Que., are two roughly circular bodies of water, the larger 20 miles in diameter, the smaller 15 miles. These circular lakes stand out prominently in a region where all the other bodies of water are irregular and elongated by effects of glacial action. Two round lakes close together are so unusual in this terrain as to demand further investigation.

TWO IN ONTARIO

Near **Franktown**, Ont., is a slight depression with a low rim, and a diameter of three-quarters of a mile. In the centre is a bog and farm land, formerly a lake. This may be a crater filled in with sedimentary deposits. Geophysical observations are planned. Near **Holleford**, Ont., is the most promising object brought to light in this survey. It is a circular depression about 100 feet deep and 1¼ miles in diameter. The village of

Holleford is partly within its boundaries. The inner slope of the walls of the crater is much steeper than the outer. This is a characteristic of explosion craters. Special studies of this crater are planned.

The paper on the crater search, by **C. S. Beals, G. M. Ferguson, and A. Landau** will appear in full in a forthcoming issues of the Journal of the Royal Astronomical Society of Canada, giving precise positions of these interesting objects.

Recently I had the privilege of visiting **Meteor Crater**, near Winslow in Northern Arizona. Some descriptions of this crater have implied that from the ground it is not a conspicuous object—that only from the air is it striking. This seems to me an erroneous impression. You can stand on the rim and look down in the abyss 600 feet below, and across to the opposite wall nearly a mile away. Then it is an impressive experience to realize that this huge hole, with millions of tons of displaced rock, was made by an object which appeared with only a few seconds warning. ★

This column was originally published in the Toronto Daily Star for Friday, April 6, 1956 and is reprinted here with the permission of Dr. Hogg's family.

The crater search paper by Beals, Ferguson, and Landau was published in two parts:

Part 1 (JRASC, Oct. 1956):
articles.adsabs.harvard.edu/full/1956JRASC..50..203B

Part 2 (JRASC, Dec. 1956):
articles.adsabs.harvard.edu/full/1956JRASC..50..250B



Inside Holleford Meteorite Crater

Walter MacDonald