Regulus

The Newsletter of the Royal Astronomical Society of Canada - Kingston Centre -- 2007 February

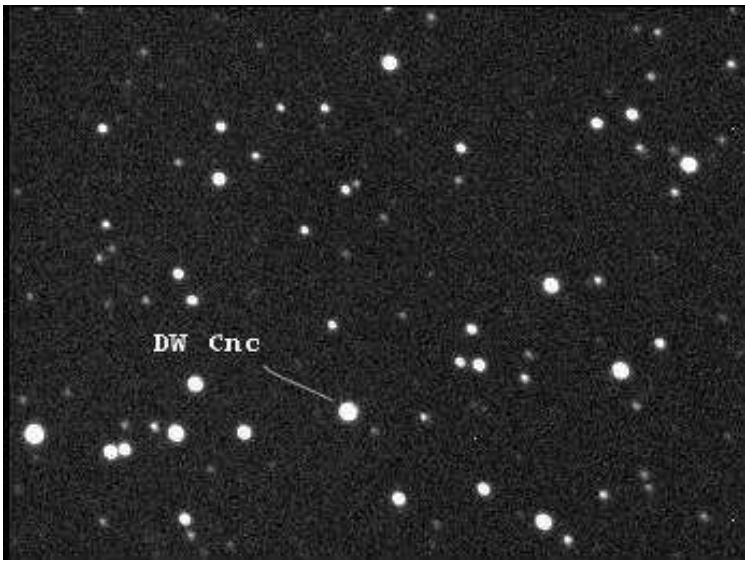
Coming up…
RASC-KC Meetings

Stirling Hall Theatre A, Baader Lane, Queen's University Kingston, Ontario.
Friday February 9 7:30-10:00pm
Friday March 9 7:30-10:00pm
Regular Meetings
Meetings are co-sponsored by Queen's Physics and include astronomy lectures open to the public.

KAON Public Observing
Queen's Observatory Ellis Hall, 4th floor from 7:30pm to 9:30pm
Saturday February 10
Saturday March 10

Saturday March 3, from 6:30 pm to 8:30 pm—Special Observing Session to view a total lunar eclipse at Ellis Hall Observatory

List of contents:



Walter MacDonald has photographic evidence of a C.V. star in Cancer increasing by at least three magnitudes, but he is hampered by clouds from defining its periodicity.

Hank Bartlett seems to have his home observatory telescope aligned to find Walt MacDonald's mystery star.. Both stories begin on page 5.

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President's Tidbits by Kim Hay

We certainly have had some excitement this last month with Comet McNaught sweeping our skies, then heading south to give a spectacular show of comet and tails. Though the gas tail is very small, which stands straight up, the dust tail had several striae which are called synchrones.

According to an observer off the AAVSO list, these are believed to result from the fragmentation of tiny particles into a size distributed sequence or tail like formation after the parent particle has left the immediate region of the comet's head.

Here are a couple of links to some fantastic images, if you have not seen any, plus the story behind the discovery.

Rik Hill, who works with Robert McNaught, and with ALPO states "Robert McNaught is one of the nine members of the CSS/MLS/SSS team collectively, called the Catalina Sky Survey. The comet was found in the course of surveying for earth impactors or Near Earth Objects (NEO's)." He currently leads the team with 32 comets, while team member Eric Christenen has 16, and Rik Hill has 6.

http://antwrp.gsfc.nasa.gov/apod/astropix.html
http://msowww.anu.edu.au/~rmn/C2006P1new.htm

There have been a few clear nights lately, and for those who have been out and observed the famous "X" on the moon, on January 25, Congratulations. Dave Chapman from the Halifax Centre posts on the National RASCals list when this event happens.

The "X" is formed when sunlight grazes the lunar crater of Werner marking the edges of the crater. This event only happens when the moon is in its first quarter phase. You can see this event yourself, using the Virtual Moon Atlas available from http://www.astrosurf.com/avl/UK_index.html

This program is very large, and comes with different content ranging from 7 Mb (Lite Version) to the full version of 371 Mb. If you do not have a copy, one can be made available to you by contacting kevin@starlightcascade.ca

Here is Dave Chapman's web site to check out this event captured by him and others. http://homepage.mac.com/chapmandave/LunarX/PhotoAlbum86.html

Dave states "the next opportunity will be in 2 months, on the night of March 25/26. Normally I would say "two synodic periods" but in this case they are the same, as 31+28=59."

So lets try to observe this event, and you too can send your timings and photo's to Dave Chapman at <dave.chapman@ns.sympatico.ca>

It is a quiet time on the Kingston Centre front, but we do have a new Publicity Chair, and that is Peter McMahon. Welcome aboard Peter!!

From the Webmaster

In 2006 we implemented the Image Gallery version 2, and several members have used this platform to show others their astronomical images. I just wanted to touch base on the use of the Gallery.

Each member has 20 Mb of space for images. Once you create your account (remember your password), a note is sent to the administrator to accept the person and gallery folder. This is a security feature. Once accepted, you will receive a note and you can log back in and start to upload your images.

To be fair to all members, any folders that have been created, but have not had any images put in them will be deleted after 3 months. If you have created a folder, please check back to see if you still want it or you can delete it.

This program is set up for the users to make all the design layout, uploading, deleting of images to their own folder. Enjoy, and let us enjoy your photos too.

On another front, Web Assistant Walter MacDonald has been busy working on a new layout for the Kingston Centre Web presence. There are still some steps to work out, but I am hopeful that we will have the new design rolled out next month.

If you have any suggestions, which we are always looking for, please send to Webmaster, kim@starlightcascade.ca

Royal Astronomical Society of Canada - Kingston Centre
2006 Secretary's Report

We currently have a total of 127 Society members: 115 Ordinary members, 3 Youth members, and 9 Life members. As well, we have 2 Associate members and 1 Affiliate.

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. Featured speakers were:

January 13: Walter MacDonald "A Dome on a Home: The Story of Winchester Observatory"

February 10: Members Night: short presentations by Diane Torney, Doug Angle, Joseph Benderavage, Kevin Kell.

March 10: Dr. Bryce Bennett "Copernicus, Kepler, and the Mystery of the Analemma"

April 14: Peter McMahon "Marshmallows on Venus: A backpacker's guide to wilderness stargazing"

(We also held a Special Meeting to approve updated RASC-KC Bylaws.)

May 12: James Silvester "Solar Astronomy and the Pic du Midi observatory"

June 9: Dr. Douglas Welch "Revolutions: Amateur and Professional Optical Astronomy in the 21st Century".

July 14: Guy Nason IOTA, the International Occultation Timings Association" (held in Chernoff Hall Auditorium)

August 11: Annual "MarkFest" BBQ at Mark Kaye's.

September 8: Members Night: short presentations by Hank Bartlett, Kevin Kell, Guy Nason, Doug Angle, Ken Kingdon, Brian Hunter, Leslie Roberts.

October 13: Members Night: short presentations by Brian Hunter, Ken Kingdon, Leo Enright, Kevin Kell, Steve Manders.

November 4: 2006 "Big-Bang-Quet" Annual Awards Banquet. Dr. Ross Kilpatrick "Gustav Klimt and the Stars: A Dionysian Iconography for The Kiss."

November 10: Annual General Meeting

December 8: David Kirsh "Extra Solar Planets: From Formation to Detection"

Along with Astronomy Day, in 2006 the Kingston Centre offered displays and public observing at two charity events, "The Sky is the Limit Festival" and the "Relay for Life". Kingston Centre members also held several combined presentations and observing sessions at the Little Cataraqui Conservation Area. Members also gave presentations at several area schools. In addition to a member who volunteered as a judge, an award and a prize were contributed to the area Science Fair.

Our monthly public observing sessions were held at Queen's University Observatory, in partnership with Queen's University Physics Department. We continued scheduling our private observing sessions, at various dark sky sites, using the "floating date" method.

In 2006, we held two nine-week sessions of our "Observational Astronomy for the Novice" course.

The Fall `N' Stars 2006 star party, hosted jointly with the RASC Belleville Centre, was a great experience.

In 2006 RASC-KC made an application for Federal Charity Status, but it is still being processed.

Our ATM group has begun work on a 16 inch telescope. Also, the loan of a "RoboDome" has let us begin work on setting-up our Meade LX200 as a Remote Operated Telescope.

2007 Executive

President: Kim Hay
Vice-President: Arlyne Gillespie
Secretary: Steve Hart
Treasurer: Kevin Kell
National Representative: John Hurley
Librarian: David Maguire
Newsletter Editor: Joseph Benderavage

Respectfully submitted,

Steve Hart
Secretary, RASC - Kingston Centre

Gleanings From Regulus 25 Years Ago by Leo Enright

First Light For A Very, Very Special Telescope— One That Is Still Going Strong!

In our Centre's issue of Regulus 25 years ago (actually the issue that was called February/March 1982), the lead article was one I wrote about a very special telescope. The title was "A REPORT FROM TUCSON: FIRST LIGHT FOR 'JUPITER'" It was about David Levy's new telescope, the largest one in his huge fleet of telescopes. For those who were not members of our Centre at the time, in fact, the vast majority of our current members, I must explain that David had moved from Amherstview to the outskirts of Tucson a little over a year before that date. Just three months prior to that issue of Regulus, on November 28, 1981, that telescope which was called "Jupiter" had been inaugurated with a First-Light Ceremony. The 40-cm instrument, I said in the article, was "...to be a major tool in David's comet-hunting program, and one which will, no doubt, spend many hours roaming the skies to look at far-distant galaxies and other objects of the deep-sky."

The second paragraph of the article expresses the congratulations of Kingston Centre members to David on completion of this telescope, and adds:"We are just a little envious of members of the Tucson Branch of our Centre who did not have to turn down an invitation to attend the First Light Ceremony (as your editor did), but who could be there for the first stunning glimpse at a distant celestial object."

The next paragraph mentions the fact that the Tucson Branch's Secretary Judy Stowell had sent to us the first of what we hoped would be regular observing reports from the group. It was fitting that the first such report was about "Jupiter's First Light Ceremony." The next sentence states: "David has been the great promoter of our Centre in the Tucson area and the group now includes ten members. They have had regular meetings and there was a star party on December 26th, but the inauguration of 'Jupiter' was one of the very important occasions in the short history of the Tucson Branch." Parenthetically, I might add that later that year, I had the chance to visit Tucson, to meet some members of the Tucson Branch, and to present an award to David at a gathering at the Flandreau Planetarium.

The final paragraph of the section contains what must be one of the most enormous understatements I have ever written. It reads: "To David we say: 'Best of luck with "Jupiter." We hope you discover a comet or three with it.' Clear skies to all our friends in Tucson (though, in fact, they rarely need that wish at all.)!"

2007 Update: My wish for "a comet or three"!!!!!!!!! Guess what really happened ! I recently e-mailed my good friend, David, to remind him of the anniversary and to be updated regarding exactly what had happened to "Jupiter," though I knew that some things had definitely happened. David's reply was in the terse, laconic style reserved for statements about his achievements. In fact, it was put into two sentences: "Jupiter's name was changed to Miranda about a year later. It has discovered nine comets."

NINE COMETS!!!!!!!! Does anyone wish to challenge a bet that no amateur's scope on this planet can lay claim to such a record? The change from one Latin name to another was indeed suitable. "Jupiter" to the Romans of antiquity may have been, as Virgil states, "the father of the gods and the king of men," but "Miranda" suggests "Marvelous and wondrous." Yes, indeed, wondrous beyond the wildest of expectations!! The instrument that made its owner the greatest living amateur comet hunter of them all! It is now a quarter-century old and still going strong!

Target for Tonight by Susan Gagnon

I apologize for the Levy objects missing from last month's entries. Andromeda and Perseus have been repeated in full. SG.

Andromeda
ETU: Constellation and Star Alpheratz, M31.
Messier: M31, M32, M110.
Finest NGC: 7662, 891.
Levy List: 62 (NGC 898), 64 (NGC 404), 81(NGC 147), 342 (NGC 91).

Eridanus
ETU: 0
Messier:0
Finest NGC: 1232, 1535.
Levy list: 114(NGC 1637), 123 (NGC 1600), 225(NGC 1187).

Fornax
ETU: none
Messier: none
Finest NGC: none
Levy List: 224 (IC 1830), 286 (NGC 1360).

Lepus
ETU: R. Leporis.
Messier: M79.
Finest NGC: none.
Levy List: none.

Perseus
ETU: constellation and bright star Mirfak, Alpha Persei Group, Double Cluster, Algol (Beta Persei)
Messier: M76, M34.
Finest NGC: 869/884 (Double Cluster), 1023, 1491.
Levy List: 8 (NGC 1624), 44 (NGC 1333), 50 (NC 1579).

Taurus
ETU: Hyades, Aldebaran, M45, 78 and 77 Tauri, Lambda-35 Tauri, RW Tauri.
Messier: M1, M45.
Finest NGC: 1514.
Levy List: 273(NGC 1746).

Front Page: Hank Bartlett's Home Observatory

This is my observatory and it is a steal, total cost was less than $450.00 (8' x 7' tool shed from the former Beaver lumber $300 now Home Hardware).

Some may want to reinforce the walls if they copy this design, but as it is, it has withstood 5 years of extreme weather. Contrary to popular opinion it has proven durable, and condensation has been minimal. In a windstorm this spring the east roof, which was not locked down (was secured only by the roof cap of the west roof), blew open and the leg kicked out, but no damage was done. It was a bit of a shock for my brother to find the observatory open the next morning and full of snow, I was in Acapulco, no snow, and what I didn't know didn't worry me. Fortunately I always cover my scope just in case there is a leak. The east roof now locks to the west once it is locked down.

The only changes to the original construction plan are as follows:
- the hinging of the roof at the eves with piano hinge
- not joining the peak of the roof together and adding a roof cap
- weather-stripping around the roof sill
- adding the pressure-treated 2 x 4 legs
- caulking interior walls to reduce noise and strengthen
- 2 lock-down clamps from a tent trailer were used to lock the roof closed.

Hank Bartlett
Rogues' Hollow Astronomical Observatory (RHAO)
If you are an Astronomer remember to "Share the View".
RHA Observatory 44.32647N. 76.87486W, 111m
http://members.kingston.net/knah/knah.html

DW Cancrii - Star of Mystery

On the night of 2007 Jan 24/25 I imaged DW Cnc (actually I was asleep!). This is one of many stars I follow, trying to fill in the light curves (if only it was clear every night)! In many previous nights of imaging DW, it was always lurking around 15th magnitude. But when I looked at the Jan 24/25 image a couple of days after it was taken, DW seemed impossibly bright! In fact, at 11th magnitude, it was 3 magnitudes brighter than it has ever been observed! (My measure is a lower limit since the star's image was saturated in my image.)

While I was pondering this unexpected state of affairs, Tim Crawford (CTX) posted a message on the AAVSO list that he had imaged DW at 13th magnitude. As it turns out, my image is the only one that shows DW at its peak (or was it even brighter than 11th magnitude?!).

I posted my image of DW and everyone agreed that this observation of DW was unique! Brian Skiff estimated a similar brightness to my stated measurement based simply based on the star diameters in my posted image.

Using the AAVSO "Quick Look" page, plus my own "peak" observation gives a picture of DW's behaviour in January:

Date	Mag	Band	Observer	Notes
JAN 27-29	14½-15	V	BDG, OAR, CTX	Time series observations
JAN 26.4340	13.56	V	CTX	
JAN 25.2941	11.36	V	MDW	Wow! DW saturated.
JAN 21.3169	15.29	V	MDW	
JAN 17.2918	15.45	V	MDW	

If only somebody had observed it on the 22nd, 23rd, and 24th! Unfortunately, gaps like this are common since there are so many stars and so few observers.

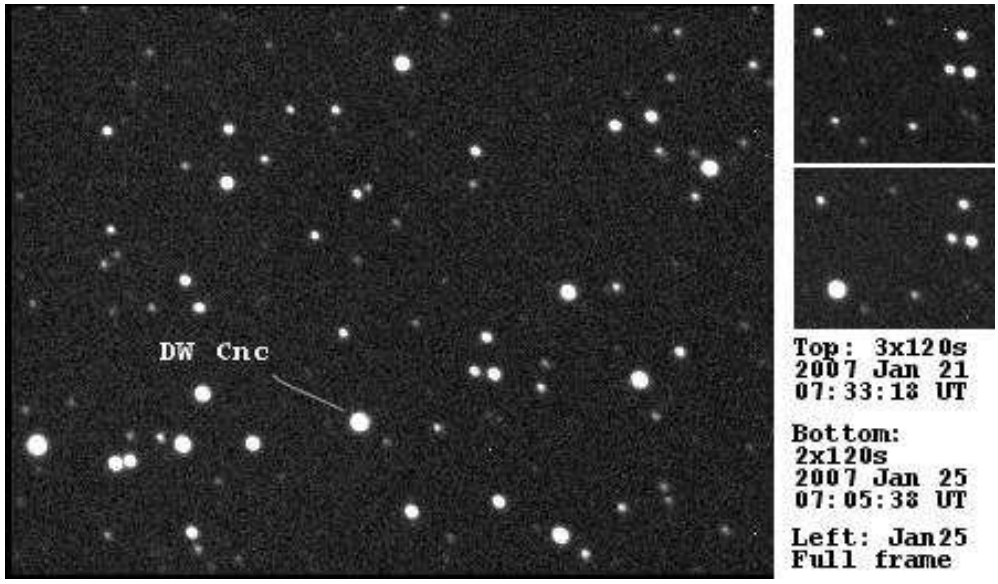
As the days went by, other AAVSOers chimed in with more info -- it turns out that the classification of this star keeps changing as different researchers examine it at different times! Such is the excitement of being at the edge of knowledge!

The following are the highlights of the AAVSO discussion...

Mike Simonsen reported:

This enigmatic variable has been classified and re-classified several times in the last few years.

I think it is generally agreed now that DW Cnc is an intermediate polar (IP). In fact, its known attributes make it a virtual twin of EX Hya.



Previous outbursts have all been in the 14th magnitude range, so this bright outburst is definitely unusual.

An older VSNet message from Taichi Kato was quoted which gives some of the early history of DW starting with its 1982 discovery:

DW Cnc (=SVS 2424) was discovered by J. A. Stepanian ... in the course of a search for UV-bright galaxies at Byurakan.

The star was then studied by I. M. Kopylov et al. ... they wrote: "...The object may be classified as a dwarf nova."

Makoto Iida (VSOLJ) once communicated that he suspected this star to be a Z Cam star based on his CCD measurements.

Brian Skiff found: "...of three recent (since 2004) papers I looked at with light curves, the statement was made that because of the peculiar nature of the object, there seem to have been observed only a (usual) "high state" around mag 14.5, and occasional "low states" down toward 16 or 17th magnitude."

These measures may be the source for the stated magnitude range on the AAVSO chart which is "15v - 17.5v".

Dr. Boris Gaensicke added: ...as said above, we thought of DW Cnc as a VY Scl star ... but that makes it very difficult to explain a rise by 3mag! Among the "genuine" VY Scl stars, there is, to my knowledge, no system that shows low states *and* outbursts.

While I believe it not too likely that a previous outburst of this kind has been missed, we can't be sure, and monitoring of DW Cnc should definitely be intensified.

Isn't that exciting?! How long will it be until DW dazzles us again? We now need to watch DW on every clear night so that we can have the best possible chance of catching it in the act once again! This is just one example of the excitement of variable star astronomy!

Winchester Observatory -- 2006 Report

2006 was an active year at the observatory with 98 nights of observing (down from 117 in 2005). While the autumn weather was not the greatest, it was not too a bad year overall. My AAVSO observation total for calendar year 2006 was 4408 (versus 5182 in 2005).

The year got off to a shaky start -- literally! On the evening of February 24th, there was a moderate rumbling that I heard and felt. I actually got out of my control room chair and looked out a couple of windows because I thought someone must be running heavy machinery nearby! There was a smaller earthquake the following evening (February 25th) that I also felt while sitting in the control room. Fortunately these two minor quakes seem not to have affected the polar alignment of the telescope!

As usual, CCD imaging was the predominant activity, although there a number of visual sessions not only with my C8 and 17.5" telescopes in the backyard, but also a couple in the dome to close out the year (more on that later). These focused (pun intended!) mainly on variable stars, but also included some deep sky observing. Variable

star imaging was mostly nightly monitoring of cataclysmics, though there were 3 nights of time series during the April outburst of VW Coronae Borealis.
Comets imaged this year were: Schwassmann-Wachmann 3 (March & April), Pojmanski (March), Barnard (August), Levy (October), and Swan (November). S-W3 and Pojmanski were also observed visually (Pojmanski through trees!), just to keep in practice!

In May I attended a very enjoyable AAVSO spring meeting in Rockford, Illinois and afterwards toured Yerkes Observatory (which included a ride on the floor of the big dome!). Accounts of this meeting can be found in the AAVSO Newsletter.

My return from the US came just in time to attend the RASC GA (located conveniently nearby in Ottawa) over the Victoria Day weekend. The program of speakers was particularly interesting this year (for people of an electronic bent). As the result of a presentation by Tim Puckett I joined the Puckett Observatory Supernova Search (POSS). Talk about being in the right place at the right time!

Joining POSS has allowed me to do more CCD Astronomy without having to build another robotic observatory (after all, the one I have is already fully-occupied doing other things!). Another advantage is that POSS has telescopes in geographically diverse locations like Georgia (Puckett), Arizona (Newton), and Nova Scotia (Lane). So even if it is cloudy in Winchester, I could still have a bunch of CCD images from one or more of these locations to work with. One consequence of this is that I now keep a close eye on the latest North American satellite images to see if it looks like it will be clear in one of those locations!

A major improvement to the observatory's western horizon occurred when the giant black walnut tree on the west side of the house was cut down in April (for other reasons entirely, I swear!). The upshot (downshot?!) of this is that objects can now be followed until they are very low in the west. For variable stars, this can mean helping to minimize the "annual gap" created by their annual conjunction with the sun.

The bats in the attic were more active in summer 2006 than in 2005, but they stayed out of the dome and the control room so all was well! I dabbled in imaging under-observed Mira stars during June and July for a change of pace. Some of the AAVSO charts for these stars aren't the greatest (which is why they are under-observed). These Miras are massed in the Milky Way, so crowded fields are common with these stars and this can make the photometry more difficult. Although there are sophisticated professional techniques for dealing with this problem, my strategy has simply been to avoid the most crowded fields!

In October the drive belt on one of the dome rotation motors broke, so the dome limped along with a single motor. I was somewhat surprised the dome would turn at all with only one motor driving it. Nevertheless, I did wind up spending half a night in the dome -- mostly sleeping, but occasionally giving the dome a nudge if it got stuck. (I wonder how many people have slept in an observatory? I've slept in two others -- just naps, of course! -- so this was not without precedent for me.) It was a very pleasant night and I could hear the nocturnal soundscape of the town -- something I miss in the control room. Watching the telescope, focuser, and dome all working together was really neat and gave me a new appreciation for the power of automation, first-hand! There's something surreal about watching an automated observatory in action, but it truly is a thing of beauty. Arthur C. Clarke was right: sufficiently advanced technology is indistinguishable from magic. (At least it was once I replaced the missing drive belt and removed a walnut that a passing squirrel had decided to install in the dome's base ring! Perhaps it was their revenge for having the walnut tree cut down?)

There was only one night of CCD imaging in December before the heatsink retention mechanism on the computer broke. Fortunately, Intel chips are protected from such events, so I did not lose the processor or the motherboard! While the computer was still usable for brief access to the Internet, it could not be used for anything else, including running the observatory. Fortunately there weren't many clear nights in December! As a result of this breakdown, I had the opportunity for two nights of visual observing in the dome.

The second of these visual sessions was an extremely pleasant, quiet Christmas Eve with a clear sky, though with only average transparency at best. Given the warm temperature for this time of year (-2C) it was an acceptable trade-off! I observed from 20:00 until midnight, then had a nice nap in the reclining chair in the living room with the stereo playing Christmas music. Since the computer has been running many all-night sessions for me over the last three years, I had forgotten how hard it is to stay up all day and then all night! After my nap, I observed from 2 a.m. until dawn. I visited variable stars almost exclusively on this night, since the transparency didn't justify spending much time on deep sky observing. I did look at Saturn though, since it was rather prominently situated near Regulus.

Christmas Eve turned out to be the last of the clear weather for 2006; it was a nice way to wrap up the present year (puns intended -- though I suppose I'll take some ribbon for this!). And speaking of wrapping up, I'll end this report with some commentary on the search for supernovae, as well as some thoughts on astronomical endeavours in general.

POSS had 40 supernova discoveries in 2005, but only 29 in 2006 (the weather was less cooperative) plus 10 misses (of which one, in October, was "mine"). I inspected a total of 8776 galaxy images during 2006 as my part of the quest.

What I've discovered so far is that supernova searching turns out to be quite an exciting thing. This is because one encounters plenty of previously-discovered supernovae as well as asteroids in the fields being searched. In every one of these cases you automatically think that the object is a brand- new undiscovered supernova! The excitement that results is intense, though short-lived. Still, it helps to keep the search going!

In the course of my supernova searching I have, on occasion, noticed stars with significant proper motion. This causes them to move relative to the other stars (which all appear to be fixed), and so they appear to jump back and forth when blinking images. (Of course asteroids can do the same thing, but only if they are present in both the "old" and "new" images.) My most recent observation of this kind was of a 15th magnitude star which had moved 2s in RA and 3" in declination over the 17-year period between the old and new images. This is another example of an observation that is much more easily done with CCD images than visually.

There is a lot of competition in the quest for supernovae, and some of it is from the professionals. Two surveys, the "Nearby Supernova Collaboration" and "ESSENCE" were credited with some 50 supernovae discoveries in a single IAU Circular (IAUC 8784) in December -- an unprecedented explosion (pun intended!) of activity.

These increasingly common and pervasive kinds of “shock and awe” campaigns by the professionals inevitably lead to some soul-searching on the part of amateurs. Indeed, who will ever forget Robert Jedicke's opening PowerPoint slide at the Ottawa GA: "PannStars and the End of Amateur Astronomy"? Although this title was very much tongue-in-cheek, we do live in an age of rapidly advancing technology that is reshaping Astronomy at an equally rapid rate. There was a lot of discussion among GA attendees about this. In fact, there were even similar discussions at the AAVSO Spring Meeting.

Ultimately, what technology may take away with one hand, it will doubtless give back with the other; while it may force a shift in amateur endeavours (as has already happened for comets and asteroids, for example), it is bound to create new opportunities and new possibilities for the amateur. We live in interesting times indeed!

Well, that's my report for 2006. With Winchester Observatory almost upon its 4th anniversary (how time flies!), I am looking forward to another great year of Astronomy in 2007. Clear skies and happy observing to all!

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Walter MacDonald II [MDW]
Winchester Observatory
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My Personal Web Site : http://www.starlightccd.com/walter

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ATM: Doug Angle
Awards: Kim Hay
Banquet: Diane Torney
Education: Steve Hart
Equipment Loan: Kevin Kell
Fall 'N' Stars: Arlyne Gillespie
KAON: Kevin Kell (until new person steps in)
OAFTN Instructor: Kevin Kell
Observing : TBA
Publicity : Peter McMahon
Relay for Life: TBA
Responsible Lighting: Kim Hay
Sky Is the Limit: TBA

The Royal Astronomical Society of Canada—Kingston Centre

Newsletter Submission Info:

I can take most common formats, although I prefer plain text. Pictures should be sent as image files in attachments separate from the articles. Please avoid the use of capitals, asterisks etc for formatting, as I use the publishing software's formats for this kind of emphasis.
E-mail: lbenderavage (at) sympatico (dot) ca
Post: Joseph Benderavage,

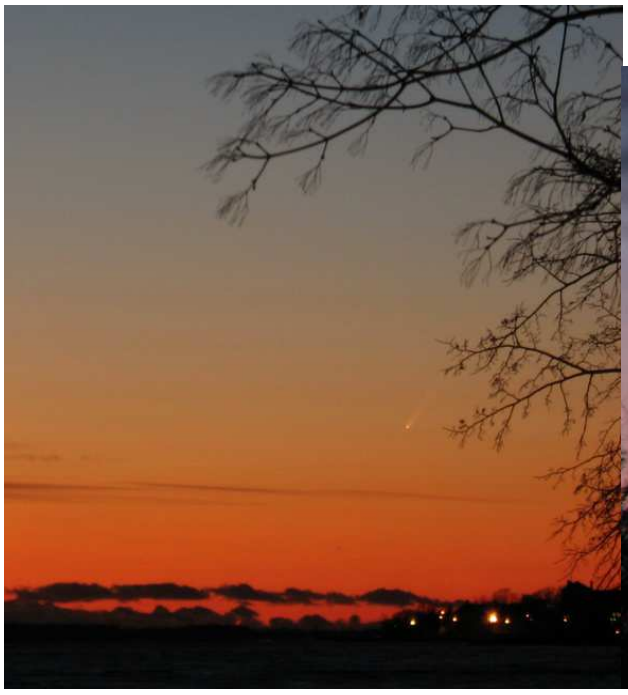
2007 Publication Deadlines

For the month	**(Deadline)**
March	(February 19)
April	(March 30)

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.

Comet McNaught (C/2006P1) as caught by two Kingston Centre members.

Kevin Kell, Jan.10, 2007, at 5:27 pm EST. From Kingston Waterfront near KGH.



Ken Kingdon, Jan.9, 2007, at 5:35pm EST. "Giant Bird Dropping a Golden Egg at Lemoine Point"

Kingston Cosmic & Events Calendar--February & March 2007 by Kim Hay

Date & Time Events

Feb 2 Friday Full Moon 0:45

Feb 2 Friday Moon 0.8° E of Saturn

Feb 5 Monday Zodiacal Light visible in W after evening twilight for next two weeks

Feb 7 Wednesday Venus 0.7° to left of Uranus, visible after dark. Mercury at greatest elongation E (18°) favorable evening viewing

Feb 9 Friday Regular Meeting Stirling Hall Theatre "A" 7:30 p.m. Members Night

Feb 10 Saturday KAON Observing Session at Ellis Hall Queen's Observatory 7:30-9:30 p.m. For more information visit http://members.kingston.net/rasc/pubobs.htm

Feb 10 Saturday Saturn is at opposition Last Quarter Moon 4:51

Feb 17 Sunday New Moon 11:14

Feb 23 Friday Moon 0.6° N of the Pleiades 7 pm

Feb 24 Saturday First Quarter Moon 2:56
Canadian Ian Shelton discovered Supernova 1987a, 20 years ago

March 1 Thursday Moon 0.7° N of Saturn 8:00 p.m.

March 3 Saturday Total Lunar Eclipse *Special Observing Session** at Ellis Hall Queen's Observatory 6:30-8:30 p.m. For more information visit http://members.kingston.net/rasc/pubobs.htm

March 7 Wednesday Moon 2° below Spica 5:00 am

March 9 Friday Regular Meeting Stirling Hall Theatre "A" 7:30 p.m. Members Night

March 10 Saturday KAON Observing Session at Ellis Hall Queen's Observatory 7:30-9:30 p.m. For more information visit http://members.kingston.net/rasc/pubobs.htm

March 11 Sunday Last Quarter Moon
March 11 Sunday Daylight Saving Time begins 2:00 am
March 11 Sunday Moon 1.8° below Antares 3:00 am

March 18 Sunday New Moon 22:43

March 20 Tuesday Spring Equinox 8:07 pm

March 21 Wednesday Mercury at greatest elongation W (28°)

March 25 Sunday First Quarter Moon 14:16

March 29 Thursday Moon 0.6° North of Saturn 1:00 am

March is the best month to get all the Messiers in the Virgo Cluster, plus try for a Messier Marathon

For more detailed information, please refer to the RASC 2007 Calendar, and the RASC 2007 Observers Handbook. Available from our Treasurer or http://www.store.rasc.ca/