



Regulus



The Newsletter of the Royal Astronomical Society of Canada – Kingston Centre — 2007 April

Coming up...

RASC-KC Meetings

Stirling Hall Theatre A, Baader Lane, Queen's University
Kingston, Ontario.

Regular Meetings:

Friday April 13 7:30-10:00 pm

Friday May 11 7:30-10:00 pm

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 9:00 pm to 10:30 pm

Saturday April 14

Saturday May 12

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THE OUTBACK OBSERVATORY

My observing site is named the "Outback Observatory", not after the famous Australian wilderness, but merely for the area behind my barn. It is a roll-off roof structure, well suited for my variable star pursuits which require frequent targeting of different areas of the sky each evening. It is different from most roll-off designs in that it does not have a support frame runway behind the building since my wife considered that "too ugly!" and I preferred not to have to trim around the posts when lawn cutting. A support runway can also attract attention from passersby that something unusual may be housed inside. So I adapted a "shoe-box lid" roof, which completely seals out the elements when closed, as seen in the photo above, but which also carries along its own supports when opened for observing (see photo on page 9). An underground electrical line from the barn provides power for the telescope drive and a computer. It originally housed a 200 mm SCT but has recently been replaced with a 300 mm SCT to probe even deeper into the night sky. Overall, this observatory has greatly increased my observing enjoyment and data acquisition of variable stars.

—Ray Berg

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President's Tidbits

Kim Hay

Well it has been quite a month with a taste of winter hanging on, and spring that arrived on the calendar anyway on March 20, at 8: pm at night. I hope that everyone was able to get out to observe their Messiers, NGC's or just to get out and look at the stars.

On a sad note, I do have to announce the resignation of Arlyne Gillespie, our Vice President, and Chair for 2007 for Fall N Stars. Arlyne has not been well for quite sometime, and she has put on a brave face, but first and foremost her health is number one. Thank you Arlyne from the bottom of my heart and from the Executive and the members for your dedication over the last several years. Our thoughts and prayers are with you.

With this news, we are looking for a person who may feel that they would help to shape the Centre by stepping into the Vice President role. The Vice President is responsible for speakers for the Centre, which has been taken care of until the end of August. This will be an interim role, with the election of a VP at the November Annual Meeting. We are also looking for a Chair for Fall 'N' Stars 2007. The candidate should be able to attend all meetings and coordinate the event between the Kingston and Belleville Centres, and with inclusion of the Peterborough Astronomical Association. If you feel that you can help us in this area, please contact the Executive at kingston@rasc.ca or at an upcoming meeting. We should have this Event going now and in place. There is a manual and past members of the organizational group are here to help.

On March 24, 2007, Belleville RASC organized there 7th bus trip to Toronto with their primo organizer Dave Pianosi. This year Susan Gagnon and I went on the trip, and what a trip it was. It was nothing but talking Astronomy all day. We stopped off at the Science Centre for a couple of hours, taking in the new displays, and were kids again. Our shopping trip included Efston Science, Khan's Scope Centre, and Kendrick's Astro Instruments. In all, the whole group spent over \$1800 in astro goodies. There were so many deals made, that it probably explains the grey wet weather we are having.....Sorry about that, but you just cannot pass up a good deal. Our dinner excursion was to Kelsey's in the west end, then onto the University of Toronto for a tour with Alex Bouquin bouquin@astro.utoronto.ca who is a



made by GOTO. This was installed in the Physics building when it was being built in the 1950's.

The second telescope, the 16-inch Cassegrain, was made by Boller and Chivens. There was some discrepancy on whether it was a Ritchey-Chretien, Dall-Kirkham or Classical Cassegrain.



I do hope that if Belleville offers this trip next year, other people will take up the offer. It was an excellent day, thank you, Belleville Centre.

In April we have our Meeting, with guest speaker Dr. Judith Irwin, speaking on "Smog and the Galactic Environment—The Discovery of PAHs in Galactic Halos". Our KAON session will be starting with the new time of 9:00 pm-10:30 pm. If you have never come out, come on down to the Ellis Hall Observatory, it's a good time, great talks and great people.

We will also be boosting our Astronomy Day adventure which will be held on April 21 at the Isabel Turner Library, from noon to 5:00 pm.

Come out and enjoy the activities, get out and enjoy the spring days, and nights; the stars await.....

'Til next time, clear skies.

Tindall Field Project Report by Kevin Kell

I attended a meeting 28 February 2007 regarding Queen's University Tindall Field/Parking Lot project. All in all this was the best (responsible lighting wise) project meeting I have been to.

We (Terry Bridges, Observatory Director, and myself, RASC-KC KAON Coordinator) presented our present and future concerns, and Construction manager John Garrah and lighting consultant Len Williams (H.H. Angus and Associates, Toronto) laid out plans for the project.

Terry presented data from the "turn-off-the-lights on campus" experiment in 2005 May that we assisted with. I showed our digital imagery results of that experiment, some of the sports field lighting and local parking lot lighting. These images were passed around as part of a 5-page colour report (available soon on the RASC-KC Responsible Lighting web page).

The project should start 1 May 2007 and end 31 August 2008. Our meeting was about lighting for the project (sports field and parking lot) and its effect on the Queen's Ellis Hall Observatory facility.

Currently the parking lot is west of the observatory (50-100m) and the sports field is just west of that. The plan is to pave over the sports field with a temporary parking lot, dig out the existing parking lot down 2 stories for an underground parking structure, topped with an artificial turf lighted sports field.

In effect, this will bring the sports field twice as close to the observatory as it presently sits.

Back to the "Wow!" part of the meeting.

The plans as presented to us were great!

The temporary parking lot on the existing field was originally gravel, but is now asphalt (lower reflectivity). It will take two months to install (mostly due to drainage issues) and will have FULL CUTOFF street light fixtures on 10m poles. The existing cobrahead streetlights in the parking lot will be taken down at that time (around July 1st), improving the light situation into the dome and onto the observing deck immediately.

Existing sports field lighting consists of 6 poles with various mercury and metal halide lights, completely unshielded, and that light shines directly onto the 4th floor rooftop observing deck (below the fence and above the 6' high deck fence) and into the observatory dome itself. Persons over 6' tall see the direct light, are subjected to glare and lose their night

adaptation. Light reflecting off the dome affect viewing and observational use of the telescope.

The new sports lighting will consist of 6 poles with metal halide light fixtures and FULL CUTOFF and Directed lighting. The design intent is to illuminate only the playing field and the running track around the perimeter, NOT the adjacent parking lot, as is now the case, NOT Mackintosh-Corry Building, between the Parking Lot and Ellis Hall, NOT Ellis Hall and certainly NOT the Observing Deck on the 4th floor and the observatory dome on the 5th floor.

Lighting controls will be better (presently lights are manually operated and sometimes left on ALL NIGHT), with automated systems to turn off the lights after event bookings.

The sports field schedule will be controlled by the School of Physical Education. They will be approached with a concept involving selected "no-light" dates, perhaps on or near New Moon dates, to allow for better quality observations with the 16" telescope. We will see how negotiations go.

In addition, any lighting used in stairwells and ramps to access the parking structure underground will follow responsible lighting principles, although the design hasn't progressed far enough to specify details yet.

During construction phase, there would be no construction after 7pm local time, so no construction activity lighting. We did forget to ask about construction site night security lighting... most sites do maintain some kind of security lighting. Continuous blasting is expected to occur for six straight weeks, during which time extra dust and shock precautions will have to be made at the observatory.

We did not have to ask for anything! No discussing, no arguing, no begging or crying about bad lighting points...nothing!

This is a refreshing change, to say the least!

* KAON = Kingston Astronomy Outreach Network, a collaboration between RASC-KC and Queen's Physics and Astronomy to provide public observing sessions monthly and open houses at the Queen's Observatory.

Annual RASC Kingston Centre Treasurer Report
2007 March 19 by Kevin Kell

2005/2006 was a good year for the Centre. In addition to our regular activities we initiated the Observational Astronomy for the Novice courses (September 2005, January 2006 and September 2006), which helped expand our educational outreach and resources. This is the first year in which we have had the books audited.. with thanks to Susan Gagnon. She raised some good points which are being incorporated into the system.

As accepted at the 2006 Annual General Meeting
2005 October 01 - 2006 September 30

Income 2006

Membership Fees Regular	3045
Membership Fees Youth	
Membership Fees Surcharge	725
Membership Fees Associate	12
Membership Fees Affiliate	27
Membership Fees Life	198
Donations	772
Fundraising/Grants	316
Educational Activities	5765
Interest	153
Sales of OH	165
Sales of Calendars	788
Sales of BOGs	40
Sales of Other	168
Subscription S&T & Astronomy	-2
Sales of Promo	203
Star Parties	0
Annual Dinner	800
Misc	
Total Income	13175

Expenses

Library	27
Publications Newsletter 1264	
Publications OH	160
Publications BOG	
Publications Calendar	705
Publications Other	17
Events Meetings	305
Events Star Parties	
Events Annual Dinner	969
Events AstroDay	63
RASC promo items	825
Equipment & Supplies	
Office Admin	233
Advertising	45
General Expenses & Audit	483
Educational Activities	4633
Insurance	
Awards and Donations	137

Observatory Equipment/maintenance	768
Misc	
Total Expenses	\$10,634

Surplus or Deficit on Operations **\$2,541**

Liquid Assets year start Oct 01	\$18,789
Surplus or Deficit on Operations	\$ 2,541
Net Liquid Assets year end Sept 30	\$21,330
Capital Assets year end 20060930	\$22,910
Total Assets	\$44,240

Liquid Funds Allocation 20060930

Banquet	\$0
FallNStars	\$523
General Operating	\$7,746
Observatory & Equipment	\$11,061
Reserve	\$500
Special Projects	\$1,500
Total	\$21,330

Notes:

Income

* our membership fees comprise \$4007/13175 or 30% of our income. Of the \$60 membership fee, the Centre retains \$27. We receive a life member grant of \$22 * 9 life members for \$198.

* donations hit a 2nd all time high this year

* Interest is starting to increase, mainly due to better rates for our GIC investments.

* The Education OAFTN courses were the single biggest project of the year with the income shown coming from 3 courses.

* star party (fallnstars) revenue came in after year end

Expenses

* The Newsletter is our current largest benefit to members, including postage and printing.

Capital Assets

For the first time we have valued our capital assets and include them in our annual reporting.

Seeing VV2

Well, I saw the Lunar "X" feature with binoculars and telescope. At 12:22 am (4:22 UT) on March 26th, the clouds briefly broke, but unfortunately, I got only one low-power image, and then unbroken cloud arrived. However, last week an unbelievable clear spell of 5 nights arrived, and I watched Asteroid 2006 VV2 moving along on each of 4 nights in a row: Wed., Thu., Fri., and Sat. March 31.

I learned a few things from this Near Earth Asteroid:

- 1) I use a 12.5-inch Dob that has no setting circles, nor a computer-controlled drive. I needed to modify my star-hopping technique somewhat and pay more attention to tiny groups of dim starlets for course corrections to accommodate the problem of an interfering brilliant Moon giving few stars to work with, plus longer distances between any stars. Planning a long distance star-hop route and then hunting for it was a fun experience, and I'm glad I tried since I got better with each passing night. It is possible to do "deep-sky" on a Full Moon night... :)
- 2) The asteroid's motion of 1-arcminute per minute of time was so slow that the asteroid was difficult to find. Scanning hither and dither in an attempt to reveal its motion did not work reliably.
- 3) The best way to find it was to use that great "G.G. Rule", ie, be aimed at a distinct group of several stars well ahead of it along its track by 15-20 minutes. I sketched such an area; when it entered the FOV, I would quickly discern it. Thankyou Geoff Gaherty for your good advice.
- 4) Since this 2km object was a large distance away (8x Lunar distance), the accuracy of the ephemerides was good; my planetarium software showed its track was very precise and its position at any time was within 2-arcmin right along the track, and the JPL web site got it within 5 to 7 arcminutes. Predictions were ahead of real time by a couple of minutes, but a few arcminutes error is not a problem.
- 5) Once found near a distinct group of several stars, its motion was a lot easier to perceive, but only after approx. 20-seconds of time had passed in observation. Hey, so many clear nights in a row...does this mean we are into a great Spring for observing?
As Kevin Fetter says...please share with us your observing reports. -Ken Kingdon

>What no one observing, ie where's people observing reports? >Ok who else, observed the pass of asteroid 2006 VV2? >What else have people observed, as I haven't seen many observing reports. >Kevin

Well, last night I went out around 8:29 pm (00:29 UT, March 29) and Kevin was starting his NGC program. I went on to use the new 15x70 Celestron Bino to finish off my ETU Certificate program. After I did several bright stars and finished the deep sky objects, I looked at the moon, but what I needed would have to wait until full moon. Kevin had gone in by this point, so I went over the telescope (8" Sky Watcher with the 32 mm Koenig) and started to look for Asteroid 2006 VV2. It was located off M81, Bode's galaxy. I had a dickens of a time at the SSSP to find M81 & M82 but these two popped right into the field of view with the star hopping mechanism. They were still quite bright since the moon was high and the sky was quite bright (SQM reading 16.66); they do look so nice together in the same field of view.

I was looking at the field of view and sketched the area every ten minutes. It was not until I went to the 26 mm and the 2x's barlow that the whole field was quite better for detail (92 power). I followed the Asteroid from 2:11 UT- 3:01 UT. I used Starry Night to measure its movement. It was mag 9.65 and it was the brightest point in the field of stars. It was between several 10 & 11 mag stars.

Movement taken from double star (tych3838-2004-1 & hip78635) well according to Starry night.
2:59 Ut 0 13' 33"; 3:01 UT 0 14' 31"

This was really neat to watch the asteroid move in the star field. If you did not get a chance to see it, you have tonight and tomorrow night to see it, at its closest approach, and then it will start getting fainter again.

Take a look at Gerhard's maps for the night you wish to observe. It is quite something, gives the field of movement, click on the night, then it brings up another map, click again, and it gives the Telrad field of view.

As for the rest of my double stars for the ETU, I need to be up early in the morning, so it appears that another 3:30 am (7:30 UT) run will be coming up soon.

-Kim

Forwarded from MPML & IOTA & RASC

Hi all. As known, Asteroid 2006 VV2 makes the closest approach on March 31, 2007. On March 27, 2007 I used my occultation equipment to record 2006 VV2 on northern sky on video with KIWI-OSD time stamps. My page about 2006 VV2 fly by and with image and video: http://www.dangl.at/2007/2006_vv2/2006vv2e.htm Position values from table <http://www.cfa.harvard.edu/iau/MPEph/MPEph.html> worked perfect. Regards, Gerhard.

Observing Long Period Variable Stars: Visual Observers Are Still Needed!

(continued by Walter MacDonald from March issue)

Recent Discussion

Elizabeth Waagen is the Senior Technical Assistant at AAVSO HQ. She posted a number of messages on the AAVSO list with great information in them, which are quoted throughout this article, including this bit:

“Some stars suffer from being in difficult fields, some from poor charts/sequences, some from being very far south where our observers are fewer in number. Some LPVs may be very well covered for one season as observers in general or one or two CCD observers focus on that star - and that is great - but then may be neglected again, the observers thinking that since they have covered one cycle thoroughly, we now know the behaviour of the star.”

“Coverage of long period variables has declined overall as a result of the ocean of fascinating cataclysmic objects that draw observers away from the LPVs, and as some observers dedicated to LPV coverage for decades pass from our ranks. The LPVs need good coverage year after year after year because they seldom behave exactly the same from cycle to cycle, and their behaviour can change radically even from one cycle to the next. Without good long term coverage, we would have no idea of the spectacular evidence of stellar evolution seen in the light curves of stars like T UMi and R Aql; theoretical and observational astronomy both would suffer.”

Matthew Templeton, also at AAVSO HQ, was emphatic about the value of visual observations: “Visual data has been proven time and time again to have great value. We would not have the 100+ years of data for hundreds of variables (and decades of data for thousands more) without the work of visual observers. Visual magnitude estimates provide a perfectly acceptable and *accurate* means for generating light curves for variable stars. Furthermore, visual observers provide very efficient means of rapidly obtaining critical data (like outburst notification).”

Arne Henden, Director of AAVSO, echoed these sentiments: “Keep observing the LPVs, please! You might think the surveys are making the visual observers obsolete, but that hasn't happened yet. Great surveys like ASAS have equipment problems and have large gaps in their coverage; they cannot go very faint or very bright (limited dynamic range),

and they don't last nearly as long as a competent visual observer. :-) ...keep observing, your data is scientifically useful. I'll let you know if that statement ever changes.”

Choosing Stars for Your Backyard

Primary considerations in choosing stars to observe are:

1. HOW FAINT A STAR CAN YOU OBSERVE? How faint you can go is a function of your telescope aperture and the darkness of the sky at your observing site. Also, brightness estimates are most accurate when they are 2-4 magnitudes above the faintest you can see with your scope, so this is a good rule-of-thumb to stick with. Besides it's more fun to observe when you're not straining at the limits of your equipment! Remember too, your limit is influenced by sky transparency which can vary significantly from one night to the next (or even during the course of a single night).

2. HOW GOOD ARE YOUR SITE HORIZONS? If your southern horizon is obstructed then you will want to avoid stars that are too far south. A few naked eye observations in conjunction with a star atlas will easily establish your southern horizon limit. One good opportunity for observers in northern latitudes is the circumpolar sky area, so if you have an unobstructed northern horizon this is a great opportunity to monitor some stars on a year-round basis! The circumpolar area is easier to point at with Dobsonian mounted scopes than fork-mounted scopes, so equipment plays a factor in the horizon-related considerations here.

3. HOW EASY IS THE STAR TO FIND? How easy are variable stars to find? As it turns out, not as easy as for many deep sky objects. Deep sky observing benefits somewhat from the “horseshoes and hand grenades” factor. If you can get close, then any fuzzy object floating amongst the field of stars is likely the target you are seeking! (This does not apply in areas like the Virgo cluster!) With variables it is a different matter: you must find the exact field, because your target is a star amongst stars and can only be distinguished by exactly matching star patterns with a chart.

So there are actually two parts to finding the variable: finding the field, and finding the variable within the field. GOTO telescopes are a big help since they will deposit you right in the field of the variable and finding the field is thus not a consideration. For star-hopping, though, it is important that the star's field be easy to find; this means sticking to fields that are close to naked eye stars and/or a sequence of stars easily visible in your finder. Most modern planetarium software (like ECU or Cartes du Ciel) can give you an idea of how hard a field is to find.

As to finding the variable in the field, looking at the AAVSO chart will help, although there is no substitute for experience when it comes to determining whether a field is “easy” or “hard”. In general, if the chart has hardly any stars on it, then chances are it will be difficult to navigate at the eyepiece. Similarly if there are a lot of stars on the chart, it may be similarly difficult to navigate. Asterisms (groups of stars forming a distinctive pattern) are a key tool in investigating a star field, and even one or two can make the difference between an “easy” field and a “hard” one.

One of my favourite examples of an easy-to-find variable is W Herculis. It is an easy star-hop from M13 (which is shown on the AAVSO chart) and the field stars are distinctively arranged!

4. HOW GOOD IS THE STAR'S CHART? Of course, a good chart is important, for finding the variable, and for estimating its brightness. As to the first point, the chart is your road map, and you will most likely be lost if it is deficient in some way. Some charts are only preliminary versions (this will be indicated on the chart) and may be like assembly instructions that come with garden sheds -- any resemblance to the subject is purely coincidental! Many older charts are “microdot” charts where all stars are drawn the same (small) size regardless of their brightness, and these many observers find difficult to work with.

Each chart has a number of stars with magnitude labels next to them -- these are the “comparison” stars. The decimal point is omitted so that it won't be mistaken for a star. Collectively these magnitudes form the “sequence” for the chart.

Since the brightness of a variable is estimated by comparing its brightness to the brightness of some of these comparison stars, it is important to have a good sequence. As it turns out, some charts have better sequences than others: some may have big gaps in the sequence (one magnitude, or even more), some may be really far away from the variable, and some may be just plain wrong! Bad sequences can make a star difficult or impossible to estimate for all but the most experienced observers, so it is good to avoid those.

While a lot of AAVSO star charts have been revised in the last few years, there are still many dating back to the 1930s! Just because a chart is old, doesn't mean it is bad, so don't be deterred if you see an old date on a chart for the star you have chosen to observe.

Next issue: Help in Choosing that Variable Star

The Future Practice of Astronomy, by Walter MacDonald (continued from last issue)

Clubs

OK, now how about the bigger question: are astronomy clubs as we have known them obsolete? Dictionary.com (sorry, I was too lazy to go look it up in my paper dictionary!) defines a club as "an organization that offers its subscribers certain benefits...in return for regular purchases or payments." In the case of the Centre, the payment is one's annual dues, portions of which go to the Society as well as the Centre itself, and in return for which members receive benefits from both the Society and the Centre.

Society benefits are numerous and include: the Observer's Handbook, Journal, other publications (e.g., Calendar, Beginner's Observing Guide), liability insurance for centre events, an annual General Assembly, observing certificates, awards, a web site, and perhaps even the prestige of belonging to a “Royal Society.” I'm sure others can easily add to this list. These benefits provide very good reasons to belong to a club such as ours.

Centre benefits also include a newsletter, web site, and awards. For members near Kingston, the Centre holds local meetings and observing sessions which afford the opportunity to hear talks on many interesting astronomical topics as well as to meet and mingle with fellow like-minded enthusiasts. One of the most important benefits of belonging to a club is the opportunity to get hands-on experience from more experienced “mentors” (whether you're a newbie to astronomy, or to just a particular branch of astronomy). Also, clubs often own bigger, better, more expensive equipment than many individuals can afford themselves. One example of this is the Centre's 24" Venor telescope. How many of us have one of those?! The Centre has a number of telescopes available for loan to members, which is of great benefit to anyone without a scope, or perhaps without a big enough scope! Some clubs also have observing sites or even observatories for use by their members (hopefully our Centre will have one in the not-too-distant future!) which is particularly beneficial for city-dwelling members. In the near future, many clubs (including our very own Centre) will have Internet-accessible observatories available for use by their members which is a rather substantial benefit for many without their own such facilities.

Finally, there is another, perhaps more philosophical argument for the utility of club membership: being a part of something that is larger than oneself. Certainly clubs or organizations are, by definition, “larger” than individuals. And who doesn't like to be part of something larger than oneself? Not only that, such entities are potentially much longer-lived than individuals. In the case of the RASC, whose roots go back almost to the middle of the 19th century, membership can help connect us to the past, and to the future (since today is tomorrow's yesterday, right?!).

Conclusion

So what will the future practice of astronomy look like? Will astronomy clubs and newsletters still be around? Technology in general, and the Internet in particular, will certainly foster all kinds of online communities (as we have already seen) and open up all kinds of possibilities for doing observing, research and even having meetings (of a sort) online. However, for all the reasons discussed above, I think that we will still produce newsletters, belong to clubs, and have face-to-face meetings. The future as I see it will have a greater diversity of astronomical activities and endeavours which will complement and enhance our current modes of operation rather than replace them.

From: Andrew.Beaton at international dot gc dot ca
Subject: RASC Niagara Centre Annual Banquet

Good morning to all,

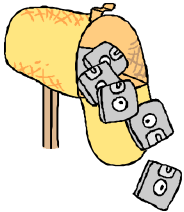
I cordially invite you and your Centre members to the RASC Niagara Centre's Annual Banquet, being held in Niagara Falls, Ontario on 14 April 2007.

Our keynote speaker will be Paul Delaney, Prof. of Physics & Astronomy at York University.

Please find attached the official notice for the RASC Niagara Centre's Annual Banquet. I have also included a brief bio on our keynote speaker, Paul Delaney.

I would appreciate if you would distribute the information to your members. Should you have any questions, or would like to purchase tickets please do not hesitate to contact me or the other executive listed on the notice. Looking forward to seeing you there! Sincerely,

Andrew Beaton, Secretary, RASC Niagara Centre



From the WebTeam

Kim Hay & Walter MacDonald

Walter MacDonald has finished the conversion of all the Regulus Newsletters from 1973 up through the 1990's. This project was a large one, and with the help of Walter, Ruth Hicks, Leo Enright, Kevin Kell and Kim Hay, all missing copies of the newsletters were gathered and scanned and turned into PDF's. You will need an Adobe Acrobat reader to read these, but the program is available online at <http://www.adobe.com/products/acrobat/readstep2.html> If you have a chance please visit the Members Only Section and read up on the Kingston Centre's past.

On another note we now have a live online CHAT room set up. This is easy to do, and though we still have our email list, this will provide online chatting for exchange of ideas, observing questions, or just chatting among the members in real-time. No extra computer equipment is needed. Just log into the Members Only Section, and press the link on the left hand side, that says Online Chat. Sign in either with a nick name or your own name, and that's it. It is now currently running, and there maybe some people present or not, just keep coming back. Hope to chat with you online.

KAON Commentary

by Hank Bartlett

A big thank you for all the volunteers at KAON last night for supporting me with my first public talk there. Special thanks to Kevin for his usual a/v expertise. It was a good KAON considering there was very little clear sky. It seems people have come to understand and be very patient with the weather.

Having 76 visitors under cloudy conditions amazes me and makes it obvious that we are providing more than just observing. We are providing adequate observing support in the manner of advice and our talks are interesting and delivered at a level that interests the public and they can understand. Now if we can just keep their questions down to our level, I am sure we had a child prodigy/future astrophysicist there last night. I was cornered a few times but that is what the level of support I mentioned is about, we had a wide knowledge base in the room at all times and they all know when to speak up. Thanks again, see you all next KAON.

KAON Report

by Kevin Kell

KAON was pretty much a cloudy snowy washout. Even with Terry Bridges (Queen's Observatory Director) downplaying the event because of clouds to the Whig Standard in today's 3 March 2007 newspaper, we still had a lot of people show up, some expecting to see the eclipse through telescopes that could see through clouds.

Terry was away but James stepped up with Pascal and a third student that I didn't get to meet. On our side manning the observing deck and greeting displays were: Steve Hart, Susan Gagnon, Hank Bartlett, Kim Hay and myself.

We had 171 people, a near record for our public observing sessions. Most came out onto the deck, saw the clouds and snow, chatted a bit and went back inside. We first spotted a light blur of what may have been the moon around 19:20 EST, about 30 minutes past 3rd contact. Got a few pictures but most show the moon in cloud.

We did hand out another 40 or so RASC calendars from past years and are now out of old stock.

Via the Internet, we tapped into a Discovery Channel webcast with Peter McMahon. They were clouded out but eventually found clear skies in Thunder Bay and showed some images from RASC Thunder Bay... way to go guys!

If anyone is interested in developing the technical capability of broadcasting an image from a camcorder, or a wide angle lunar shot in time for the next total lunar Eclipse, let me know!

Thanks again to all those that came out, even under the gross weather.. And thanks for the timbits.

OBSERVING**Cold Weather Observing, March 2007** by Kevin Kell

arggg.. when will it get warmer? We were outside Tuesday night, March 6, in the (*&@#\$\$@ -19° C.; skies were not too cloudy and transparency was so-so. Kim was hunting for M74, which was slowly disappearing into the west, and I was working on the all-sky camera and its new 5 watt heater.

Good News Bad news

Kim found her Messier object, but 5 watts of heat did not keep the dome clear in -28° C. weather that we had later that night. March 7, Wednesday night, we were out looking for the asteroidal occultation (1263) Varsavia of a 10th magnitude star HIP 58417 mag 10.2, scheduled for around 22:34 EST. Unfortunately we had a “miss”, not seeing any of the event, and it was only -12° C.



Ray Berg's Outback Observatory, featured on page one, is here shown in the open position, ready for observing. The “shoe-box lid” roof carries along its own supports when opened for observing. Caster wheels on two corners allow easy movement of the roof on a wood rail when the support side is lifted and manually pulled back.

Information on Comet Lovejoy, first sighted in Australia, is available at <http://cfa-www.harvard.edu/mpec/recentmpecs.html>.

Lovejoy is a green comet and was first detected two days before St. Patrick's day, by means of a camera wielded by Terry Lovejoy, an Australian comet hunter, after whom it is named. It should be visible in the northern hemisphere by the time of the next RASC-KC meeting on Friday, April 13.

—Ed.

A great sky tonight, 8 March 2007, and only -16.9° C.

Did not have the roof open for more than an hour but got 3 new Messiers and an NGC. —Susan Gagnon

This morning, 12 March 2007, while watching some flashing from the Gorizon 14 geo sat, I spotted another variable star. It was S VIR. http://www.aavso.org/cgi-bin/shrinkwrap.pl?path=/charts/VIR/S_VIR/SVIR-B.GIF

Hard to tell, what the Mag of it was. That's 3 variable stars, I have come across, while satellite observing. I now figure out that any star I see that seems weird looking is a variable star. So I can now filter them out of my mind, and will I.D. them later. That way I don't cut into my sat observing time. Got to get my fix of them satellites. Too bad last night wasn't as good as I hoped for clear skies. My Leo sat passes were clouded out. — Kevin Fetter

Catching Messier

by Kim Hay

Despite yesterday's rain, and cloud, it cleared off and became quite clear. On March 22, 2007, I got up at 1:30 am and went outside, and observed until 3:45 am. Watched Jupiter come up, and observed Saturn and Jupiter, and finished my last four Messier objects.

The geese were flying, the coyotes were out and running in the fields just yipping away. There was the gentle roar of the Yarker rapids and a train whistle in the distance. A magnificent morning.

I took an SQM reading of 21.46 at 6:01 UT, temperature was 2.7C, very nice, but throughout the next couple of hours, transparency faded, and temperature dropped, with frost falling on everything. By the end of the time, eyepieces, scope, binoculars, telrad were frosted over. Putting the eyepieces in my pocket to clear them off helped.

I took another SQM reading at 7:41 UT and it was 21.39. The temperature upon finishing for the morning was -3C, still quite nice despite a slight SW breeze.

I was going to take my time.

M5- was fantastic- this is one of my favourite Messiers. It is located off Serpens. It was fantastic in the 32 mm Centre Koenig but then I switched to my 9mm vixen and this blew me away. It was a very dense core of stars and it looked like wisps of dust around it, with what appeared like arms coming off it.

M83- Located in the south low and in the soupy part of the sky off of 1,2,3,4 Centauri and Hydra- this is faint. Two Messier's left. Now here is where not enough sleep comes into play. I found Leo, and was lining up the stars, but the mind was playing perception games. I kept

looking low in the SW, hunting and hunting, over 30 minutes for M84 & M86.

This is crazy. I stepped away from the telescope, looked at the charts again, at Starry Night, at another Messier map for M84 & M86 that I have, and kept shaking my head. Then dah, once I realigned my eyes on the sky and found Arcturus, the area of where these two were popped right out.

So, no matter how long you have looked at the sky, you can get confused and you need to realign yourself and your scope. I was also using 10 x 50 binoculars to look for the general field.

M84- Down from Arcturus off of Vindemaitrex; this was very faint. My last Messier was M86 down from Arcturus off of Vindemaitrex. As I was observing and sketching, a very fast meteor went through the field of view. What a wonderful way to end my Messier hunt. To end the morning I observed Saturn and Jupiter. A fantastic way to end an observing session, and to start a work day.

It took me 9 years to complete this list. It is not a project to be done quickly; patience and practice are good qualities to have. If you try the Messier hunt, but become frustrated, step away from the telescope, breathe deeply and try again. They have been there for thousands of years. They will wait for you.

Of course I need to hand in my observations, and have my log book gone over to verify I observed these objects in the time of year that it could be done. I really enjoyed this project. I will now complete my ETU, and move onto either the NGC or the I.K. Williamson lunar project. 'Til the next clear night....

Kim <http://www.starlightcascade.ca>

Starlight Cascade Observatory & Gardens

Review of Final Frontier: Voyages into Outer Space, by David Owen, Firefly Books, 2004

This is a 128-page heavily illustrated summary of space flight aimed at a fairly superficial level. At least 50% of this book is pictures and the text never really gets into any particular detail. Such as the entire Gemini program, which covers only 5 pages, or the one page on the International Space station with a photo of only the first two modules.

Overall, you may consider this book as a gift for a young elementary school age person. They may get some inspiration out of all of the pictures. Luckily this \$20 book was again found in the Chapters deep discount bin for \$5, but even at that price I find that this is NOT recommended for purchase.

—Kevin Kell

Starlight Cascade Observatory and Gardens
outside Yarker Ontario Canada

Gleanings From Regulus: 25 and 30 Years Ago

by Leo Enright: Tidbits From A Quarter-Century Ago

Sometimes in this column, I revive the themes and ideas of extensive or lengthy articles (lengthy, at least, when compared with the size of most articles in Regulus in those days. For this issue, I will not be dealing with any such extensive articles, but referring to several short articles or sentences or single ideas from the issue covering March of 1982, 25 years ago, during the time when I was editor of Regulus and had already made the decision to cut back to merely six issue of Regulus per year. The second issue of year 1982, in fact, covered the months February and March. Let the tidbits from that issue begin.

I mentioned in that issue that I had been asked to contribute a regular column on astronomy to a small local newspaper—asked by a member of the newspaper's staff, in fact. I had agreed to do it, but had later had begun to wonder if I really had time for the "even small" extra commitment that would be involved. It was a twice-a-month newspaper with a circulation of about 1000, called The North Frontenac News, and it had all started with a Gestetner machine at a boarding house where I had lived with several other men, most of whom were teachers at the local high school.

A quarter-century later, that fairly primitive kind of journalism has survived, and even flourished. The Gestetner machine is long gone. The circulation has increased many times over, and as the technology changed over the years, the production has taken place in several different locations in Sharbot Lake. It soon became a weekly, and with the more recent change in name to The Frontenac News, it aims to serve most parts of a very large county. Still, after all those years, that astronomy column continues, now once a month. It has been called "The Night Skies of <<Month>>, <<Year>>." It has been a joy to become engaged with the public over those years, and to provide people with information about what their unaided eyes reveal to them in the heavens. Whether it has been about a dazzling Comet Hale-Bopp in a summer evening, or a very dark Total Lunar Eclipse on a frosty January night, the reaction of many readers has shown their appreciation for clear, straightforward information on upcoming events in the sky. We never realized in 1982 that, in the future, I would be able to submit my columns over the Internet by simply touching a key on a computer.

In that issue of Regulus 25 years ago, I included a copy of my first February newspaper column for the North Frontenac News. It provided the usual information about what could be observed in the night sky, but also an explanation about what astronomy was all about and a few facts regarding the astronomical topics of prime interest at that time. It was noted that Halley's Comet was expected to return in only four years!! During the previous year, the best-selling non-fiction book in all of North America was Carl Sagan's "Cosmos." Tabloid journalism was having a "field day" with the hype over the upcoming "alignment of all the planets in the solar system." It was indeed a great time to be inaugurating an astronomy column in a community newspaper!

In the section devoted to what could be observed in the sky, it was pointed out that Mars would be at opposition on March 31st, and that, on March 10th, all nine of the planets would indeed be aligned "within a 95 degree sector on one side of the sun." That was the closest the 9 planets ever got to a "perfect alignment," that is, over a whole quadrant of the expanse of space around the ecliptic!! Certainly a far cry from the "perfect alignment of planets" that the tabloids were preaching, with their outlandish hints at volcanic eruptions and other global disasters! The "95-degree sector" alignment of 1982, if one wishes to call it that, may have been the

alignment of the 9 planets in millions of years, but it was to have absolutely no effect on seismic or climate conditions on any of the planets!

In the same issue of Regulus, there were reports of two magazine articles of interest. David Levy's article about Bart Bok had appeared in February's issue of Astronomy magazine. (David would subsequently become an authority on the life of Dr. Bok, and write his definitive biography.) Terence Dickinson's cover article on the Expanding Universe had appeared in a recent issue of Maclean's magazine, Canada's "national magazine."

In a section of Regulus called "For Your Compendium Of Esoteric Facts", I had begun regularly to provide our members with a little-known fact from the wide world of astronomy. In that issue, I mentioned the famous (or notorious!) Carte du Ciel, an atlas whose production had started in Paris 100 years before, yes, in 1882, and it was still not completed. One hundred years and still not finished!! The original intent was a photographic stellar atlas to 14th magnitude, but over the years many other atlases have superceded it.

Occasional contests were announced in Regulus in those days, often to add some levity. In the Feb./Mar. 1982 issue, I announced one whose deadline was March 12th, 1982 and whose objective was for the members to "guess the total aperture of all the Jarnac Observatory collection. You will be supplied with no information other than this one fact: — the number of telescopes exceeds 60." [For newer 2007 members of our Centre, I must explain that the term "Jarnac Observatory collection" refers to David Levy's personal collection of telescopes. I must also ask the relevant question: "Are you not glad you did not have to move from Amherstview, Ontario to Tucson, Arizona, and expect to take your observing equipment in a piece of carry-on luggage?"]

And From 30 Years Ago

From the 1977 issues of The Newsletter that was the predecessor of Regulus (a couple of years before the name Regulus was used), there were several very interesting items. In the early part of the year, one of the newsletters carried a report from a meeting of the club at which a motion was passed to put aside monies for the purchase of a telescope and property for an observing site. Is not this an effort that is ongoing three decades later? The maxim is "Plus ca change, plus c'est la meme chose."

Also in one of the issues of early 1977, two recent astronomical publications were highly recommended to our members:

(1) Helen Sawyer Hogg's *The Stars Belong To Everyone* (Doubleday, Toronto, 1796) was now available. It is indeed a book that has stood the test of time, and is always a joy to read for any astronomer, professional or amateur, in Canada.

(2) Donald Fernie's *The Whisper And The Vision: The Voyages of the Astronomers* (Clarke Irwin, Toronto; December, 1976) was also recently available. It was an especially fascinating book with its engrossing tales of the venturesome astronomers of the 18th and 19th centuries who traveled immense distances for the Venus Transits and solar eclipses of that era. Having personally known Dr. Fernie as an astronomy professor at the University of Toronto, I found his new book particularly interesting. It, also, remains a book that I continue to recommend to anyone interested in the history of the science.

The Centre of 25 and 30 years ago was a growing and active organization, as seen from the pages of its newsletter, and as recalled by those who were there.

Target for Tonight by Susan Gagnon

Hydra

ETU: none

Messier: M48, M68, M83.

Finest NGC: 3242

Levy List: 51 (Arp 321), 169 (NGC 2986), 196 (NGC 5694), 217 (NGC 3923), 219 (NGC 3309/11/12/14).

Virgo

ETU: Constellation, Spica, R. Virginis.

Messier: M84, M86, M49, M87, M89, M90, M58, M104, M59.

Finest NCG: 4216, 4388, 4438, 4517, 4526, 4535, 4537/8, 4699, 4762, 5746.

Levy List: 82 (NGC 5634), 83 (NGC 5638), 121 (NGC 5846), 178 (NGC 4596), 184 (NGC 5147), 187 (NGC 5020), 188 (NGC 4591), 191 (NGC 4772), 192 (NGC 4536), 193 (NGC 4129), 202 (NGC 5427), 203 (NGC 5668), 204 (NGC 5850), 211 (NGC 4779), 212 (NGC 4795), 213 (NGC 4623), 214 (NGC 4713), 215 (NGC 4688), 231 (NGC 5364), 232 (NGC 5068), 257 (NGC 4866), 260 (NGC 4519), 267 (NGC 5247), 268 (NGC 5690), 315 (NGC 5146), 317 (NGC 5838), 326 (NGC 4570).

April 21st, 2007, Astronomy Day

Solar observing and displays, 12:00 to 17:00

Location: The Isabel Turner Library (beside the Cataraqui Town Centre Mall).

If you have any interest in participating please notify me by personal email or the Kingston RASC-Chat list. If you are solar equipped bring it along or not. A few scopes are good but it is not necessary for everyone to be operating a scope. People like to have someone to just talk casually with them about the hobby. Other things you will need, sun screen (I hope), a lounge chair, and a jacket as it can be windy at the library. It is usually a fun

day. I hope to see many of you out. Even if you are just out to shop, stop by to say hi.

Evening Observing will be reserved for the KAON as there is a session the preceding Saturday. (regular dates: 2nd Saturday of the month, location: Queen's Observatory, Ellis Hall, hours: 9:00 to 10:30 PM)

If you have not been out to one of these regular outreach sessions this is a great chance to participate. Bring a scope, binoculars, or just yourself. The turn out is often quite large, and the folks who show up are very keen and appreciative. If you do bring equipment to KAON remember that the elevator does not go all the way to the Observing Deck level, you will have to carry your stuff up the stairs between the 3rd to 4th floors.

Astronomy Day Chair, Susan Gagnon, sdgagnon@kos.net

March 3, 2007 Lunar Eclipse – Observing Report

Jan Wisniewski, RASC-Kingston Centre, Rockville, MD

After not seeing any skies due to medical reasons, I was awaiting this event quite anxiously. On the morning of March 3 it became obvious that the only way to have clear skies was to drive at least 3 hours South... That would mean observing at an unknown location - the kind of the decision I was a little bit hesitant to make in the States...

However, the completely cloudy area over Maryland and Northern Virginia was getting patchy just South of Washington, D.C. and Northern Virginia Astronomy Club has a convenient observing site there at Mason Neck State Park. So, after loading equipment, I drove there before sunset. I had to be careful not to look too much toward the sky (which started to have large clear patches) while navigating the Beltway, but eventually managed to arrive safely at a secluded spot on the West shore of Potomac. Setting up went quickly, interrupted only by a visit by Park Police, who were eventually satisfied by the intent of my after dark activities there.

I was able to notice very dark Moon only after it cleared treetops on the forest on the East side of large parking area. After getting it in the field of view of the imaging telescope (ZenithStar II 80 ED APO) and focusing my camera, I started taking some pictures. At the same time I could also view the eclipsed Moon through a piggybacked ZenithStar 66mm refractor. The whole setup was carried on the GM8 mount, which Bob Olson was so kind to let me borrow (not to mention lugging it for me during his trip to Winter Star Party)!

This eclipse seemed quite dark to me and it was highlighted by the reappearance of star 59 Leonis. I was especially surprised when on the inspection of

images taken that evening, one of them showed 59 Leonis at the "moment" of reappearance, shining on the very edge of the eclipsed disk Moon...



Reappearance of 59 Leonis during total lunar eclipse.

Mason Neck State Park, Virginia - March 3, 2007 at 18:58 EST. Canon 350D (extended red response) on WO ZenithStar 80 II ED APO (80mm, f/6.8). 1 sec. exposure, ISO 1600.

Unfortunately, the view of the eclipse was soon interrupted by a bank of clouds and afterwards I had to content myself with only intermittent appearances of the Moon through thinner layers of clouds and haze.

Still, it was an experience well worth the drive.



Partially eclipsed Moon through thin clouds.

Mason Neck State Park, Virginia - March 3, 2007 at 20:00 EST. Canon 350D (extended red response) on WO ZenithStar 80 II ED APO (80mm, f/6.8). 1/100 sec. exposure, ISO 400.

Mark Allison “Star Clusters and How to Observe Them” published by Springer-Verlag, London 2006 (US 29.95, CDN 21.84 on Amazon.ca)

Reviewed by Jan Wisniewski, RASC-Kingston Centre, Rockville, MD

This is one of the recent series of “How to observe” books from Springer. I received it with two other books (dealing with nebulae and galaxies), hoping to have an uniform set describing different classes of deep sky objects.

Well, I got disappointed, as the series, to say it gently, is very uneven. Obviously there was no effort by the publisher to at least try to make those books comparable in depths and detail etc. “Star Clusters and How to Observe Them” volume is, unfortunately, on the shallower end ...

The book itself is composed of two parts. First deals with scientific background on star clusters such as stellar evolution, formation of clusters and their distribution in our Galaxy as well as their eventual destruction. Author discusses open (galactic) star clusters, globulars, stellar associations, asterisms and cluster remnants as well as star clusters in other galaxies. This part ends with the short discussion of classification problems including so-called non-existent RNGC clusters. Overall this part of the book is usable as a very general, short review of the subject.

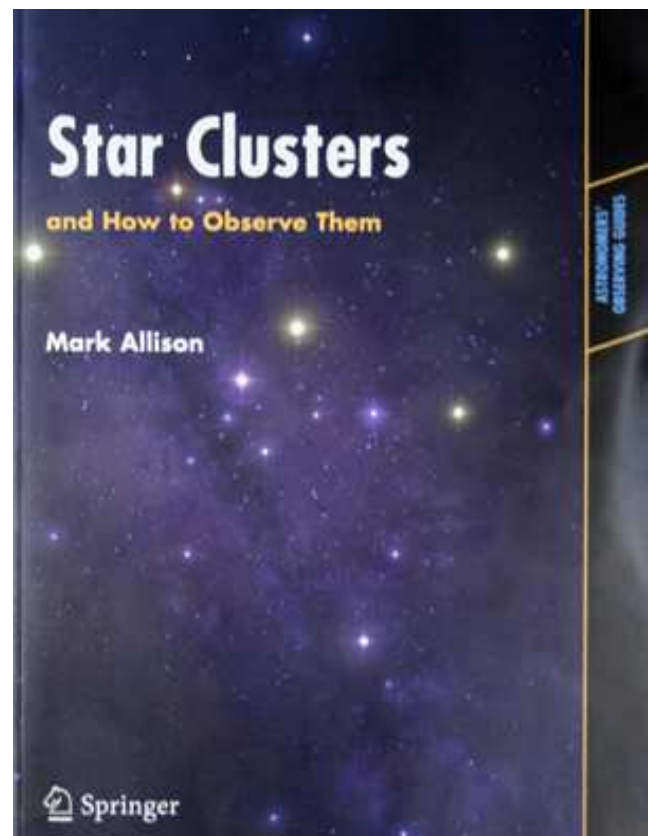
Second part deals with observational issues. In my opinion, discussion of instruments (from naked eye to light buckets) serves little purpose and supplies examples of rather humoristic and clearly misleading statements - for example “reflectors suffer from ... problems, the main ones being collimation and spherical aberration”. Similarly, discussion of accessories and observation planning could be skipped unless reader insists on reading every page... Chapters on observing techniques, imaging/recording are also too general to be very useful.

Finally, in the second half (by volume) there is a “Comprehensive Observing List” which of course it contains just an arbitrary selection of targets. While I would prefer the author to give it a more humble name, the list itself is well composed, containing 109 objects (Magic Messier Number again!). Those targets range from very easy (Hyades, Pleiades, Double Cluster) to extremely difficult (16^m.7 Hodge 5 in NGC 185).

Many well known clusters are present in between those extremes, and each entry has a short description including suggestion of the most suitable instrument.

Also included is the image, usually taken by amateur astrophotographers. While those are not of “Hubble-like” quality, they are intended to illustrate the appearance of corresponding cluster and in majority of cases serve that purpose very well – with only a few exceptions. In those few cases, unfortunately, only a fragment of the cluster is shown (e.g. M50, M46) and this is not clearly indicated in the caption of corresponding figure. Such omissions may cause an unsuspecting reader to get a completely wrong impression of the intended target. This is a serious shortcoming in a book claiming to be a “How to observe ...” guide. On the plus side, however, finder charts are included, making that book usable in the field even without additional star atlas (though no observer should ever leave home without one...)

Overall, I have mixed feelings about this book. Clearly, novice and intermediate observers may find the assortment of targets listed there quite helpful in starting their observing adventure. However, they will “outgrow” this resource rather quickly. “Star Clusters and How to Observe Them” is too basic to be recommended to advanced observers or those interested in scientific information about clusters. So, I would recommend spending a few more dollars to get “Star Clusters” by Archinal and Hynes from Willmann-Bell (US 34.95) instead – that way you will get a reference book which will serve you a lifetime.



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April Ten Years Ago by Hank Bartlett

Ten years ago Hale-Bopp was leaving Cygnus for a grand March/April show across the north sky. Too bad this was long before most of us had digital cameras. Given the expense of film in comparison I only took a few images back then and I recently found them in a box, scanned them and have put them online. Being a sloppy astronomer none of them had dates so I had to turn to StarryNight. By putting both the image and the map on screen and measuring and matching positions I was able to date my images. Blinking back and forth worked well and I believe I was able to validate the time within 1 hour.

I recall all the anticipation as H-B was coming into naked eye vision. I don't recall when it was to make its first appearance but I know it was still a few days away from the expected naked eye event when my daughter Brandi came home one night and casually said "Hey Dad I saw the comet it is really cool!" Of course my reply (trusting the media) was that she could not have yet. I jumped in the van and went up out of the village and there it was a diffuse but very naked eye comet.

Another exciting discovery with this comet was on the night many of us went to an elementary school observing session with Dr. Judith Irwin. It was there we noticed spiral jets appearing off the "front" of the comet as it spun. I looked through my C4.5 and saw the jets but thought being new to the hobby I was not seeing it right and hesitated to comment. Shortly after that I heard Judith remark about something strange with this comet, something about the jets. Wow, I was right; this was really cool to have noticed this and known what they were for a novice.

Comets over the past decade have been interesting but

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,

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For the month (Deadline)

May (April 20)

June (May 25)

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rather humdrum in comparison to Hyakutake and Hale-Bopp, until the southern apparition of McNaught (I called it McNot in one e-mail). It is unfortunate for us it blossomed so well after leaving the northern hemisphere. Thank goodness for digital photography and the Internet! I have attached a small image of my favourite shot, dated from what I have figured to be April 8, 1997.



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>

