Regulus

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

Coming up…

RASC-KC Meetings

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

Regular Meetings:
Friday March 9 7:30-10:00pm
Friday April 13 7:30-10:00pm
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 March 10
Saturday April 14
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:

Home Observatory
President's Tidbits
A Major Milestone
Observatory Committee Report
Astronomy Day, 21 April 2007
The Farthest Naked-Eye Star
Target for Tonight
Time-signal Station CHU
Observing LPV Stars
A Star by Any Other Name
Future Practice of Astronomy
New Equipment Loan Items
An 8X8 Backyard Observatory
Arp Atlas of Peculiar Galaxies
Neil Armstrong Biography
Cosmic & Events Calendar
Newt

Kingston Centre of the Royal Astronomical Society of Canada
Box 1793 Kingston Ontario K7L 5J6
http://www.rasc.ca/kingston
Infoline:613-377-6029
Email:kingston (at) rasc (dot). ca

Yardlight Bait Observatory has a proper poured pad, and I can easily stand inside due to a new truss style that I made. I did the whole thing from scratch as I saw it in my head just as my first one was, but this is more robust and more useful. As each problem arose I'd figure a novel way thru it as I fell asleep at night...great fun. The whole project including the pad was approx. $1,600 Cdn with me doing all the work. I picked up the roofing metal free, so I'm estimating $200 cost on the steel. Steel's shot way up in price the last few years.

Took me about a month, but I could have pulled it off in 3-4 days if I could work steady. I simply built this observatory with basically dozens of one-hour blitzes before it got too dark and too buggy. I used solid 20' sections of 1/8" angle iron...great fun to try to haul 20' sections of anything. I purchased six steel V-groove wheels locally at under $20 apiece. They have tapered roller bearings and run on the angle iron, as you can see.

The whole operation of the roof works like a charm with one arm. The walls come in at about 5' tall but this is proving to be a bit high for a Dob with its primary mirror so low to the walls, so I'm starting to think of a pedestal base GEM like I put in my first observatory, with maybe a Schmidt, although I'm a Newtonian man through and through.

I went to the triple top plate for necessity; as I stated before, I conquered the issues as they arose. Normally you'd use a double top plate but as I built, I realized that the way things were going I'd have to make a third plate to match up the roof outrigger support section. Makes the whole thing strong. This is one tough little building. The roof comes in at an estimated 600 lbs.

I have 8 turnbuckles holding it down. I've not bothered thus far to enclose the soffits. The snow is staying out extremely well and I do like the excellent ventilation from the lack of soffits but we'll see how the birds this spring like the building. I might have to put in soffits. I've also built a Newt Dob and optics from scratch: I ground, figured and polished a 7" Pyrex portal window of a blast furnace to an error of no greater than 1/4 wavelength of yellow light.

My outrigger support gussets provide excellent access for mice to get up to the top plate of the wall which provides them easy access. It is basically impossible to fully seal where the wheeled track section rolls off.

My counterbalance system, visible above, consists of an old horseshoe and an adjustable wrench to compensate for a heavy solar filter I had on the scope. I used my boots once for counter weights here when we were watching Venus transit the Sun. — Dave Pianosi

President's Tidbits by Kim Hay

As we head into March, thinking of spring and soon to be summer, there are lots of things happening on the Centre front.

The Kingston Centre has become officially a Charitable Organization this month. It has been lots of hard work, and most seemed to rest on the Treasurer's shoulders (Thank You Kevin), but all is well. Read further on in Regulus to find out more, and what it means to you the member and the Centre.

Our Observatory Committee has come up with a recommendation to the Executive, and it is an ambitious project, but it is one of our goals and we can do it. We have lots of tasks ahead of us, and if you can contribute in anyway, it will be appreciated and something we can all feel proud of. Read on there is more in Regulus on this subject.

In our newsletter this month, you will find a business card with the Centre's Member's Area password, and the National Members Area password. Keep it handy, as this is your ticket to get into the Member's area, where all the action is on the newly designed Kingston Centre web site.

Remember too, if you have changed your email or address, make sure you notify the National Office, so all our information will be up to date. This is very important because we, as a Centre, receive your membership information to use internally only. However, we have been asked by several members for other members info so that they could contact other Kingston Centre members.

What the Executive has proposed is updating our Privacy Policy located online, and a condensed version of the membership list be placed in the Members only section, containing your name, email address (if available) and phone number. The Member's Only password will need to be used to access this information. If you do not wish your information to be accessible to any other member, please notify us at kingston at rasc dot ca. Your wishes will be complied with, without any question. The information is for Centre use only, it is not sold nor distributed to anyone else.

Also as part of keeping in touch with our members, we will be listing some of the important Executive Motions from our Executive Meetings. If you have any questions you can always contact the Executive at kingston at rasc dot ca

October 22, 2006 we held an Executive meeting at Richardson Labs, Stuart Street, Queen's University, with the following important motions:

Strategic Plan

A plan was first given to the Executive in November 2005, with the main discussion to take place at the February 19, 2006 meeting. The Executive was to review, and bring forth changes or additions. Since that time, it has been modified and updated, and is being presented as is, for acceptance to pursue a Strategic Plan for this Centre for years to come. It will also be a work in progress and should be reviewed and changed every year, to change with the dynamics of the Centre. - Kim Hay

Motion 060402 Moved: Kim Hay; Seconded: Doug Angle

Accept the Strategic Plan as presented, with the proviso that it is a work in progress and should be reviewed and changed every year to reflect changes with the dynamics of the Centre.

Motion carried.

Presentation of New Members - Steve Hart

Motion 060403 Moved: Steve Hart; Seconded: Kevin Kell

Accept the following New Members: Andrew Hill, Rene Testa, Randy Heyman, Cindy Abeles, Neil Ainsworth, Susan Ainsworth, Sharon Blackwell, Annetta Simpson, Jane Thelwell, Berta Beltran, John Curley, Virginia Freeman , Kathleen Makepeace, Hugh Makepeace, Gwen Prentice, Jim Hesslop.

Motion carried.

Auditor for the RASC-Kingston Centre for the 2005-2006 books

Motion 060405 Moved: Kevin Kell; Seconded: Dave Maguire

Accept Susan Gagnon as Auditor.

Motion carried.

6) Presentation of Budget for 2006-2007 - Kevin Kell

Motion 060406 Moved: Kevin Kell; Seconded: Arlyne Gillespie

Accept Budget for 2006-2007 as presented by Kevin Kell.

Motion carried.

Next Executive Meeting February 25, 2007 at Richardson Labs, Stuart Street, Queen's University. The important motions will be included in our next paper copy of the Regulus.

A MAJOR MILESTONE by Kevin Kell

The Royal Astronomical Society of Canada - Kingston Centre. Formed in 1961. Incorporated provincially as "not-for-profit" in 2005. Granted federal charitable status in 2007.

It's been a very long road of research, bylaw revision, government paperwork, and a lot of waiting. But we have finally reached a major milestone point in long range goals for the Centre.

Practically speaking, most members making donations to the Centre will see no difference. If you renew through the National RASC system, donations you choose to make will still be run through their process and they will forward any amounts targeted to the Centre.

If you donate directly to the Centre, as many of you do, say by dropping off $20, the background process will change a little. In the past we would forward the local donation to National RASC so it would be in their records, they would then forward it back to us and send a tax receipt to you directly. Now we skip all that mailing and forwarding of cheques, and issue a receipt directly to you from the Centre

We are also now in a position to run fund-raisers a little easier, and to apply for grants without having to involve the National organization as much.

The Strategic Plan now calls on the Board and Executive to further enhance benefits to our members, by providing a permanent observing facility. This will also serve as a social centre to pull members together, give people more excuses to enjoy the hobby, provide a base for more observing programs, a home for the 60 cm Venor telescope, a home to our Centre Library and give us a rallying point for our Educational and Charitable activities.

If you have any thoughts, comments, ideas, or plans about The RASC-KC Observing Facility, Please email them to us at kingston (at) rasc (dot) ca

The Observatory Committee Report and You
By Kevin Kell 2007 February 22

The Centre struck an Observatory Committee last fall in anticipation that our last regulatory hurdle would soon be overcome. In our quest to provide the RASC-KC with an Observatory facility, we became incorporated as a not-for-profit and then applied to become a federal charitable organization. We completed 120 pages of application and sent it off in September 2006. This month (February) we were notified that we were successful in our application.

Coincidentally, the Observatory Committee has prepared its report for presentation to the Board of Directors meeting on February 25th. Briefly, it says what the Centre wants and needs in a facility, and the process and time frame needed to get it.

Early in March the report should be available for you to examine. Also in early March there will be a two- to three-page summary you can pick up at a meeting or print off, in order to help us with the next stage, the site itself. There will be details as to what we want to put on the site, the minimum size for the site and guidelines for its actual location. Everything we hope, that a potential donor or leaser would want to know.

We will be asking you, members of the RASC-Kingston Centre, to use your contacts for anyone who owns land, that might be willing to lease a small portion of it to us, or be willing to donate it outright in return for a tax receipt. We will be looking at private individuals, companies, conservation areas, parks, you name it.

With a little luck we could have an operational facility by the end of this summer, or more realistically, by the end of 2007.

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, winter hours: 7:30 to 9:30)

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 at kos dot net

Try For The Farthest Star You Can See Naked-Eye

by Leo Enright

In the latest issue of Sky and Telescope (March 2007, page 92), former Kingston Centre (currently Belleville Centre) member, Bill Broderick, asks the very interesting question: "What is the farthest star one can see without optical aid?" Sky and Telescope's Senior Editor Roger Sinnott answers Bill's question by saying that some faint 6th magnitude stars are the most remote. They are very luminous supergiant stars that happen to be seen because they are a bit more luminous than other supergiants that would just not reach the brightness level to be seen naked-eye, though they might be seen with binoculars. Historically, there have also been a couple of naked-eye novae or supernovae that were extremely remote, even beyond our galaxy. In summary, here is the list:

6th place: the nova of AD 185, seen naked-eye by Chinese astronomers in the daytime, was about 10,000 light-years away.

5th place: the star HR 4841, in Musca at mag. 6.2, is about 17,000 light-years away. [This one is too far south to be seen from Canada.]

4th place: the star 10 Pup, in Puppis at mag. 5.7, is about 19,000 light-years away.

3rd place: the star HR 8412, in Pegasus at mag. 6.4, is about 23,000 light-years away.

2nd place: RASC-member Ian Shelton's discovery of Supernova 1987A in the LMC (Large Magellanic Cloud), which was widely seen naked-eye in the Southern Hemisphere for an extended period of time, was about 160,000 light-years away.

1st place: S Andromedae, the star in Andromeda that was seen naked-eye as a supernova in August 1885, that is, over 120 years ago, was about 2,400,000 light-years away.

The star HR 8412 is marked on the star chart on page 92 of Sky and Telescope, March 2007.

The star 10 Pup is marked on any good star atlas.

Serious observers should definitely try to see these two stars naked-eye. A clear, moonless night with excellent transparency and a very dark site will be required. A definite observation of both of these stars will be a significant achievement. Record carefully the times and circumstances of your observations; report them at a Centre meeting; and please let me know about them at tcorbor at frontenac dot net.

Target for Tonight

by Susan Gagnon

Camelopardalis
ETU: Kemble's Cascade
Messier: none
Finest NGC: 2403, 2655.
Levy List: none

Gemini Observing List
ETU: Constellation and bright stars Castor and Pollux, M35 (NGC 2168), variable Zeta 43 Geminorum.
Messier: M35
Finest NGC: 2371,2372, 2392.
Levy List: 35 (NGC 2420), 116 (NGC 2158), 158 (IC2194/6/7).

Lynx
ETU: none
Messier: none
Finest NGC:2683
Levy List: 195 (NGC 2419)

Puppis
ETU: M47
Messier: M46,M47,M93.
Finest NGC: 2440, 2539.
Levy List: 256 (IC 367), 384 (no other source).

Sextans
ETU: none
Messier: none
Finest NGC: 3115
Levy List: 37 (NGC 3055), 129 (U5373)

For those who are interested- CHU was going to discontinue use of this frequency. --Kim Hay

------- Forwarded message follows -------
Subject: [IOTAoccultations] A Reprieve for CHU

Canada's time-signal station, CHU, is now making the following brief announcement during even-numbered minutes: "CHU has been licensed to continue broadcasting on 7.335 MHz." (The same message is heard in French during odd-numbered minutes.)
To those who made known your concerns to the National Research Council regarding the possible loss of this valuable transmission -- on a frequency best heard at night, when astronomers dabble in their "occult phenomena" -- the effort appears to have succeeded.
------- End of forwarded message -------

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

Introduction

There has been some discussion on the AAVSO list recently about the need for continuing visual observations of Long Period Variables (LPV's), and it is worth reviewing here just in case anyone has come to the conclusion that visual observing of variable stars is no longer needed. Happily, that day is still in the future, so why not pick a few bright LPV's and watch them from your backyard in the city? Observing them every 7-10 days is all it takes to keep tabs on them. How to choose stars for your own personal observing program is discussed and Y Persei is shown as an example.

Background

Long Period Variable stars, many of which are Mira-type stars, vary in brightness in a cycle that lasts 200 or more days. They are, for the most part, what I like to refer to as "soap opera" stars: even if you have an extended period of cloudiness at your observing site, you can still tune in and figure out most of what must have happened in the meantime. This is in contrast to Cataclysmic variables whose outbursts can be entirely missed due to a few nights of cloud, easily leading you to the conclusion that they never do anything if your site suffers from even moderate amounts of cloudiness.

This is not to say that LPV's are totally regular in their variation, otherwise there would not be a need of continuing observations. There can be significant variations in behaviour from cycle to cycle, and perhaps even over decades-long time scales. Unlike the quick outbursts of the cataclymics, or the short periods of eclipsing stars, monitoring LPV's requires a long-term outlook and more patience on the part of the observer. It is their large amplitudes (several magnitudes) and long periods that make LPV's particularly well-suited to visual observing, be it with the naked eye, binoculars, or a telescope. I find their relatively long, leisurely cycles to be a relaxing contrast to the hectic pace of modern-day life here on Earth!

Next issue: AAVSO Expert Opinion Weighs In

A Star By Any Other Name... by Walter MacDonald

Did you know that there are some variable stars that aren't? Variable, that is, or even stars, as it turns out! What has apparently happened on a number of occasions in the past is that an asteroid has wandered into a field and been photographed in a spot where nothing had been recorded on previous nights. Later, when the field was re-photographed, the asteroid had moved on. So from the photographs it appeared that a star had exploded into visibility, then faded back into obscurity, once again too faint to be recorded.

Not only was the real nature of these interlopers not realized at the time of observation, but they went on to receive names as variable stars! Here is a list of such objects, as taken from a posting to the AAVSO photometry group in January 2005:

TU Leo = (8) Flora
HW Tau = (49) Pales
CV Aqr = (52) Europa
KN Gem = (123) Brunhild
V1548 Oph = (336) Lacadiera
NSV 1982 = (451) Patientia
V421 Tau = (586) Thekla
GT Com = (679) Pax

The moral of the story: things aren't always as they seem! Fortunately, in an age of powerful computers, it's easier than ever to uncover the truth about these objects. At least we are left with some interesting trivia for a cloudy night!

The Future Practice of Astronomy, by Walter MacDonald

From time to time over the last few years (particularly around renewal time) I've thought about how "useful" astronomy clubs are to their members. This topic has come up from time-to-time in the past at meetings, in newsletters, and in conversation with other members. Life seems to be much more demanding these days and many people seem to be devoting less time to hobbies. Then too there is the trend towards decreasing scientific literacy (and interest in science) among the general population. As well, the Internet has certainly changed the landscape with its globe-girdling online communities (through email, email lists, chat rooms, etc.), not to mention all the information and software that is now just a click away. Which leads one to ask some questions: Do websites make newsletters obsolete? More importantly, does the Internet make astronomy clubs obsolete? I don't think that they do, and so I am still a member! Presumably you do too, if you are still a member! Coming up with answers to questions like these requires some contemplation, and I thought it would be useful to write down a few of my own thoughts on this subject to share with the Centre membership.

Newsletters

Besides distributing information in a timely fashion (their traditional role), newsletters act as the institutional memory of the club -- a snapshot of the club at a moment in time: its structure (executive, coordinators, and committees), activities (meetings, observing and education events), news of the day, as well as the interests and doings of its members. While websites are quite useful and contain all of this information at one time or another, the "snapshot" element is missing: websites do change over time as new information is added and old information may be moved, changed, erased, or even lost. Can you remember what a particular website was like 2 years ago? 5 years ago? 10 years ago? How much of the older information is no longer there? And, of course, websites may even disappear completely if they are not maintained. Although various caches may exist on the Internet, there are no guarantees for the long-term survival of the information. It's more difficult (though certainly not impossible!) to lose all the paper copies of a newsletter since they have been distributed to all who were members at the time. The only other sources of institutional memory are those of a handful of long-time members (even then it does not currently extend back to the earliest years of our centre) as well as any reports or newsletters which may be held at the Society's national office in Toronto. (Increasingly, newsletters are going electronic -- with HTML or PDF formats -- so this may blur the distinction between website and newsletter a little more. Still, people are much more likely to download, or even print a newsletter than a website so I think that the survivability argument in favour of newsletters is still valid.) So, for these reasons, I think that newsletters still serve a useful role (memory, nostalgia even!) -- One which becomes ever more valuable and important as time passes.

Next issue: The Utility of Astronomy Clubs

New Items for the RASC-KC Equipment Loan Program 20061227

The Sky Quality Meter (SQM) was mentioned in the 2006 October Regulus issue. A few members inquired about getting one for the Loan Program, and since it seemed like a piece of equipment that few people would buy but would want to use, the Centre got one.

SQM is used to measure night sky. It can be used to quantify night sky quality at various sites in the area. It also can measure one site over long periods of time (months, years) to see pollution change.

A logbook is included with SQM; we ask you to please log in the book any readings you do take, as a centralized data record for other projects that the Responsible Lighting Committee is looking at.

SQM (version 1.16; serial #949) comes with pen, instructions, and logbook, all in a padded cloth bag.

As always, check the RASC-KC loan page for more information and details about what equipment is available. http://130.15.144.99/rasc/loan/

To sign out equipment, contact Kevin Kell by email (kevin at starlightcascade dot ca) or by phone (613-377-6028) and we can make arrangements for the up to one month loan. If you can't make it out to Yarker evenings or weekends, I can also bring items in to the RASC-KC monthly meeting (2nd Friday of the month) or to a KAON session (2nd Saturday of the month).

MEADE DSI

Thanks to Brockville member Kevin Fetter, satellite voyeur extraordinaire, for donating a Meade Deep Sky Imager CCD camera to the Loan Program.

The Meade DSI is one step above Meade Lunar Planetary Imager (LPI) CCD Camera that the centre picked up with the LX 200 GPS scope 3 years ago.

Specs: It has a 510x492 pixel (250,000 pixels) high sensitivity Sony Super HAD ColorCCD Sensor; 9.6 micron x 7.5 micron pixel size; 16 bit A/D; 48 bit colour; USB 2.0 (USB 1.1 works slower); min-max exposure times 1/10000 second to 1 hour.

The box comes with instructions, a CD ROM with software (Autostar Suite for DSI v1.0), the CCD camera itself, and a standard 2m USB cable. It also comes with a serial port (DB9 to RJ11) adapter and an RJ11 cable for use with smart telescopes for auto-guiding.

Camera has a 1.25" mount for telescope focusers and as seen in the picture, comes with a fairly substantial heat sink built in the housing. More info can be found at http://www.meade.com/dsi/ SRP $350 US.

I've not tried the DSI autostar suite software yet; I hope it is better than the LPI autostar suite software.

MEADE LPI

The Meade LPI is a C MOS Camera that the centre picked up with the LX 200 GPS telescope some 3 years ago. C MOS is not as low light sensitive as CCD and this camera is really only good for really bright objects such as lunar and planetary objects.

First for those with tech addictions, the specs: This has a 640x480 pixel colour C MOS; USB 1.1; min-max exposure times 1/1000 second to 15 seconds.

The box comes with a CD ROM with software (Autostar Suite for LPI v 1.08), the CCD camera itself, and a standard 2m USB cable. It also comes with a serial port (DB9 to RJ11) adapter and an RJ11 cable for use with smart telescopes for autoguiding. An instruction manual is on CD ROM in PDF format

The camera has a 1.25" mount for telescope focusers and as seen by the picture, is fairly tiny. More info is at http://www.meade.com/lpi/ SRP $150 US.

The biggest drawback of the Meade LPI is the autostar suite software user interface. It's among the worst I've ever seen. Very confusing and non-intuitive. For more info see RASC-KC Loan Page at http://130.15.144.99/rasc/loan/

SGO, An 8x8 Backyard Observatory, by Susan Gagnon

A permanent pier was never considered practical in our backyard. I was always moving my scope to see around a tree or to hide from a light source. In the spring of 2006 the removal of 3 trees presented an opportunity to design an "organic" permanent pier for my small scope. I also enjoyed dramatic increase in sky access! Once the idea of the new maple pier was set in my mind it did not take long to commit to a small shelter. I only wanted something to protect me from the wind and local light. A centre talk by Roger Hill several years ago and the Sky and Telescope 'Dog House Observatory" article before that, made it clear that a suitable shelter need not be a large or overly sophisticated structure. 8x8 seemed a good size. Many building materials can be purchased in these dimensions and I could minimize waste. In this article I will focus on design or procedural points that may be instructive to those contemplating building. Before spending any money I arranged observatory tours with several fellow RASCals to explore size and design possibilities. I discovered that the structures were as unique as their owners. This was proof that there were no rules!

I set out the perimeter with string around the tree stump/pier to be sure that it would be big enough but not too large for our yard. I chose to build on 8 (2x2) patio stones with deck blocks placed on top. Thus the support structure is based on a floating deck design and only time will tell how stable this will be. I was not comfortable with putting a concrete slab in the yard. Jacking and shimming are options with this design.

Pressure treated wood was used for the 4x4s that were inserted into the deck blocks and for 2x8s used as floor joists. The floor joists and plywood were installed so that an area around the stump can be removed and the stump ground out should it become unstable. All plywood was ¼ inch thick to limit weight during construction. In the case of the floor, a double layer was put down and the underside was given a generous coat of stain. Walls were stabilized with 1x2 strapping on the outside.

Poor weather slowed construction at times but because the rafters were small they could be constructed in the garage and wait there for better weather. During weeks of heavy rain the structure was wrapped in a large plastic tarp.

Cheaper steel could have been used for the roof, but I would have had to paint it myself. I thought that pre-painted may resist flaking longer. The roof has 4 wheels per side and the total load bearing capacity is 1600 lbs. I believe this is beyond what is required. The wheel tracks are formed from a base of 2x6s with 2x2 strips fastened on their inner sides to keep it all in line. It makes for a wide track. There is some hunting during movement and I discovered that the wheels could bind on the 2x2s. A strip of molding was installed to keep the wheels out from the 2x2s. The wheels are protected from the elements by 1x5s that are attached to the roof. The walls are approximately 59"high. The wheeled structure on which the rafters sit have added another 9 ½ inches. In the end the roof seems to work well and with a little lubrication of the wheels it is nothing for me to roll it by hand.

I opted not to complicate the initial construction with permanent wiring. It is easy to run an extension cord from the garage. No shelves etc. have been installed inside. I will decide where to put things in springtime. There is no front step. Work on the pier continues this winter. Space is sufficient for the scope to remain on the tripod. $1876 is a fair accounting of the cost. This includes $100 delivery fees. (What I was able to pick out and take home in my Honda was much straighter than the batches ordered and delivered). There is wood left for other projects but there will be a few expenses when summer arrives.

There is no exotic design break-through. The building is quite plain but it seems very sturdy and so far, snow-tight. I have much better observing sessions and that is what it is all about. Thank you to all my friends who helped me to get started with tours and advice. Thank you to my husband David, who respected my desire to do much of it on my own but stepped in to help when weather forced me to speed up or when two hands were not enough.

The U.N. will mark Equinoctial Earth Day on March 20, 2007, the vernal equinox, by ringing the Japanese Peace Bell at 8:07 PM, the moment that spring begins.

Kanipe, J. & Webb, D. "The Arp Atlas of Peculiar Galaxies. A Chronicle and Observer's Guide" published by Willmann-Bell, 2007 (US $39.95)
Book review by Jan Wisniewski, Rockville, MD
jwisn@verizon.net

It seems that great books come out suddenly, at the moments when we may least expect them. I recently read a few so-called observer's guides from Springer but was quite disappointed (I may write about this in the next issue). Then, I noticed an announcement that Willman-Bell was accepting pre-publication orders for "The Arp Atlas of Peculiar Galaxies. A Chronicle and Observer's Guide" written by Jeff Kanipe and Dennis Webb. Hoping for an observing guide which may inspire and challenge observations with my 20 inch scope, I rushed the order in. My copy arrived on Feb.8, 2007, and after quickly paging through it, I knew immediately this one was a keeper. So, after an overnight read, I have decided to share my impressions with you.

Like other productions by Willman-Bell, this is a high quality, large (8"x11") hardcover book. At US $39.95 it is more a labour of love than a money maker. It contains 385 pages filled with hundreds of images, including almost 700 images of galaxies (about half of them contributed by amateurs), nearly 400 computer generated drawings and 26 full page finder charts, plus an index map at the back of the book.

The Atlas consists of two main themes, though. The first concerns a history of galactic studies, including Halton Arp's early contributions as well as his later bizarre ideas concerning alternative explanations of redshift. It is full of interesting details about scientific

intrigue, and while many readers may find that interesting, those eager to get started with observing will not miss anything by skipping "The Peculiar Universe of Halton Arp" chapter (43 pages). The second stream presents peculiar galaxies and prepares the reader for observational challenge. Obviously, that is the area I was mainly interested in and it occupies 310 pages of this beautiful book.

On a page-by-page basis, the authors start with a preface about historical schemes of galaxy classification and problems presented by a few oddball galaxies, which tended to be ignored until publication of the original "Atlas of Peculiar Galaxies" by Halton Arp in 1966. The next chapter highlights more recent developments which allowed the understanding of the genesis of those peculiarities and the dynamics of galactic mergers. That prelude is followed by a reprint of Arp's original "Atlas of Peculiar Galaxies" presenting his selection of 338 cosmic oddballs. The original atlas is easily available on the internet (http://nedwww.ipac.caltech.edu/level5/Arp/frames.html), but its inclusion in this book enhances its value as an observer's reference.

Next section, The Peculiar Universe of Halton Arp, is biographical in nature and deals with the life and work of Halton Arp. It eventually focuses on his belief in alternative explanations of redshift. This part may be safely skipped by readers not inclined to venture into a dead end of scientific thought (however, that's just my opinion).

Following that relatively short "interruption", the authors return toward observational astronomy. At this point I have to applaud them for their assumptions that a reader/observer interested in this book has already significant knowledge about observing techniques, etc. (there is nothing worse than reading about celestial coordinate systems or the different scope mounts over and over again). There is no discussion of the reflector versus refractor here either – but in this case there is an even more obvious explanation. To appreciate Arp's weird galaxies you need as much aperture as you can get. Size matters in this case, period!

Therefore, this introduction to the observing guide (two chapters consisting of 20 pages total) deals with the distribution of Arp's galaxies on the celestial sphere and explains the way they are grouped on large scale finder charts. Intricacies and problems of naming individual objects are also clarified. Most importantly, the authors discuss criteria they used to present additional images of Arp galaxies, preparation and intended use of schematic drawings and the challenges facing advanced visual and CCD observers. You should not skip that part in a rush to start observing — it will save you a lot of frustration at the telescope. Main reason for this: important features of many of Arp's galaxies will challenge even the most experienced observers using the largest available light buckets. They may constitute the ultimate "faint-fuzzy" observing program!

The 337-page chapter "Observing Guide for The Atlas of Peculiar Galaxies" constitutes the core of this book. For me this is the most important part of this work and the only reason to add it to my bookshelf. This part is organized in an observer-oriented manner. Arp objects are grouped by the broader area of celestial sphere (e.g. Western Camelopardalis, Orion-Eridanus etc.), each with its own wide-field finder chart and short index of objects. Then, for each region, individual objects are presented in amateur-contributed CCD images together with a schematic drawing highlighting particular peculiarities originally noticed by Arp on images taken with large professional telescopes (see reprint of his Atlas). Notes taken during visual observation by various amateurs (using 20" to 25" instruments) are included, as well as Arp's additional notes and clarifications concerning identity of individual galaxies. This material, consistently presented for each of 338 Arp galaxies is invaluable and will tremendously help during preparation for the observing run with a big scope or a CCD imaging session.

The book closes with information on amateur astronomers who contributed observations and images (with pictures), references, tables which sort Arp objects in a variety of ways, index and finally a two-page finder chart presenting location of individual finder charts on the sky.

In my opinion, Willman-Bell just published an extremely valuable addition to the library of a serious observing nut! "The Arp Atlas of Peculiar Galaxies. A Chronicle and Observer's Guide" constitutes an excellent resource for advanced visual observers with larger instruments or a dedicated CCDer with modest equipment. This is a book in its own league, leaving Springer and similar publishers biting the dust… It will be especially useful in a Club library, as members surely would be inspired to point, for example, a 24" Venor Scope at some of those "faint fuzzies" and see with their own eyes this cosmic "freak show" presented so well by Jeff Kanipe and Dennis Webb.

RASC-KC Board of Directors

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

2007 Committee Chairs

Astronomy Day: Susan Gagnon
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)**
April	(March 30)
May	(April 20)

Book review by Kevin Kell of "**First Man - The Life of Neil A. Armstrong - the Authorized Biography**" by James R. Hansen

A year back, I heard Neil Armstrong finally had authorized a biography of his life. A month ago I found that book at Chapters in Kingston in the deep discount bill. I immediately dived into the bin and pulled out the hardcover book and ran to the cash. Bonus that I found it! Bummer that it had been regulated to the clearance bins in only a year!

I've been a cheering section for manned space exploration all of my life. I can't quite remember Neil "One Giant Step"ping for Man, but from a farm in the middle of Saskatchewan at 4 AM, I do remember watching Alan going for a long distance golf record with Apollo 14. As a result, this book went right to the top of my preferred reading pile (ref: my earlier review in Regulus about the "preferred reading pile").

My first note: This book is very long, sometimes technical, but always interesting, and is the book that now holds my title of: "The longest time to read of any book I have read in the last 20 years", easy.

There are 648 pages of reading, plus 70 pages of notes and references, plus 20 more in bibliography, plus a much welcomed 30 page index. Phew. Yet it was enjoyable throughout, and answered every question I ever had about Neil and his life.

On one hand, a thoroughly worthwhile 50 hours of my time, or so, of historical space exploration at its culmination. On the 2nd hand, don't underestimate the commitment to slog through it; you need to keep at it until finished. On the Gripping Hand, it is a must read for anyone even remotely interested in the human side of space and its exploration.

It runs strictly chronologically from Neil's boyhood days, through college and the Navy, the Vietnam War, NASA, the Gemini program and finally into the Apollo program. The insights into his personality and character answered all of my questions about "What happened to Neil after Apollo 11?" I've never met Neil, but I did get the chance to meet and speak to Buzz Aldrin, the 2nd Man on the Moon, at a National Space Society Conference in Toronto in 1994. Buzz has been in the space development and promotion business ever since, but we haven't heard from Neil, Numero Uno, and that always made me wonder.

Overall: very much Recommended!

Kevin Kell at Starlight Cascade Observatory and Gardens outside Yarker, Ontario, Canada

***Kingston Cosmic & Events Calendar* March & April 2007** by Kim Hay

Date & Time Events

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://130.15.144.99/rasc/Observing/kaon.php
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 National Council Meeting 10:00 am-5:00pm Missisauga, Ontario More info www.rasc.ca
March 10 Saturday KAON Observing Session- Ellis Hall Queen's Observatory 7:30-9:30 p.m. For more information visit http://130.15.144.99/rasc/Observing/kaon.php
March 11 Sunday National Council Information Meeting on the Governance Model; Mississauga,Ont.
March 11 Sunday Daylight Saving Time begins 2:00 am
March 11 Sunday Last Quarter Moon 1.8° below Antares 3:00 am
March 18 Sunday New Moon 22:43
March 20 Tuesday Spring Equinox 8:07 pm -Earth Day see http://en.wikipedia.org/wiki/Earth_Day
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 Messier's in the Virgo Cluster, plus try for a Messier Marathon

April 2 Monday Full Moon 13:15 pm
April 10 Tuesday Last Quarter Moon 14:04 , Juno at opposition
April 11 Wednesday Venus 2.6° S of Pleiades visible soon after dark
April 13 Friday Regular Meeting Stirling Hall Theatre A 7:30 p.m. Speaker: TBA
April 14 Saturday KAON Observing Session- Ellis Hall Queen's Observatory **9:00-10:30 p.m. ** For more information visit http://130.15.144.99/rasc/Observing/kaon.php
April 16-21 (Monday-Saturday) International Astronomy Week
April 17 Tuesday New Moon 7:36
April 21 Saturday Astronomy Day at Isabel Turner Library 12:00 pm-5:00 pm. For more information http://130.15.144.99/rasc/Committees/AstronomyDay.php
April 22 Sunday Lyrid meteor peak 6:00 pm
April 24 Tuesday First Quarter Moon 2:36

Juno: designated 3 Juno in the Minor Planet Center catalogue system, was the third asteroid to be discovered and is one of the largest main belt asteroids, being the second heaviest of the stony S-type. It was discovered on September 1, 1804 by German astronomer Karl L. Harding and named after the mythological figure Juno, the highest Roman goddess. More information http://en.wikipedia.org/wiki/3_Juno

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/