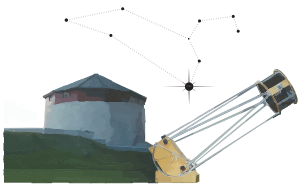
August 2011

Regulus

RASC Kingston Centre



Historic Landing for Shuttle Atlantis

At 5:57 a.m. EDT on July 21, 2011, space shuttle Atlantis landed for the final time at NASA's Kennedy Space Center after 200 orbits around Earth and a journey of 5,284,862 miles on the STS-135 mission and final flight for the Space Shuttle Program. Photo credit: NASA/Kim Shiflett; Caption: NASA.

Upcoming Meetings

Saturday, September 10, 2011

Regular Meeting	7:30 p.m.
KAON	9:00 p.m.

Saturday, October 8, 2011

KAON	7:30 p.m.

Meetings are held in Room 324 at Ellis Hall on University Avenue at Queen's University in Kingston, Ontario. Our meetings are co-sponsored by the Queen's Physics Department and are open to the public.

KAON (Kingston Astronomy Outreach Network) sessions are held at Queen's Observatory on the 4th floor of Ellis Hall. ★

In this issue:

- Reports & Other Items 1
- Blast from the Past / Contacts . . . 2
- Meeting Reports: March–July . . 3
- Observing Reports: March–July 4
- National Council Report 6
- S.C. Observatory Updates 7
- GLPs and Transport Canada. . . . 8
- RASC Council/AM Motions . . . 9
- RASC National Committees. . . 10

Reports & Other Items

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

Sat Man Strikes Again!

Kevin Fetter's March 24th video showing the USAF X37-B passing eta Serpentis was featured on spaceweather.com and wired.com. According to Kevin it was the first time he had seen the X37 due to weather and unfavourable geometry. His website was experiencing record traffic in the wake of his latest achievement!

Astronaut Visits Kingston

Phil Somers reports: We had an excellent visit by **Chris Hadfield** to RMC on Thursday, April 14. He spoke to the cadets and staff for over an hour with wonderful photos and stories about his flights and about his upcoming six months on ISS. Then he attended a presentation by our students in the Physics Department on their upcoming balloon flight and their cubesat project. I talked to him about VE3RMC and amateur radio on the ISS. His call sign is VA3OOG and says he will be operating all of his six months on the ISS. He flew in to Navy Bay beside RMC in a Beaver float plane and departed the same way.

The "Big One"—1991 July 11

Mark Kaye *recalls*: I remember that eclipse well, it was cloudy all day and it cleared for roughly the minute that bracketed the eclipse. Then it clouded over again and started to pour. Our coverage at The Observatory was less than one percent of the Sun and lasted for less than 30 seconds.

July 17 Fireball at Parham

A report was received by e-mail detailing the appearance of a fireball at 4:00 a.m. whose appearance was described as "a green flaming 'thing' in the sky with a red/black centre." It was trailing green flame and was lost sight of in the local tree line.

Other Items

Recurrent Nova **T Pyx** started an outburst in April, its first since December 1966...**SN2011dh** in M51 reached almost magnitude 12½ in June...The *Hubble Space Telescope* discovered a **4th moon of Pluto** on June 28th...*Dawn* arrived at **Vesta** on July 15th...**Neptune**'s "1st birthday" is celebrated this summer and fall...**Delta Scorpii** is ¾ magnitude brighter than "normal" at mag 1.6! ★

Blast from the Past: The Stars

Dr. Helen Sawyer Hogg

Astronomers Mark Their Beginnings

Two recent events underscore the developing interest in Canadian astronomy amongst professional scientists.

At its annual meeting at the Queen's University, the Canadian Astronomical Society for the first time devoted a session to papers on the history of Astronomy in Canada.

And in Ottawa on June 23 a plaque was unveiled in memory of **William Frederick King**, first director of the Dominion Observatory and Chief Astronomer.

The papers at Queen's included discussions of the beginnings of recorded astronomical interest in Toronto, with the establishment of the Magnetic Observatory in 1840 and the Canadian Institute in 1849.

Now called the Royal Canadian Institute, it continues to flourish as Canada's oldest scientific society.

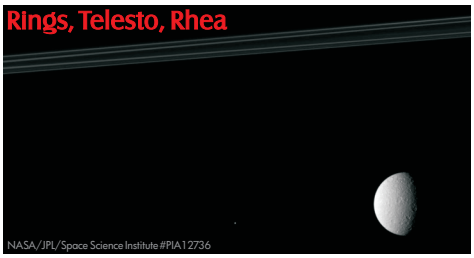
In commemoration of the opening of the David Dunlap Observatory 40 years ago, the director, **Donald A. MacRae** showed the film of the dedication. The donor, **Mrs. David Dunlap**, was seen making the formal presentation of the observatory to the University of Toronto in the presence of Prof. **C. A. Chant** of the University and other notables.

In recognition of King, an impressive ceremony on the grounds of the Dominion Observatory was arranged by **Kenneth Whitlam**, director general of the earth physics branch of Department of Energy, Mines and Resources.

The early interest in astronomy in Canada had a strong practical side, the determination of time, and of latitude and longitude. These were needed for boundary surveys, and later for the transcontinental railroad.

Cultural interest in Astronomy crept in early, however, sparked by meteors, meteorites, eclipses, the Leonid meteors in 1867 and 1868, and the Transits of Venus in 1874, and 1882.★

This column was originally published in the Toronto Daily Star *for Saturday, July 5, 1975 and is reprinted here with the permission of Dr. Hogg's family.*



RASC-KC Board of Directors

President:	Susan Gagnon
Vice President:	*vacant*
Secretary:	Steve Hart
Treasurer:	Kevin Kell
Librarian:	David Maguire
Editor:	Walter MacDonald
National Council Rep:	Brian Hunter

Committee Chairs/Coordinators

Equipment Loan:	Kevin Kell
KAON:	Susan Gagnon
Webmaster:	Walter MacDonald

Regulus Needs You!

Items of interest from members—full articles, or even just a couple of paragraphs are always welcome. Items are gratefully accepted on each and every day of the year! Send items to:

walter (dot) macdonald2
(at) gmail (dot) com

or:

Walter MacDonald
PO Box 142
Winchester ON K0C 2K0

The Fine Print:
Members of the Kingston Centre receive *Regulus* as a benefit of membership. Non-commercial **advertisements** are free to members of the Centre. Paid commercial advertising is also welcome and should be in electronic format.

RASC Kingston Centre
PO Box 1793
Kingston ON K7L 5J6

E-mail:
kingston@rasc.ca

Website:
kingston.rasc.ca

Meeting Reports: March–July

Kevin Kell

2011 March 11

The pre-meeting started with dinner at the pub at Queen's Inn on Brock Street (across from the post office) at 5 p.m. Another good burger and good drink.

The regular meeting of the RASC-KC started at 7:30 p.m. in Stirling Hall Theatre A. Susan started the meeting and went through the announcements and upcoming events.

While we set up for watching the *Meteorite Men*, Buzzard Coulee and Whitecourt episode, **Kim Hay** set up popcorn and chips as snacks. We went through the video and 40 minutes later had had a good laugh and learned a lot about the meteorites.

We stopped for a break while Hank Bartlett displayed and sold more of the last of the late **Norm Welbanks'** Astronomy equipment, perused the collection of personal meteorites brought in by members, including a Buzzard Coulee and Whitecourt, Alberta rocks.

The raffle draw was for two donated Astronomy books from the Starlight Cascade library. We broke up shortly after near 9 p.m., after a good bit of socializing.

About 15 people were in attendance.

2011 April 8

A few of us started with dinner at the Queen's Inn, The Sports Tap and Grill at 5 p.m. Mostly to beat the crowds, we're finding that service is so good that we have extra time after dinner before the meeting, so next time it will probably be a 5:30 p.m. start.

Over to Stirling Hall Theatre A for a 7:30 p.m. start. Our guest speaker had not yet arrived so **Susan** ran through the announcements (May meeting location TBA, watch the website for confirmation; June meeting on Wolfe Island for an observing session; no meetings in July or August; September will probably be in Ellis Hall but we can't make bookings until August; October on a later Saturday afternoon at the Kingston Public Library—a telescope showcase; November annual meeting and elections for President (Susan will not be running), Vice-President (still vacant) and Treasurer; and December (probably in Ellis Hall).

We were looking to move to Ellis Hall to a smaller venue that is more classroom like and more accessible (ramps and elevators) than Stirling Hall.

We then showed clips from the Holleford Crater video (see it at kingston.rasc.ca/Secure/video) and the Youtube video "Hotel Mauna Kea." Our guest speaker Larry Hum (RASC Belleville Centre) arrived and we put him on right away. He gave a 40-minute presentation on his trip with the Calgary Centre to the 2008 total solar eclipse in China, right up near the Mongolian border. It was very interesting as a travelogue, if nothing else.

After that Larry fielded a bunch of questions from the 19 people in attendance and we went to break. After the draws we adjourned for the evening at 9 p.m.

2011 May 13

Due to construction in Stirling Hall the May meeting was scheduled to take place at Loughborough Lake Holiday Park, 3060 Sydenham Rd. (8 km from 401 exit 613). This was to be an outdoor, observing-oriented meeting but had to be cancelled due to bad weather.

2011 June 10—Relay for Life

I was unable to confirm our participation and attendance with the **Relay for Life** organizers in Napanee in time to organize things at our end, so we had no choice but to pull the plug on our participation this year. We will hope for better next year.

2011 June 11

The meeting scheduled on Wolfe Island was cancelled due to circumstances beyond our control.

2011 July 9—KAON

It was a very good Saturday night open house/KAON session last night at the Queen's University Ellis Hall Observatory. **Dr. Martin Duncan** talked to a packed standing room only room in Ellis 324 (about 80 seats), which we missed as we were out on the observing deck getting set up. **Susan Gagnon**, **Brian Hunter** and **Kim [Hay]** & myself were there along with **Nathalie Ouellette**, **James Sylvester** and a few other grad students who dropped by.

The session opened at 21:00 EDT; the talk started 5 minutes later and ended about 21:30. We estimated approx 150 people came out that night to observe the Moon and Saturn before the clouds came in just after 22:00 and shut us down.

Saturn was a big draw in the Fitzgerald scope; at 50x it was very small, but people could make out the rings easily enough, even with some hazy cloud. Susan's scope and Queen's 8" LX-200 were also out on the deck. Sunset was just before 21:00 but the moon was a good 8-day-old target until we could pull Saturn out of the bright sky.

We had to bring out chairs and rope off sections of the deck that were being used as a staging area for the contractors working on the roof and wall. They left a lot of dangerous stuff lying around out there.

The Fitzgerald telescope came home with me for the maintenance work: time for some cleaning, painting, adjusting of bearings, etc. to keep it working well. It should be done and brought back at the August KAON event. ★

Observing Reports: March–July

Various Members

Mon/Tue, March 7/8

Kevin Kell: A reminder that the space shuttle is due to undock with the ISS Monday morning around 7 a.m. and that YES! the weather is clearing for tonights pass! Anyone/everyone with a camera (or two or three), let's get some good double spacecraft imagery...this will be your 3rd last chance ever. ☺

Paul Winkler: Thanks a milllion Kevin! That was the best pass EVER! And all the ISS pass sites were jammed when I tried to access them, so anyone who waited to check was out of luck!

Walter MacDonald: I noticed that as I had the prediction up already, but couldn't get a star chart (not that I really needed one, but anyways...).

A fantastic pass! They were both bright and only about 5° separated them. The brighter object was the one trailing, so the shuttle must have been in the lead. To top it off it was at a quite convenient time (just after supper) and Jupiter and the crescent moon (with Earthshine) added to the lovely view!

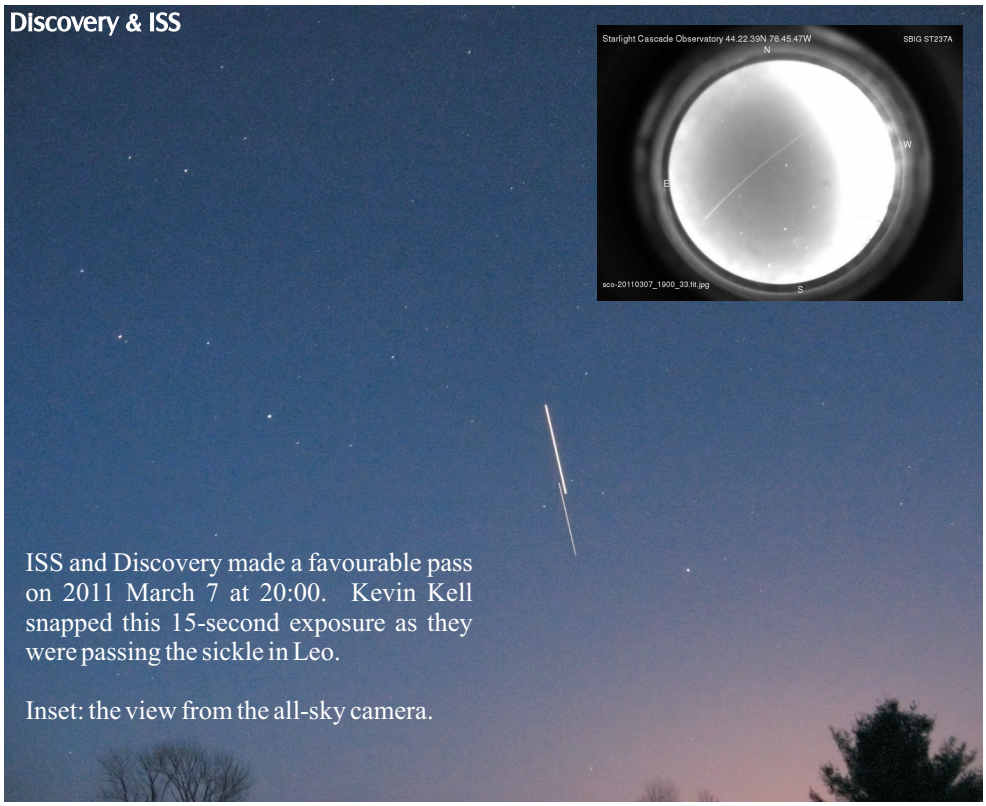
I hope a few people got some shots for *Regulus*!

Kim Hay: But did anyone see Mercury? It was 4° in the west below Jupiter. It was an awesome sight, and it was a bittersweet moment to wave goodbye to *Discovery*.

Kevin Fetter: The shuttle passed by Capella roughly 14 seconds before the ISS. I went outside to observe the pass with the eye, while my video system did its work. It was nice to see *Discovery* for the last time, before it's retired from service.

Hank Bartlett: Great pass! We were in Camden East, a lot of lights. Unfortunately I am out of practice and forgot to manual focus the SLR, fuzzy images, dang. Still can't get into heavens-above, weird.

Kevin K: We went out early early, maybe 30-40 minutes early, to get acclimated and to make sure we didn't forget about it! In the meantime we were treated to scary sounds from our backyard where the ice from the creek and flooding was making breaking/cracking noises.



ISS and Discovery made a favourable pass on 2011 March 7 at 20:00. Kevin Kell snapped this 15-second exposure as they were passing the sickle in Leo.

Inset: the view from the all-sky camera.

Tue/Wed, March 8/9

Kevin K: Another pass tonight, not nearly so good as yesterday's, but 31° is halfway decent. It will be close to the crescent moon! Also goes by Orion.

Walter: I just had a nice view of the Discovery & ISS flying by in the western sky about 45° apart, both fading out in lower Canis Major.

Nice moon and Earthshine again tonight, and no wind! A very pleasant night tonight.

Hank: I totally forgot while screwing hinges on cupboard doors. As a side note there were some awesome fireworks going on with SS1165 today but the air was so turbulent that imaging was a waste of time. Yesterday I was imaging 1165 (no prominences), moved to 1164 for five minutes and then back, sure enough there was an eruption and I missed it! DANG!

Mon/Tue, March 14/15

Hank *imaged Jupiter and Mercury.*

Fri-Sun, March 25-28

Kevin F: I was off on the weekend, and it was clear all 3 nights, something I haven't seen in awhile. So I got in some good sat observing, mainly observing flashing geo sats.

One that was flashing brighly for awhile is called *Vortex 3*. It gave a flash every 137 seconds, and the flash was easily mag 5 or brighter. I also made observations of military sats, so that their orbits could be updated. US mil sats are nice bright sats and it's nice to know when they will pass by. On Friday, I got a look at the US military space plane called X-37B.

I look forward to the warm temperatures so I can set up the rest of my stuff outside and sat observe. My neighbour next door comes over, and watches sat passes; he enjoys it.

Sat/Sun, March 26/27

Kevin K: Earth Hour 2011 ran from 20:30 to 21:30 EDT Saturday night and we participated by turning off all lights and a lot of other electrical equipment around the house. We spent the time outside in the –5 to –10C temperatures, observing the stars and imaging the Kingston light pollution dome.

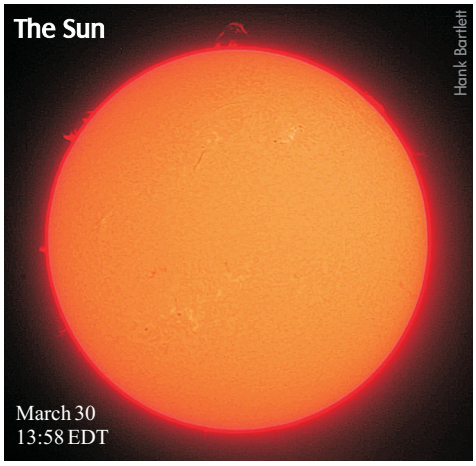
At approximately 20:30, 21:00, and 21:30 we imaged the Kingston light dome in our southeast with our Canon Powershot A540 digital camera on a tripod, with 15 and 64 second exposures. The idea was to see if we could identify any lighting

changing due to Earth Hour. After a careful inspection of the images, we could find no noticeable change in the light dome due to Earth Hour participation in the city of Kingston. All of the images are available at starlightcascade.ca.

News reports later stated a power reduction of 3.1% compared to the same time period last week.

Wed, March 30

Hank: I posted this pic on facebook but the resolution sucks, so I decided to share it here. What an awesome prominence; too bad I saw it just before I had to return to work at lunch, DANG!



Sat/Sun, April 9/10

Kevin K: Was anyone observing outside after midnight early Sunday morning? The reason I ask is that our all-sky camera caught an anomaly, that if it were a meteor, was spectacular.

Images show before, during and after the anomaly. It does appear close to our chimney and we did have a fire going last night that normally produces a much smaller smoke plume than this. Perhaps it was lit up by passing car headlights. The image itself is a 120 second exposure ending at 00:48:21 on 2011 April 10 Offhand it looks like it has the characteristics of a fireball moving

east to west, starting small and growing larger over time.

One of the problems with this time lapse integration method is that you never know if you actually got the start or end of the event. Sometime in the future we will move to a better low light camera system with GPS time annotations.

Hank *found reports on the web of a fireball that was seen from Kingston, Wooler, and Peterborough.*

Mark Kaye: Looking closely at the picture, it looks as if you captured it as the frame ended. That should give a quite accurate time.

Sat/Sun, April 30/May 1

Susan Gagnon: Saturday night I rolled the roof off for the first time in months. The sky was not perfect but it sure felt great. I had the maps for the supernova 2011by [in NGC 3972 in the bowl of the Big Dipper] and thought I would give it a go. It was very near the zenith so the situation could not have been better except for the weather. It was a no-go but I think that I did see a new little galaxy that I can check out at a later, clearer date. I was concentrating so hard on this tiny piece of sky, not sure why it as so difficult when I caught a glimpse of Leo and realized that if two or more of the bright stars in that constellation are missing, well the sky is not that clear.

It was still nice to be out, post ice, pre killer bugs.

continues next page...

Tue/Wed, June 7/8

Kevin K: We had what looks like a bright meteor last night (Tuesday) between 22:43 and 22:45 EDT right overhead "on top" of the big dipper.

There was cloudy haze, the moon was up, and the camera does not cool down so well in the heat, but hopefully we will find time this weekend to redesign the enclosure to let it cool down better in the evening and overnight.

Anyone see this? The bright star near the bottom centre of the image is Arcturus.

Thu/Fri, June 30/July 1

Kevin K: For a surprisingly sunny day where the *&#*% did that cloud come in around 20:30 last night? It was the back end of a low pressure zone way out over in Québec and it came in, covered the zenith before 21:00 and by the time of the overhead ISS pass starting 10 minutes later. It was too thick to see anything.

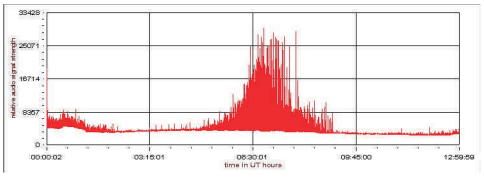
It got worse: we were waiting to see Saturn in the southwest at 37° altitude but the cloud ate that part of the sky as well.

Hank: I went out at 21:10 and here the west was clear but too bright to see the initial rise. Zenith and east was was clouded. Of course the sky cleared to the far east afterward and was nice and black here. Saturn and Porrima are a nice pair but I didn't get the scope out.

Solar Hα was pretty cool yesterday.

Sat/Sun, July 2/3

Kevin K: The plot below is what a lightning storm looks like at 20MHz, from our radio jove system. The large noisy curve in the middle was 06:30 UT (02:30) local time when the storm rolled right over us. Hmmm...I think we were supposed to disconnect the antenna during any electrical storms...



Thurs, July 14

Walter: I successfully evicted a squirrel that moved into the dome (chewing up some 2x4 and insulation for a nest) and have taken steps to prevent its return. Testing has revealed that the equipment has survived its recent hibernation. The testing was not without its difficulties, requiring the re-seating of all serial and USB connections and some minor fiddling with the camera driver, but all's well that ends well!

Tue/Wed, July 12/13

Kevin K: Kim and I were out at 9 p.m., looking at the moon and Saturn. That lasted maybe 30 minutes before the hordes of mosquitos drove us in. We used our 20cm Dobsonian and the 9cm Meade DS90 refractor with autostar. I set it up pointing north and roughly level and it did a two star alignment with me clicking the *Enter* button even though I could not see any stars yet. It worked amazingly well, coming in with 3–5° of the moon when told to. I could not figure out how to sync it to the targets after manually correcting though...will have to find the manual and go over it again.

Wednesday morning Kim was up at 03:00 to check out Jupiter rising in the southeast. I slept through that one.☺

Thurs/Fri, July 14/15

Kevin K: We tried observing again on Thursday evening but the clouds came in and blanketed everything... washed out.★

NC Report

Brian Hunter

March Meeting

The March tele-conerence meeting was very difficult for any tele-participants to participate in. The mechanics and processes of these meetings were not conducive to business.

July Meetings

The General Assembly NC meetings were short, quiet and not riotous. Much e-mail list discussion beforehand led to the dropping of the $3 fee increase proposal. The Annual General Meeting also went quickly and quietly. There are two liability insurance claims against the RASC and its insurers.

Green Laser Pointer usage: KAON is within the 10 km airport zone. We should talk with the Queen's KAON folks about GLP use.

RASC bylaw changes are needed with the new federal legislation that is in the works. This affects only the national organization at this time. The province of Ontario has indicated they will adopt the same and as a result, in the mid-range future, KC will have to revise its bylaws. I have joined the national Constitution Committee as a non-voting member to assist in the revision project.

The 1.3% fee RASC charges KC for membership processing has increased to 1.7%.★

Starlight Cascade Observatory Updates

Kevin Kell

Our Radio Jove radio telescope is up and operational. We assembled the final bits of the system on Friday April 29th, just after the Royal Wedding.

The last step involved accurately measuring the distance between the dual dipole antenna connection and the receiver, located inside the observatory. This turned out to be 16.78m (55′). The RG6 coax with velocity factors in, came out at 17.47m (57.24′) at the next largest 1/2 wavelength increment. The shorter the feedin coax, the less signal loss, so we decided to risk the narrow margin of safety of 1.5 wavelengths instead of going to 2 wavelengths—23.28m (76.36′).

The receiver is situated inside our metal shelled observatory, helping reduce RF interference, has audio speakers attached so we can listen to the live signal, and is connected to a laptop microphone port.

The laptop is maybe 7 years old and runs Skypipe v2.1.17 (under Windows XP), which logs the data, creates graphs, and uploads the data to this website.

We tested the system by disconnecting and reconnecting the antenna from the receiver and saw a distinct signal difference.

The most recent strip chart can be found here:

starlightcascade.ca/radiojove/skypipedata.htm

At the moment Jupiter is very close to the sun and the 20.1 MHz signals may be drowned out until a better separation is achieved. The system can also be reconfigured to take solar readings, in this case generated by the corona out to a solar diameter away from the sun. We will probably put up a seperate single dipole for that.

The North York Astronomical Associaton (NYAA) built one two summers ago but we haven't heard of its current status. ★

2011 May 29: We've been doing a lot of little things around the place, and yesterday got around to encasing the radiojove RG-6 coax feed from the antennas in an old water hose and buried it about 10-15cm underground. No more worries about running over it with a variety of lawnmowers since it went operational in late April 2011.

We are still looking for a good marking/warning notice system for buried underground cables that we can set up on either end of the underground run, that will last for years, but have not come across any good method.

In any event the system is automated and working well for the last two weeks after the last major change. That was to have the local laptop computer running the system store all of its data locally on its own harddrive in realtime rather than attempting to store it over an intermittent network link on the file server. Instead, every hour it copies up new or changed data. If the network link is down for a few hours, when it comes back up all of the new data will get caught up.

This process prevents the complete failure of the program as it would crash and stop logging data if it could not save it correctly.

The all-sky camera system operates on the same laptop and processes data the same way as well.

The only visual observing we have done in the last few weeks is the occasional solar. Time for some clear skies! We are overdue!

And of course the aurora are starting to pick up with spacew.com showing red green green for activity, spaceweather.com showing four sunspots with this note:

"Sunspots are popping up across the solar disk and one of them, growing sunspot 1226, is crackling with C- and M-class solar flares. So far none of the blasts has been geoeffective, but this could change as the active region turns toward Earth in the days ahead."

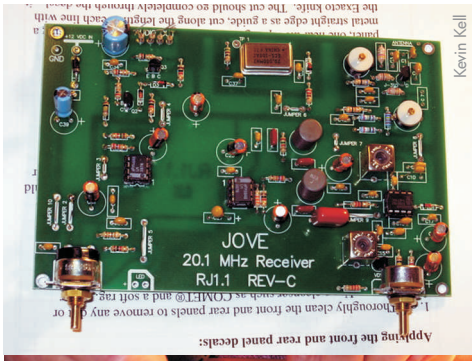
And the shuttle/ISS have been making a bunch of early morning passes. ★

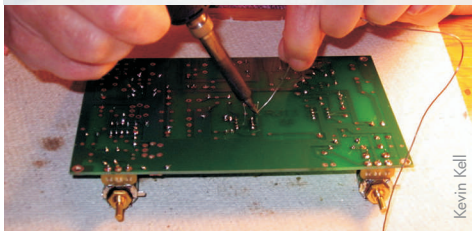
About Radio JOVE

Radio JOVE participants observe and analyze natural radio emissions of Jupiter, the Sun, and our galaxy.

The Radio JOVE project is a hands-on inquiry-based educational project that allows students, teachers and the general public to learn about radio astronomy by building their own radio telescope from an inexpensive kit and/or using remote radio telescopes through the internet. Participants also collaborate with each other through interactions and sharing of data on the network.

The Radio JOVE project began in 1998. Since then, more than 1100 teams of students and interested individuals have purchased our non-profit radio telescope kits and are learning radio astronomy by building and operating a radio telescope. This self-supporting program continues to thrive and inspire new groups of students as well as individuals.





GLP's and Transport Canada

Randall Rosenfeld, Chair–GLP Committee

This is a brief report on the first direct meeting with Transport Canada (TC) regarding GLPs.

THE MEETING was by teleconference, and involved Mr. **Bob Grant**, Civil Aviation Inspector, AIS & Airspace Standards for TC, and **Mary Lou Whitehorne**, **Dr. Roy Bishop**, **Dave Lane**, and the GLP Committee chair representing the RASC. Mr. Grant is the TC official in Ottawa responsible for the development and central administration of TC's policy and procedures regarding directed bright light (DBL) sources (including GLPs) projected into Canadian airspace. The general tenor of the meeting was wholly positive, marked by a spirit of co-operation, and productive discussion.

RESULTS:

1) Mr. Grant stated clearly and repeatedly that TC does not view responsible GLP use in astronomical EPO as a problem. The RASC and other amateurs who use GLPs are not "the enemy." The Government is not going to trace RASCal list members down and forcibly confiscate their GLPs;

2) our web resources (rasc.ca) dealing with GLP best-practice are considered excellent by Mr. Grant;

3) Mr. Grant stated that TC's "Notice of proposal to conduct outdoor laser operation(s)" form was not framed in the first instance to cover typical amateur GLP use. There is no expectation on his part that Centres or other RASC groups will complete and submit that form. Rather, a telephone conversation between the local RASC event organizers and the appropriate regional TC Civil Aviation Department to inform the latter of the time and place of their upcoming GLP use is sufficient. Mr. Grant is preparing a contact list of regional TC Civil Aviation Departments for the use of amateur astronomers, which we will host on rasc.ca. Furthermore, casual unplanned use of GLPs for astronomy outreach to family or neighbours in Canadian airspace is legal, and does not require any notification to TC, provided that it conforms to the best-practice guidelines at rasc.ca/education/other/glpuse.shtml;

4) Mr. Grant is aware of regional disparities in the application of TC's policy and procedures on GLPs, and will try to resolve them;

5) Mr. Grant noted that TC's brochure is in need of revision to reflect the above, and other points raised in conversation, and that a revision is planned;

6) Mr. Grant has accepted the invitation to attend the 2011 GA in Winnipeg to speak to the RASC on TC's policies and procedures regarding GLPs, and to engage in dialogue with RASC members on GLP issues. He originally raised the possibility of his GA involvement, the local organizers agreed to the offer, and the RASC National President has issued a formal invitation on behalf of the Society. Versions of the TC GLP brochure may be made available at the GA for delegates, who can also bring them back to their centres (luggage allowances permitting). TC may also have a GLP poster for display at the GA. Mr. Grant's participation at the GA is subject to TC's approval through the Director General of Civil Aviation. (Note: the cost of Mr. Grant's participation at the GA will not be borne by the RASC, but by TC.);

7) the President of the RASC has offered the Society's assistance in distributing TC's GLP materials, which Mr. Grant has gratefully accepted in principle. Details are to be worked out;

8) the possibility of co-operation between TC and the RASC in developing GLP EPO materials was also broached, and was favourably received in principle. This will require further exploration;

9) Looking to the future, Mr. Grant and the other interlocutors recognized that changes in GLPs towards greater power, smaller size, and lesser price combined with increased variety and incidents of criminal use could effect the public perception of GLPs, and influence changes in legislation. Mr. Grant is well-informed of GLP legislation and trends in EU countries, ANZCERTA, and the USA. The state of New South Wales' legislation as a possible model for Canada in the future was raised (note: the NSW legislation "has made it an offence for anyone to have a laser pointer in their custody in a public place or to use a laser pointer in a public place without a reasonable excuse," but makes provision for any "member of an astronomical organisation approved by the Commissioner of Police for use of a laser pointer for activities associated with astronomy. A member means a person who is currently a member and has been a member for 3 months or more"—which favours institutions such as the RASC). Neither Mr. Grant, nor the RASC make Canadian legislation, but the positive signs of co-operation between TC and the RASC mean we may be in a better position to influence proposed future legislation than formerly. Only time and experience will tell.

BUILDING ON THE VALUABLE WORK of the GLP Committee to date, Mary Lou Whitehorne, Dr. Roy Bishop, and Dave Lane (formerly of the GLP Committee) represented the RASC to good effect, and it is to be hoped that the positive spirit of cooperation between the RASC and TC has set an effective precedent for the future. ★