

Dec 4, 2008

Dear CASCA,

**RE: Chair's Report to CASCA for the Joint Committee on Space Astronomy**

This JCSA chair's report covers the period from June 2008 – Dec 2008. The JCSA received one new member. The voting members are:

- **Matt Dobbs (Chair)** - Term 2006-2009 (outgoing after November 2009 meeting)  
Department of Physics, McGill University
- **Roberto Abraham** - Term 2008-2011  
Dept of Astronomy, University of Toronto
- **René Doyon** - Term 2006-2009 (outgoing member after May 2009 meeting)  
Department of Physics, Université de Montréal
- **Mark Halpern** - Term 2006-2009 (outgoing member after May 2009 meeting)  
Department of Physics and Astronomy, University of British Columbia
- **Robert Rutledge** - Term 2007-2010  
Department of Physics, McGill University
- **Ludovic van Waerbeke** - Term 2007-2010  
Department of Physics and Astronomy, University of British Columbia

The committee met once by telephone and once in person (November 24 & 25, 2008 at CSA) during this period. Our committee addressed a number of issues, summarized in the attached recommendations submitted this week to CSA. I also attach the recommendations from our May 2008 meeting.

I wish to emphasize the following (refer to the recommendations for more details):

- **Grants and Contributions:** The JCSA strongly endorse the refurbishment of the Grants and Contributions program and feel this funding vehicle should be greatly enhanced, even in a flat funding scenario. [...] We strongly encourage the CSA to consult with the community in the development of these programs.
- **Cancellation of Small Missions AO:** The SMAO cancellation does extensive long term damage to Space Astronomy and the training of HQP in Canada. The priorities should be (1) to rescue the affected missions, which were judged fairly in a transparent peer review process and (2) to ensure this sort of debacle can never happen again. [...] This cancellation represents a failure of the CSA to deliver an important component of its mandate to the space science community and Canadians. This failure jeopardizes the health of space astronomy in Canada. The JCSA finds it unfortunate that the CSA is unable to speak publicly about the specific causes for cancellation of the SMAO—this diminishes the community's confidence in the CSA and its ability to achieve its mandate. The CSA should communicate to the community a path forward for completing the spirit of the AO for the selected missions and future proposals. [...]
- **Long Range Plan:** Regardless of the status for ground based initiatives, many of the LRP goals for space Astro have already been achieved (JWST, Herschel, Planck) – and a longer range space Astro vision is needed. While it is true that many of the ground-based goals of the LRP are still in the works, it is important to embark on the discussion of the next space initiatives now. Without clearly stated goals for future CSA involvement in large space astronomy projects, the CSA will be left with the impression that there is a void in this field, and allocate resources elsewhere.

- **Committee membership:** Since three new members will be needed next year (two after the May meeting and one after the November meeting), identifying one or two new members at the upcoming CASCA meeting would be prudent. The committee presently has no representation from Atlantic Canada.

Matt Dobbs (JCSA Chair) <Matt.Dobbs@McGill.ca>

## JCSA Recommendations for Nov 24-25, 2008 Meeting

We encourage both CSA and CASCA, prior to future JCSA meetings, to provide a list of issues/items they are in need of advice on. This will facilitate more effective communication.

**Sabbatical stays at CSA:** The JCSA believes the long term presence at CSA of members of the scientific community is a productive means of enriching the space sciences environment at CSA and strengthens ties between CSA and the academic community. We urge CSA to make opportunities for sabbatical stays at CSA as easy as possible for academics. We're happy to see V. Kaspi choosing to spend her sabbatical at CSA.

**CFI:** We support the plan for CSA to meaningfully participate in CFI proposals in partnership with universities—but emphasize that meeting the CFI timescale is crucial and worry that this may be difficult within the bureaucratic constraints of the CSA.

**Discipline Working Groups:** The JCSA believes it is important to organize a meeting of DWG members after the submission of their reports in March 2008. We believe this meeting will be most effective if it is community organized (with CSA support) and has a strong CSA presence. UdM or McGill are suggested venues due to their proximity to CSA.

**Grants and Contributions:** The JCSA strongly endorse the refurbishment of the Grants and Contributions program and feel this funding vehicle should be greatly enhanced, even in a flat funding scenario. We believe the establishment of a chairs program that increases the number of university faculty members in space sciences and a grants supplement program would be effective vehicles for increasing the space science and technology capacity in Canada. We strongly encourage the CSA to consult with the community in the development of these programs.

**Data policy:** The CSA is discussing generic data access policies for Canadian space missions. While proprietary access periods improve scientific efficiency, we believe following that period the data policy should have as its primary goal open access and responsibility to make data publicly available as a national resource in a useful form – and not protectionist policies that may hinder access.

**JCSA recommendation to CASCA:** regardless of the status for ground based initiatives, many of the LRP goals for space Astro have already been achieved (JWST, Herschel, Planck) – and a longer range space Astro vision is needed.

While we understand that many of the ground-based goals of the LRP are still in the works, it is important to embark on the discussion of the next space initiatives now. Without clearly stated goals for future CSA involvement in large space astronomy projects, the CSA will be left with the impression that there is a void in this field.

### **Cancellation Small Missions AO (SMAO)**

*(Note: Matt Dobbs and Mark Halpern, who have a conflict of interest on this issue, recused themselves for*

*decisions related to the SMAO recommendations.)*

The JCSA affirms that Small Missions provide excellent science opportunities and are an engine to build capacity in Canada for space technology and HQP.

The SMAO cancellation does extensive long term damage to Space Astronomy and the training of HQP in Canada. The priorities should be **(1) to rescue the affected missions, which were judged fairly in a transparent peer review process and (2) to ensure this sort of debacle can never happen again.**

The JCSA acknowledges the transparent, thorough, and fair review process that took place in selecting the missions for the SMAO before their cancellation and believes the recommendations for funding represent accurate priorities for excellence in space astronomy and priorities for the community.

This cancellation represents a failure of the CSA to deliver an important component of its mandate to the space science community and Canadians. This failure jeopardizes the health of space astronomy in Canada. The JCSA finds it unfortunate that the CSA is unable to speak publicly about the specific causes for cancellation of the SMAO—this diminishes the community’s confidence in the CSA and its ability to achieve its mandate. The CSA should communicate to the community a path forward for completing the spirit of the AO for the selected missions and future proposals.

The JCSA vigorously urges that the CSA takes positive and concrete measures to reassure the community of its commitment to space astronomy and specifically the Small Missions program.

## **Mission Reports and Recommendations**

*(Note: several recommendations are relevant to more than one mission. In these cases we have explicitly repeated the recommendation in each section.)*

### **CADC**

The JCSA feels that a publicly accessible Canadian archive of Astrosat data, including all science instrument data, would be a benefit for the Canadian, Indian, and world communities at modest cost. The CADC brings skills to the data archive effort that may provide a valuable learning experience for our partners. There are issues related to whether the Indian Space Agency will grant access to all data. It will be important to outline clearly how funding for this effort differs from the investment CSA is already putting into CADC and justifying the additional capitol outlay costs.

We are concerned that, about a year before launch, policies and issues related to the assignment of observation time and data access have not yet been fully addressed or resolved for Astrosat.

The CSA is discussing generic data access policies for Canadian space missions. While proprietary access periods improve scientific efficiency, we believe following that period the data policy should have as its primary goal open access and responsibility to make data publicly available as a national resource in a useful form – and not protectionist policies that may hinder access.

## **Herschel HIFI**

We are pleased to hear the Herschel launch is imminent, but remain concerned/watchful about the remaining thermal testing issues.

We have not heard about explicit plans for support to the Canadian contributions post June 2009 (beyond data analysis efforts proposed through SSEP). If such contributions are envisioned, it is important to put the framework for this in place as soon as possible.

The importance of the Planck and Herschel instruments to the global space sciences effort is substantial, and we find it disappointing that the CSA isn't able to dedicate substantial manpower to the public relations effort for these launches. We appreciate the effort that is being made – but believe it could be enhanced.

We encourage the science team to learn from the successful MOST PR and take on some of the outreach activities themselves, while keeping the CSA informed in line with their obligations.

We encourage the CSA and the PI, through its institutional contacts, to proceed expeditiously with putting in place the funding extensions, renewals, or new contracts that will allow Canadian institutions to support their contributions through launch.

## **Herschel SPIRE**

We are pleased to hear the Herschel launch is imminent, but remain concerned/watchful about the remaining mechanical issues with the FTS. We encourage the PI and CSA to keep us informed about these issues.

We have not heard about explicit plans for support to the Canadian contributions post June 2009 (beyond data analysis efforts proposed through SSEP). If such contributions are envisioned, it is important to put the framework for this in place as soon as possible.

The importance of the Planck and Herschel instruments to the global space sciences effort is substantial, and we find it disappointing that the CSA isn't able to dedicate substantial manpower to the public relations effort for these launches. We appreciate the effort that is being made – but believe it could be enhanced.

We encourage the science team to learn from the successful MOST PR and take on some of the outreach activities themselves, while keeping the CSA informed in line with their obligations.

We encourage the CSA and the PI, through its institutional contacts, to proceed expeditiously with putting in place the funding extensions, renewals, or new contracts that will allow Canadian institutions to support their contributions through launch.

## **JWST**

The committee received written reports from Hutchings, Doyon, R-P Marius-Phaneuf (CSA space science) and heard directly from Karl Saad (CSA space programs) and Neil Rowlands (COM DEV). We are happy that better communications (including direct contacts between scientists and prime contractors, CSA presence at COMDEV, and direct quarterly reporting to both CSA and COMDEV presidents) are in place and working.

The JCSA also commends all parties on improved communication and information flow to the community. We trust and expect that this good communication is not a side effect of “better times, better progress”, but is an actual change of operations.

The committee is enthusiastic to hear that the TFI downscope is no longer on the table, and that only one small lien exists before full CDR approval. We commend all parties involved.

We are happy to hear that the two new scientist support personnel are now assured. **We believe the immediate operation of TFI (rather than 18 months mothballing) is essential** and encourage CSA and the science team to pursue this in vigor.

### **MOST**

We continue to be impressed with the science return, public outreach, and full color images in the reports for MOST. We find it troubling that an important mission like MOST is having its archiving done by the PI himself – it seems clear that the PIs expertise could be better engaged elsewhere.

Initiatives like the “My Own Space Telescope” round of amateur proposals provide excellent PR for the mission and CSA in general. We encourage your team to share their experience and know-how in media relations and PR with other space astronomy projects—perhaps even via a talk at CASCA.

### **NEOSSAT**

No mission report was received from PI.

### **Planck HFI/LFI**

We are pleased to hear the Planck launch is imminent, but remain concerned/watchful about cryogenic issues that may delay launch. We encourage the PI and CSA to keep us informed about these issues.

We have not heard about specific plans for support to the Canadian contributions post June 2009 (beyond data analysis efforts proposed through SSEP). If such contributions are envisioned, it is important to put the framework for this in place as soon as possible.

The importance of the Planck and Herschel instruments to the global space sciences effort is substantial, and we find it disappointing that the CSA isn’t able to dedicate substantial manpower to the public relations effort for these launches. We appreciate the effort that is being made – but believe it could be enhanced.

We encourage the science team to learn from the successful MOST PR and take on some of the outreach activities themselves, while keeping the CSA informed in line with their obligations.

We encourage the CSA and the PI, through its institutional contacts, to proceed expeditiously with putting in place the funding extensions, renewals, or new contracts that will allow Canadian institutions to support their contributions through launch.

We are concerned at the limited opportunities for training of graduate students on these

projects. We hope this situation changes after launch.

## UVIT

We're pleased to hear about the recovery from the engineering model failure in vibration testing.

We are concerned that, about a year before launch, policies and issues related to the assignment of observation time and data access have not yet been resolved.

We understand there is new effort in the Canadian community & CSA to clarify both the data access policy for the mission as a whole AND for allocation of time within the Canadian guaranteed time. We encourage the team to proceed with this. It will have the side-effect of focusing thought on mission science, both within the team and the wider Canadian community.

## RECOMMENDATIONS from JCSA Face 2 Face Meeting

May 19,20, 2008 at HIA, Victoria. (This is the FINAL revision of recommendations, June 9, 2008).

**HQP in Canada Recommendation:** In the last Astronomy LRP, it was recommended that prestigious fellowships in astronomy be created:

*"The LRPP strongly recommends that high profile, international postdoctoral fellowships of the stature of the NASA Hubble Fellows be established. This should be one of the highest priorities in funding new people: The CSA and NSERC should jointly initiate a new fellowship program, featuring at least six, 3 year postdoctoral fellows, awarded through the highest level international competition open to Canadian and non-Canadians alike, and to be tenable at any Canadian University or CITA."*

This has not yet happened. As the CSA reviews its grants and contributions program, we recommend it addresses this deficiency. High quality postdocs drive the national research effort—*providing funding for these individuals should be the first goal of the G&C programs.*

**HQP in Canada Recommendation:** We support the idea of developing a CSA space sciences chairs program. The goal of this program should be new faculty positions in Canada for space sciences. It is imperative that these positions are adequately funded to make them attractive to universities (~the level of a CRC tier II) and that they are implemented in a timely manner (e.g. there should be no gap between a cancellation of the CSA fellowships, should that happen, and the start of this program). We note that CRC tier II program is one that works – it is successful at creating new faculty positions in Canada. If a CRC-like program is developed, we note that the CFI Leaders Fund (infrastructure funds for CRC chairs) is an important component in attracting these individuals – CSA should try to make their chairs eligible. Feedback to the JCSA suggests that a program of this sort would be more effective than the current Space Sciences Fellowships program has been.

**AO Recommendation:** The JCSA strongly endorses the SSEP. *We strongly recommend the expansion of the SSEP to significantly higher funding levels even if it takes funding from other space astronomy programs or projects.* The JCSA feels that the potential science return for the existing and future CSA space astronomy missions is not being capitalized on—this will become an acute problem in the upcoming era of UVIT, Planck, Herschel, and JWST. CSA's mandate within the Gov't of Canada S&T strategy of providing access to space for scientists includes the data reduction phase, and this phase is not being adequately funded today. The SSEP is an ideal vehicle for realizing this potential, but it is presently under-funded by an order of magnitude. Funding for this program might come exclusively from CSA or a joint venture between NSERC/CSA. We note that since this program is already in place, the CSA should be able to adapt it on a rapid timescale. *This is the highest priority item the JCSA has to report on.*

**Recommendation:** We have had a long discussion regarding problems associated with moving grant money from one institution to another (specifically, with regards to the BLAST SSEP). The CSA-institution contract stipulates that a grant institution cannot alter its budget, including introducing institutional subcontracts, without approval at the ministerial level. We suggest that authority to approve a no-cost budget alteration, for an approved grant, written by a grant institution, should exist at the CSA. This would permit a mission like BLAST which has a data analysis grant to subcontract data analysis to (for example) UBC, even though this was not in the original grant, by submitting a no-cost altered budget request.

**AO Recommendation:** JCSA recommends that the CSA works with public works to ensure a timely announcement of AO results. We feel that both positive and negative results must be communicated as soon as possible (certainly before the expiry of offer specified in the AO).

The small missions schedule has been announced as every 2 years with *the next announcement being in Spring 2009*. It is very important that the CSA succeed at keeping to this schedule.

**AO Recommendation:** The JCSA feels it is bad practice *not* to give responses to mission proposals. We are aware that for the Cosmic Visions AO, the applicants received no communication whatsoever from CSA when the result of their application was negative. Although the applicants all know the outcome from ESA announcements, we feel that since the application was sent the CSA, the CSA should reply formally to the applicants. For every open opportunity announced, we feel that all formal proposals must have a formal written response in a timely manner. This should happen as soon as possible, but certainly by the expiry of offer date in the AOs.

**Outreach:** We note the very nice website developed by CSA for Phoenix and hope this sets a standard for future initiatives such as Herschel/Planck outreach for IYA.

Lack of personnel for maintaining CSA website results in poor public relations. We note that almost 10 months after we pointed out the problem, one still get zero results when searching the CSA website for the keywords UVIT or Astrosat. This mission is still not linked from the Satellite links on the CSA mainpage either.

**Action item for CSA:** The JCSA would like to hear a report from CSA on the outcome and conclusions of the Science Data public Workshop held in October 2,3 2007. We're primarily interested in hearing about policies for public access to Canadian mission data and would like to have a copy of the workshop report provided.

## **MISSION UPDATES**

### **JWST**

The JCSA was pleased with the feedback and presentations on JWST progress and issues. We feel that communication is improving between the CSA/Pis and JCSA on this project.

**Operations support for STScI:** We are concerned that the TFI be fully supported for scientific use on JWST at launch. The NASA proposal to mothball it for 18 months is unacceptable.

We understand than an initiative to send additional support scientists to STScI may allow the TFI to be operational from launch. This is an urgent need, and we encourage the CSA to proceed to negotiate such support as soon as possible. This will have the additional result of producing goodwill with NASA for helping out with the recent stop-work situation, and be welcomed by the entire JWST project.

We recognize the need for a de-scoping plan for the TFI/etalon. We are reassured to hear that de-scoping TFI options are being defined in large part by the science team, with science issues in mind.

We strongly support the independent verification of the project cost and contractor's capability which the CSA has undertaken. We would like to see their report as soon as it becomes available.

Not having seen the list of questions presented to the independent reviewers, we suspect a critical one is missing "has the contractor demonstrated adequate communication channels with the CSA and science team through the Pis" – as communication presently seems to be a problem area, we suggest asking the team to address this.

Management: CSA management and Pis seem happy with the COMDEV-embedded person and with the new COMDEV manager. The committee remains concerned that an outside "all-rounder" (a person experienced with optics, cryogenics, electronics, astronomy, e.g. a person with the skills of Rowlands, Doyon, or Hutchings) – is not regularly overseeing the COMDEV works on a day-to-day or week-to-week basis.

We note that the Pis input and unique expertise in this project is absolutely crucial– especially in the critical period of the next few months for TFI. We strongly recommend the PI identify personnel (be it himself or another individual) to be onsite at COMDEV on a weekly basis as soon as possible. The program should make funds available as needed. This is the most important project for Canada in space science, ever – increased responsibilities from other projects and committees should not get in the way in this critical period, particularly for the TFI PI.



Without free flow of technical details (including seemingly minor details) to the science team through the PIs, we are concerned the project may fail.

We note the recent just-in-time catch by PI Doyon of a two-year out-of-date specifications of blocking filters being submitted for build by COMDEV. This suggests two things: (1) COMDEV/CSA should take bigger advantage of the willingness of these all-rounders from the science team to provide insight and watchdog the developments, and (2) something is amiss in the COMDEV management structure to allow such a design to be submitted. CSA should find out what's wrong with the structure and fix it.

We note that Neil Rowlands (instrument scientist) represents a single point failure possibility for this project. He is involved with a plethora of projects and stretched very thin.

We note that there is no financial incentive for COMDEV to make the etalon work. A fixed cost contract is not in place for it, and exceptions are expected for the etalon. Their incentive is the ability to market etalon devices and their reputation. We would be interested in hearing a presentation from COM DEV and space programs at the next meeting in Montreal December.

Members of committee would like to see the publicly available contract costs to COM DEV— please post on extranet.

### **BLAST**

The committee is impressed by the potential for science output from BLAST.

The CSA plan of re-releasing the Small Missions AO in 2009 will be relevant for the rebuilding of BLAST as a polarimeter.

The JCSA's recommendation regarding the SSEP is particularly relevant for BLAST:

**AO Recommendation:** The JCSA strongly endorses the SSEP. *We strongly recommend the expansion of the SSEP to significantly higher funding levels even if it takes funding from other space astronomy programs or projects.* The JCSA feels that the potential science return for the existing and future CSA space astronomy missions is not being capitalized on—this will become an acute problem in the upcoming era of UVIT, Planck, Herschel, and JWST. CSA's mandate within the Gov't of Canada S&T strategy of providing access to space for scientists includes the data reduction phase, and this phase is not being adequately funded today. The SSEP is an ideal vehicle for realizing this potential, but it is presently under-funded by an order of magnitude. Funding for this program might come exclusively from CSA or a joint venture between NSERC/CSA. We note that since this program is already in place, the CSA should be able to adapt it on a rapid timescale. *This is the highest priority item the JCSA has to report on.*

**Recommendation:** We have had a long discussion regarding problems associated with moving grant money from one institution to another (specifically, with regards to the BLAST SSEP). The CSA-institution contract stipulates that a grant institution cannot alter its budget, including introducing institutional subcontracts, without approval at the ministerial level. We suggest that authority to approve a no-cost budget alteration, for an approved grant, written by a grant institution, should exist at the CSA. This would permit a mission like BLAST which has a data analysis grant to subcontract data analysis to (for example) UBC, even though this was not in the original grant, by submitting a no-cost altered budget request.

### **CADC**

The JCSA recognizes the important infrastructure role CADC plays for the space astronomy community. The committee is enthusiastic to have a UVIT archive located in Canada.

### **UVIT**

The UVIT instrument CMOS sensor vibration test failure is not yet understood. It is not clear in the context of the larger project whether this is a critical path item. The JCSA would like to be updated when the problem is understood. (Note: The failure was understood and the JCSA was updated on June 2, 2008).

We appreciate and support the effort PI Hutchings is investing in making the scientific selection process with the UVIT collaborators transparent and open.

There is a disconnect in documentation and communications between Canada and India – the CDN team does not have access to needed info about the other instruments and mission. While this is a real concern, it is part of the learning curve of working with new collaborators and a new agency. The committee encourages CSA and the PI to do its best to set a standard of communication, as this will be a foundation for future partnerships. We understand that the mode of operation with India may be very different as compared to NASA.

### **LFI / HFI**

The committee is pleased to hear that the international LFI/HFI teams are working and communicating together in a more

effective manner than previously, with the use of the Canadian software as an interface medium. We are concerned about disconnects in the software streams within the Canadian effort. We also suggest the KST team acknowledge CSA support on their website.

We're looking forward to hearing at the next JCSA meeting that launch is imminent.

We understand Planck suffers from the same data analysis limbo that is affecting other missions. The JCSA's recommendation regarding the SSEP is relevant for Planck:

**AO Recommendation:** The JCSA strongly endorses the SSEP. *We strongly recommend the expansion of the SSEP* to significantly higher funding levels *even if it takes funding from other space astronomy programs or projects*. The JCSA feels that the potential science return for the existing and future CSA space astronomy missions is not being capitalized on—this will become an acute problem in the upcoming era of UVIT, Planck, Herschel, and JWST. CSA's mandate within the Gov't of Canada S&T strategy of providing access to space for scientists includes the data reduction phase, and this phase is not being adequately funded today. The SSEP is an ideal vehicle for realizing this potential, but it is presently under-funded by an order of magnitude. Funding for this program might come exclusively from CSA or a joint venture between NSERC/CSA. We note that since this program is already in place, the CSA should be able to adapt it on a rapid timescale. *This is the highest priority item the JCSA has to report on.*

We are concerned about the fractious development of KST software and hope that the post-launch operations contract includes a better working relationship between the Canadian LFI and HFI team, both in terms of software development/support and science studies.

We encourage the CSA to make possible an SSEP-like program that would support a joint LFI/HFI data reduction and analysis effort. The needs of these groups could be met by expanding the SSEP program in the manner outlined in our recommendations. This needs to happen in an extremely timely manner. Post-launch activities beyond data analysis/reduction should be supported separately in a structured contract with crisp deliverables.

We are pleased to hear from CSA and the PI that contract extension or new operations contracts will be sorted out in a timely manner (timescale of launch).

#### **For HFI only**

Follow up for PI: in the next HFI report, please clarify the role in the Canadian effort of Marc-Antoine Miville-Deschênes, who has figured prominently in HFI reports. His primary affiliation is French, yet if the last few reports are taken at face value, he seems to be credited with achieving a large fraction of the Canadian HFI effort's concrete results. Are these results recognized as being Canadian contributions by the international collaboration? If not, please make sure this is properly communicated.

#### **MOST**

We're impressed with the science output of the MOST team, and amazed by the productivity of undergrads on the project.

We're concerned about ground station support for MOST, with the recent departure of Rainer Kuschnig (Oct 2007, who still works as a sub-contractor, but is a continent away). This puts additional demands on the PI, whose expertise is better invested in other parts of the mission. We encourage the PI to work quickly to fill this void with an on-site support person. CSA has identified the ground station support issue to JCSA and we believe that they should be providing this feedback directly to the PI.

MOST is participating in a new opportunity from NASA for American observers to obtain observation time (1/6-1/4 of the total for 1 year) through a competitive peer reviewed process. While no concrete financial exchange is envisioned for this, it will provide good will between NASA & CSA. We don't know if there are Canadians who have compelling science cases that do not have access to MOST (we aren't aware of any—but would like the PI to report on this). We understand that Canadians are welcome to contact the PI for access to MOST time, and we'd like the PI to ensure Canadians are aware of this (e.g. with a simple email to CASCA exploder).

With the NASA funding that is attached to NASA AOs, Americans will be comparably or better funded to exploit MOST data than Canadians have ever been. The committee finds this sad—not simply in the context of MOST, but in the bigger context of funding that is available for the exploitation of Canadian space science projects. A substantial increase in funding for the SSEP would help to address this deficiency.

**Action Item:** Note to CASCA exploder – Mark for these 3 mission opportunities. If you want to champion this, lobby to include it part of the LRP and DWG.

**Action Item:** Mark to email community requesting suggestions for space science Priority technology. make a list of requirements of the community.

**Action item:** The JCSA would like to hear a report from CSA on the outcome and conclusions of the Science Data public Workshop held in October 2,3 2007. We're primarily interested in hearing about policies for public access to Canadian mission data and would like to have a copy of the workshop report provided.