

# JCSA Meeting 2020 - Winter Telecon

Dec. 10: 14h-17h Eastern via Zoom (12h-15h Mountain, 11h-14h Pacific)

Dec. 11: 14h-17h Eastern via Zoom

## Connection Info:

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Topic: JCSA - Day 1

Time: Dec. 10, 2020 14:00 Eastern

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Topic: JCSA - Day 2

Time: Dec. 11, 2020 14:00 PM Eastern

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# Relevant links:

LRP 2020 report:

[https://casca.ca/wp-content/uploads/2020/12/LRP2020\\_December2020-1.pdf](https://casca.ca/wp-content/uploads/2020/12/LRP2020_December2020-1.pdf)

White papers on Zenodo:

<https://www.zenodo.org/communities/lrp2020/?page=1&size=20>

Reports to the LRP2020 process:

[https://casca.ca/?page\\_id=13801#reports](https://casca.ca/?page_id=13801#reports)

JCSA LRP 2020 Report:

[https://casca.ca/wp-content/uploads/2020/04/JCSA\\_final\\_Sep30-1.pdf](https://casca.ca/wp-content/uploads/2020/04/JCSA_final_Sep30-1.pdf)

Relevant pages from LRP2020 report (potentially incomplete list):

Exec. Summary (p. 3-4):

CASTOR, LiteBIRD, large-cooled-IR (formerly SPICA), JWST, POEP, NASA flagship participation

Current facilities: Space Telescopes (p. 29-31)

CASTOR, Colibri, EPPE, LiteBird, POEP, SPICA

Balloon (SuperBIT, GigaBIT, BLAST-TNG, SPIDER)

WFIRST->ROMAN, Euclid, Athena, IXO

...

People (p. 43-46)

New Space (p. 55)

Chapter. 5 (p. 68, 69, 72-75, 81-83)

Chapter. 6 (p. 117-132)

Chapter. 7 (p. 150-152)

Chapter. 9 Recommendations (p. 169-190)

Recommendations related to CSA/JCSA: 2, 26-34, 58-64

Specific to JCSA: 58-64

## Preliminary Schedule: (times are Eastern)

Dec. 10	
14:00-14:10	Welcome from JCSA and the CSA
14:10-14:40	CSA update - Denis Laurin
14:40 - 15:00	CASTOR - Pat Cote
14:45-15:00	ARIEL, NASA Flagships: HabEx/LUVOIR/Lynx
15:00-15:10	NEOSSat - Denis Laurin
15:10-15:20	SPICA (Origins)
15:20-15:30	LiteBIRD
15:30-15:50	JWST - Jean Dupuis
15:50-16:00	Break
16:00-16:10	Astrosat/UVIT (did not cover on Thursday)
16:10-16:20	CADC
16:30-16:40	SuperBIT [GigaBIT, BLAST-TNG] (did not cover on Thursday)
16:40-16:50	Euclid (did not cover on Thursday)
16:50-17:00	EPPE, POEP (did not cover on Thursday)
Dec 11	
14:00-14:10	Welcome and attention to any leftover items from the previous day. (Astrosat, SuperBIT, Euclid, EPPE) *POEP to be covered when Jason R. joins.
14:10-14:20	BRITE
14:20-14:30	Colibri
14:30-14:40	XRISM/Athena/Arcus[ <del>Lynx</del> ]
14:40-14:50	Twinkle
14:50-15:20	LRP Discussion (p. 150 - 152 of LRP2020 doc), LRPIC transition (CASCA ToR)
15:20-15:35	Review of JCSA Terms of Reference (from Advisory Committees guidelines), - Vicky Hipkin
15:35-15:45	Space Astronomy Vision update - Sarah Gallagher
15:45-16:15	JCSA Recommendations / assignments and delegations to populate spreadsheet
16:45-17:00	committee membership, meeting review

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# Agenda

Items for Discussion:

Dec. 10

- Welcome from JCSA and the CSA
- CSA update - Denis Laurin
- CASTOR - Pat Cote
- ARIEL, NASA Flagships: HabEx/LUVOIR/Lynx
- NEOSSat - Denis Laurin
- SPICA (Origins)
- LiteBIRD
- JWST - Jean Dupuis
- Break
- Astrosat/UVIT
- CADC
- SuperBIT [GigaBIT, BLAST-TNG]
- Euclid
- EPPE, POEP

Dec. 11

- Welcome and attention to any leftover items from the previous day.
- BRITE
- Colibri
- XRISM/Athena/Arcus[Lynx]
- Twinkle
- LRP Discussion (p. 150 - 152 of LRP2020 doc), LRPIC transition (CASCA ToR)
- CSA Advisory Committees guidelines - Vicky Hipkin
- Space Astronomy Vision update - Sarah Gallagher
- JCSA Recommendations / assignments and delegations to populate spreadsheet
- committee membership, meeting review

# Meeting Minutes:

Agenda adopted (moved and seconded by DH and RH)

## Attendance:

Thursday 10th December:

LockeS, Denis L, Eric Dupuis, Jeremy Heyl, John Hutchings, Chris Willott, Daryl Haggard, Jason Rowe, Martin Bergeron, Renee Hlozek, Victoria Hipkins, Jean Dupuis

Friday 11th December:

LockeS, Denis L, Jeremy Heyl, John Hutchings, Chris Willott, Daryl Haggard, Martin Bergeron, Renee Hlozek, Victoria Hipkins, Jean Dupuis

Joined later: [Jason Rowe, Fred Grandmont]

## JCSA Membership:

Denis Laurin (CSA/Co-Chair), Locke Spencer (ULeth/Co-chair), Jason Rowe (UBishop's), Jean Dupuis (CSA), Daryl Haggard (McGill), Jeremy Heyl (UBC), Renée Hložek (UofT), John Hutchings (NRC), Chris Willott (NRC)

## Item Notes:

Thursday:

Welcome from JCSA and the CSA

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CSA update - Denis Laurin

- Slide deck included in the shared folder (and the CSA secure FTP site)
- March 2021 AO for Co-Investigators for ~\$300k/y (total) community support grants (\$150k/y for space astronomy)
  - CSA grants at \$50k are quite large for just travel, and quite small for a post-doc
  - Maybe have two levels of \$30k/\$70k to better allow for this...or \$25k/\$75k
- Action: recommend an increase with the two tiered split for future changes.
- FAST AO: 3x\$300k, 2x\$100k in 2020 call (on public CSA site)
- FAST AO for summer 2021: how to improve the process?
  - Very general or specific?
  - **Online submissions now allowed!**
  - Internal or external review?
  - RH: JCSA can help with the FAST AO review process, is this just limited to FAST?
  - DH: How do we best offer external reviewers for FAST (help from JCSA to coordinate, e.g.)

- Action: JCSA rec. For FAST review, etc.
- JCSA feedback in general: renewal of funding versus new opportunities.
  - Renee: [here is the link to the one-page recommendation document draft](#) that we worked on over the summer and would apply to programs like the FAST program
- w/ ESA and STDP programs, ~\$70M/y. Spread among 6 disciplines.
- Action: JCSA recommend (again) that each science discipline has its own budget (this is a broad comment about space astronomy, not just for FAST: Over the past many years, there has been regular financial support for space astronomy within the CSA, yet much of this is resultant from special requests for specific projects. If Space astronomy were to have a regular budget, along the lines of the average annual support over the last decade, this would allow for stability and greater planning to use a similar amount of resources.)
- New STDP 19 for FY20/21, 21/22 (5 Jan RFP close date)
  - SA priorities (3 of 7 in SA): CASTOR, 2 on exoplanets
- Ongoing STDP for FY19/20, 20/21
  - SPICA (\$1.75M, ABB -> July 2021)
  - LiteBIRD \$750k -> July 2021
- 2022 SA priority workshop (CSEW)
- Recent IIRB approval: Astrosat/UVIT, CADDC, LiteBird, Co-I AO, BRITE, JWST MOU, XRISM grants
- Action: JCSA rec. on the time that IIRB (Integrated Investment Review Board; executive, President CSA) approvals take. Is there a way to make this more efficient?
- Inter-Agency discussions: ESA (SPICA), JAXA (LiteBIRD), NASA (Paul Hertz), JAXA, CNES (LiteBIRD), ISRO
- SPICA cancellation: took 3 months to resume, stopped much quicker than that.
- NASA has pulled out of MOO for LiteBIRD

#### CASTOR - Pat Cote (John Hutchings)

- Top LRP2020 priority
- Action: CSA to initiate discussions with ISRO for phase 0 initiation.
- Action: CSA to keep CASTOR in mind wrt ISED (Gov't approval, profile raising)
- STDP RFP 5 Jan. deadline extension will delay the decision(?)
- Coalition to talk to govt about SKA and CASTOR as top priorities.
- Castor was mentioned within an ACURA meeting with ISED in ~mid Nov.
- Elements of Push, and elements of Pull in CSA interactions with govt
  - Current best option is creation of jobs
- ROI specific to each activity, better reporting and publication of results.

#### ARIEL, NASA Flagships: HabEx/LUVOIR/Lynx

- \*Ariel\*
- Mentioned in LRP but not highly prioritized, also short notice.
- Some ~\$3M investment could put Canada into the project. TBD
- Ariel is part of the exoplanet WP,

- JR: Interest on Ariel from the wide exoplanet community. What is return on investment on science side? What do we get now better than waiting for launch. (All internal) Proprietary data periods
- Nick to stay in better contact with JCSA
- \*HabEx/Luvoir\*
- Current STDP, etc. will support tech dev. Needs. Too long term for other needs at this point
- \*NASA Flagships\*
- Kind of holding pattern for US Decadal to come out (~Spring/Summer 2021)

#### NEOSSat - Denis Laurin

- Close call with attitude control, but OK
- Some obs time open for proposals, partially oversubscribed
- Good feedback from poll of users
- Getting data from CADC
- Many users are involving HQP in planned publications including NEOSSat data.
- Use CanTAC to evaluate proposals
- JR: NEOSSat data extremely useful for TESS follow up, timing observations, good PR with public presentations.
- Open for targets of opportunity requests (timeline: maybe within a couple of days)
- Action: JCSA to support the community access to NEOSSat.

#### SPICA (Origins)

- Telecon with ESA , CSA very disappointed with the outcome and lack of consultation with CSA for the ESA M5 decision
- ESA response was that cost estimate on ESA side was outside of M5, JAXA unable to resolve this on their side.
- CSA raised issue of lack of consultation: ESA claimed ignorance of the level of funding and effort put into SPICA. ESA will now have meetings with CSA on astronomy and planetary science every six months.
- Decision outside of the nominal process (competitive process)
- DH: if regular ESA meetings, would it be good to know what Canadians are on ESA science teams. A: yes! Let CSA know what the community is doing where CSA might not know of this.
- Action: JCSA to liaise community efforts into CSA awareness.
- Is there a NASA Probe class under consideration in the decadal process?

#### LiteBIRD

- NASA for now is not doing MOO (mission of opportunity), waiting for decadal survey before commitments
- What is LiteBIRD plan B with this news?
- NASA international participation is currently set to come top down (from NASA HQ)
- Alternative is needed in case NASA does not show up. (delay of ~1 yr)
- Longer delay if NASA is unable to provide detectors
- Current CA funding ~phase0 is extended until July 2021
- Action: JCSA to highlight LiteBIRD within LRP2020



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#### JWST - Jean Dupuis

- STScl presentation included in meeting folder
- ~4% of proposals (cycle 1) are Canadian -led (should be ~5%)
- 4% of proposals, not time. So maybe 5% will work out.
- Does not count Canadian Co-Is
- More communication through CASCA needed as AOs come through.
- RD concern 1: STScl Canadians (1 year extension with NRC agreement) to go through commissioning phase.
- Summer 2021 will develop plan for mission observing phase.
- Mission plan should be approved summer 2021.
- JPIP will be signed this winter. (sent to NASA and STScl) Share with Canadian PI and Proj. Scientist?
- Action: JPIP needs shared with Canadian PI.

#### CADC MOU

- Ongoing agreement until next year (5yr agreement). Funding for first 3 years only.
- Approval for full agreement duration is going to happen. An MOU amendment was sent to NRC for review and signature.

Meeting Adjourned at 17:02 (Eastern).

The following topics on the Agenda were not covered (and will be added to Fridays Agenda):

- Astrosat/UVIT

SuperBIT [GigaBIT, BLAST-TNG]

Euclid

EPPE, POEP

Friday:

Welcome and attention to any leftover items from the previous day.

Astrosat

- In process of extension request, just presented to Erick Dupuis
- JCSA recommendation of extension is already in hand
- No further JCSA action required at this time

SuperBIT (and other ballooning projects)

- Handled through FAST.
- Not much JCSA can really do / is needed.
- Perhaps some shared technology development (esp. with CASTOR team)
- FAST recommendations from JCSA
- Action: rec. For FAST / big/small allocations.
  - Funding level, mechanisms, astronomy topics (SA in particular)
  - FAST remain open, more participation and competition
  - DH, CW, LS, RH, agree with open proposals.
    - Other ways of targeted dev. Already exist.
  - FAST excludes things already funded

Euclid

-23 Dec. co-I decisions coming up. This is the current

- Action: JCSA to support continuation of Euclid funding and supporting science and other contributions.

#### Colibri

- Samar S-H has a related FAST grant.
- Waiting for things to start on detector development (TES, optimized for X-rays, made by NIST, NASA)
- Retire some risk on technical areas: detectors
- Some STDP funding for detector system, cooling systems, readout electronics.
- Some smaller funding to stuff right now (undergrad coop even)
- CSA: Next STDP round will be ~2022ish. This may be difficult for Colibri
- Could FAST be used to support prototype development for Colibri. CSA: significant training for HQP and maybe not critical component for instrument.
- Summer 2021 FAST should be OK for Colibri

#### Jason Rowe joined for 10 minutes (POEP)

- Hardware contribution ~\$10M for hardware, CSA operations and manpower
- Phase 0 needed end 2021/2022 to enable successful bid in 2023.
- Action: JCSA recognize that Phase 0 in 2021 is needed for this
- Funding gaps enlarged due to covid make retainment difficulty. Partial FTE support for bridging needed. Paperwork, reporting, between studies and STDPs to allow for continuity and reduce investments in making the bids

#### Twinkle (Fred. Grandmont - ABB)

- ABB contacted in finding a commercial IR spectrometer
- Close to Ariel, PI of Ariel is also involved in Twinkle (Giovana Tinetti).
- UK funding and ESA funding.
- Model is paid observing time similar to some ground based facilities
- 2024 launch is optimistic
- NIR spectrometer
- Astronomy class telescope outside of an agency's standard procurement process.
- Some parallels to the model that MOST used in its final stages for a few years

#### XRISM

- Luigi Gallo and Brian McNamara supported through CSA
- CLS test for XRISM detectors through Waterloo grants
- All through a NASA contribution, and based on Canadian Hitomi contribution
- Grant support ends next year. Should support through to launch
- Exp. 2022 launch
- NASA AO coming out soon that will allow Canadians to apply
- CSA can support anyone selected in NASA AO (~2022 timing)
- Action: JCSA to consider support through to launch
- Action: JCSA to comment on supporting Canadian observers

EPPE, BRITE will wait until after ToR discussion.

EPPE

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BRITE

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LRP Discussion (p. 150 - 152 of LRP2020 doc), LRPIC transition (CASCA ToR)

CSA Advisory Committees guidelines - Vicky Hipkin

- Slides in shared folder and CSA FTS folder (SE Consultation Committees ToR recommendations -7Dec.pptx)
- Guidelines for SA Committees:
  - Diversity
  - Transparency
  - Conflict of Interest
  - Term limits
  - Cadence
  - Reporting
- Develop common application to serve on JCSA
- Pub. members, meeting agendas, summaries,
- Google drive has draft ToR document
- Stagger change
- Review status with CASCA
- Diversity would be made easier with self nomination, but this is different than how we do this.
- Could individual membership be channelled through CASCA?
- Maybe consider a liaison role with CASCA and/or separate committees.
- 6 self nomination plus 2 appointed from CSA
- More significant changes:
  - Products (focus specific to what CSA needs from JCSA)
  - Schedule/cadence (cycle of topical meetings)
  - Policy (long term goal to formalize practice)
- No federal advisory committee act in Canada (cf. the US/NASA model)
- SG: CSA is required by treasury board to have advisory committees.
- Astronomy is easier to interact with than other space science domains:
  - 1. One single body covers ~90% of community (others have ~>3 or 4)
  - 2. LRP process, community is self organized
- Maybe CASCA has 4 people, 2 spots open.
- Makes sense to leverage organization and CASCA, but maybe also have more flexibility
- Minimal overlap between communities. Duplication, missing out.
- Consider having an observer within different space science communities
- Fix everything while it is open.
- Bilingual requirement has been a barrier.
- DH: Non-CASCA members, Bureaucracy, conflict of interest
- DH: don't break the jointness of the joint committee.
- SG: Col is on the radar. Declare conflicts, etc.

Space Astronomy Vision update - Sarah Gallagher

- LRP2020 is out and chapter 1 can be updated.
- SA has been used as a model.

- Some revision to update it wrt to the LRP2020 report will take place and then it will be shared with the JCSA for comment.
- Some discussion on the perception that some CSA grants have increased over the last decade which is not observed in the tri-council system. SA does not have dedicated budget
- Invite Lisa Campbell to CASCA meeting

#### EPPE

- Concern raised that they did not compete for PP3 because of industrial partner requirement
- Industry needs to contribute in advance of funding.
- This provides an unofficial industrial filtering, but complicates things.
- The FAST program is the fix for this concern.
- Is industry filtering out good science?
- STDP is open to Universities as well as industry.
- Action: STDP focus in supporting industry, with academic partners, is OK. Canada capacity (University) is limited, so Universities would have a difficult time managing an STDP on their own. Can Canadian capacity be grown outside of currently existing partners.
- Science Definition studies should be doing this work (concept study, science maturation study as next step)

#### BRITE

- Extension review, science support may be added. This is going through the process.
- Action: multi-year extensions (general) will save time (with annual reporting and reviewing).

JCSA Recommendations / assignments and delegations to populate spreadsheet  
committee membership, meeting review

#### JCSA membership/turnover:

- Discussion on transition for new members, JCSA membership cycle. Shared spreadsheet for JCSA membership candidates on the shared folder. JCSA to update this with suggestions
- Jason Rowe and Renee Hlozek will be replaced on JCSA before the May/June 2021 JCSA meeting.
  - Two new JCSA members are needed before the May/June 2021 JCSA meeting.
- Daryl Haggard to cycle off of JCSA after the May/June 2021 meeting. Locke Spencer willing to cycle off also, or remain as co-chair if needed.
  - Some discussion with respect to the Terms of Reference for the JCSA (see above) both on the CASCA side and on the CSA side include discussion of JCSA membership selection and eligibility. Two replacement members for the JCSA will be identified following any revisions to the selection process.
- Chris Willott will cycle off of the JCSA following the Dec. 2021 JCSA meeting.

## Action Items:

- Populate the JCSA recommendations spreadsheet with recommendations from the meeting, and response to the LRP recommendations.
- Organize a JCSA meeting to discuss the ToRs (Feb. 19).
- Suggest new JCSA members (some context from the above point -- see spreadsheet).

## JCSA Recommendations (see also spreadsheet):

1. **(LRP-2)** The JCSA recommends that the CSA report on current coordination with the listed funding agencies, and meet with the listed funding agencies to identify areas where additional coordination of funding would be useful (e.g., NSERC for HQP, NRC and CFI for instrumentation development, etc.).
2. **(LRP-26)** The JCSA recommends initiation of discussions with ISRO for phase 0 initiation, and preparing for ISED approval of CASTOR
3. **(LRP-27)** The JCSA recommends that the CSA work with Canadian astronomers and industrial partners to identify potential hardware contributions. The CSA should support related technology development studies.
4. **(LRP-28)** The JCSA recommends that the CSA provide a space astronomy budget of at least \$15M per year, with larger missions funded by special request of the federal government (as is currently the case).
5. **(LRP-29)** As a priority of the CASCA Long-Range-Plan (LRP2020), participation in LiteBIRD requires a transition to stable Phase A/B funding prior to Q3 2021. This timeline would allow for full participation of Canadian scientists in the LiteBIRD mission. The JCSA recommends that CSA support for LiteBIRD continue to allow for Phase A/B funding to be in place in 2021.
6. **(LRP-30)** The JCSA recommends that the CSA work with Canadian Astronomers and industry partners to identify potential contributions to such an international project, with emphasis on employing and continuation of development for Canadian FIR technology expertise.
7. **(LRP-31)** The JCSA recommends that the CSA work with the federal government to provide a space astronomy budget of at least \$15M per year.
8. **(LRP-32)** The JCSA recommends that the CSA maintain financial support to the James Webb Space Telescope (JWST) mission and associated Canadian science for the entirety of the observatory's lifetime. Canada has already made a very large investment in this project, and continued support will leverage this investment for the highest possible science yield.
9. **(LRP-33)** The JCSA recommends the CSA pursue a Phase-0 study of POEP mission as soon as possible in 2021.
10. **(LRP-34)** The JCSA recommends that the CSA provide funding that enables Canadian scientific and technical participation in preparatory activities for the NASA flagship mission(s) , through design reference missions, analysis software, instrument design, science teams, working groups, etc. Any such opportunities should be disseminated widely, and appointments made by CSA should take place through an open and competitive process. These

scientific and technical contributions should be pursued as soon as circumstances allow.

11. **(LRP-58)** The JCSA recommends that the JCSA continue to serve within the CSA.
12. **(LRP-59)** The JCSA recommends that the Co-I AO program be expanded as needed to support additional LRP priorities as identified in LRP-59.
13. **(LRP-60)** The JCSA recommends increased CSA STDP, ballooning, and micro-satellite funding through regular AO calls.
14. **(LRP-61)** The JCSA recommends that the CSA establish regular and recurring competitive AOs. These include concept studies, maturation studies, future missions, mission contributions, and phase A studies. International missions and missions beyond A-base funding are selected by CSA with guidance from LRP, MTR, and JCSA.
15. **(LRP-62)** The JCSA recommends that FAST AOs take place biannually and that FAST funding be increased to \$5M per year (\$10M per call). See also Rec-17
16. **(LRP-63)** The JCSA recommends continued support to the Co-Investigator program with additional funds to support new researchers and new mission opportunities. The JCSA recommends the CSA explore some mechanism for both small and large Co-I awards to better meet the broad needs of the community.
17. **(LRP-64)** The JCSA recommends that the CSA revise the AO application processes including the provision for online submission, peer review and feedback, and allowance for more concise application proposals.
18. The JCSA recommends the following RE the FAST program: follow the LRP recommendations above, the existence of FAST AOs dedicated for space astronomy topics, FAST AOs remain open (topically, within space astronomy) to allow for more competition and participation, that FAST AOs not be used for activities associated with a funded mission, and that FAST AOs be peer-reviewed and have feedback provided to applicants (see peer review rec. 20).
19. The JCSA recommends increasing the community support grants to \$75k to allow for post-doc support, with an option to request a smaller amount if less HQP support is needed.
20. The JCSA recommends that AOs receive peer review and applicants receive peer review feedback. See also the peer review document here: <https://docs.google.com/document/d/1rfpcXt6cSEKY0VSYis-fuhgxLu3t66ySaB0GqQtJTt4/edit?usp=sharing>.
21. The JCSA recommends that the CSA explore ways to reduce the time taken for IIRB approvals, and identify efficiencies in associated reporting and review processes. E.g., consider multi-year extensions with continuation reports during mission operations for funded missions.
22. The JCSA recommends continued operations of the NEOSSat Mission and continued access to the Canadian community for observations and data access.
23. The JCSA recommends the CSA finalize the JWST JPIP document once following consultation with stakeholders, and then distribute to stakeholders and JCSA.
24. The JCSA recommends that CSA follow up with CADC to receive the JPIP.

25. The JCSA recommends continuation of Euclid support commensurate with its status in the LRP.
26. To continue to support Canada's investment in the XRISM mission the JCSA recommends the CSA extend grants for both Canadian members of the XRISM team through 2022. To support the analysis of XRISM observations and timely dissemination of results from Canadian GO programs, the JCSA recommends the CSA investigate the potential to support XRISM science through GO grants using a mechanism similar to the existing Astrosat GO program.
27. The JCSA appreciates the ROI report being added to the FTP site and encourages the CSA to consider a public distribution of this report.
28. The JCSA recommends continued investigation of a contribution to the ARIEL mission within the LRP context of support complementing JWST.