

2021-06-09 Meeting notes

Agenda

- [HQ update](#) - Dominic Benford
- [Project update](#) - Julie McEnery
- Coronagraph instrument overview - Vanessa Bailey

Attendees

Alice Shapley, Ashely Vilar, Cristina Oliveira, Dara Norman, David Spergel, Dimitri Mawet, Dominic Benford, Gregory Mosby, Harry Ferguson, James Rhoads, Jason Rhodes, Jeremy Kasdin, Jessica Lu, John Mackenty, Jeffrey Kruk, Jonathan Hargis, Julie McEnery, Keith Bechtol, Ken Carpenter, Megan Donahue, Neil Zimmerman, Neill Reid, Peter Melchior, Rachel Akeson, Roeland van der Marel, Ryan Hickox, Sangeeta Malhotra, Vanessa Bailey, Zeljko Ivezic

Minutes

Project update

Question on the change in RCS implementation: Can you say a little more about how the accuracy of the linearity correction would be affected? Too soon to know for sure. Other labs have made this technique work much better than we need. But we don't have a lot of time to tune it up

Coronagraph Instrument

Note on nomenclature change: For many years the Coronagraph Instrument on Roman was referred to as "CGI" but the project has decided to stop using this term in external presentations to prevent confusion with the CGI="computer-generated imagery" acronym.

The requirement Vanessa referred to, plus all the other ones, are in the document at https://outerspace.stsci.edu/display/RSIG/Roman+Science+Interest+Group+Home?preview=/80970685/87327927/Roman_Requirements_20201105.pdf

CPP = Community Participation Program

Questions

Are you going to seek inputs from the community to chose scientifically interesting targets for the tech demo? If yes, how?

No, not yet. But during the tech demo the target choice must be driven by the tech demo. But will choose the most scientifically useful targets that meet the tech demo criteria.

Will the coronagraph be available after the tech demo phase?

No funding has yet been allocated for operating the coronagraph after the tech demo. The hardware will still function, although the detector will degrade.

Comment: Without testing the coronagraph performance on fainter stars, it's difficult to predict performance for many post-tech demo science cases

Comment: Since the Coronagraph detector degrades, if there is a post-tech-demo science phase, the project may want to front load those observations relative to some wide field observations.

Comment: Since the coronagraph is not a science instrument, there is less science center support than for wide field, so it is not trivial to make it immediately available to a broad community for General Investigators.

Rachel Akeson points out there is a way to ramp up starting from the CPP model.

John Mackenty: My concern is that the usual Senior Review process would not consider Roman until the end of its 5 year prime mission. Rather HQ should consider a mechanism (appropriate to a flagship mission) to reach a decision on extending the 5 years to say 10 after 1-2 years of operation. This point is broader than CGI in that long range planning is key to using a survey mission.

Dimitri: Would like more clarification on the deliverables of the Coronagraph. Who is the recipient, and who is analyzing the products. If funding stopped after 18 months, it would be up to the community to analyze the data products.

Question: When you show performance plots with MUF=1, does that include the telescope?

Question: Is there a suggested resource to read for coronagraphy 101 in the context of CGI?

The Direct Imaging chapter of Sara Seager's Exoplanet textbook, written by Wes Traub and Rebecca Oppenheimer:

<https://ui.adsabs.harvard.edu/abs/2010exop.book..111T/abstract>, <https://www.amnh.org/content/download/53052/796511/file/DirectImagingChapter.pdf>