Dear Andrew,

As you know, we are organizing a workshop to discuss the detector, optics, and cooling technology developments that are necessary to implement a CMB polarization satellite in the next decade. The "CMBPol Instrument Technologies Workshop" will be hosted by NIST in Boulder, CO on August 25-29, 2008. The workshop is part of the CMB community's effort to assemble a report that will be presented to the Astronomy and Astrophysics Decadal Survey Panel. The overall effort is led by Stephan Meyer, and was selected as a NASA Astrophysics Strategic Mission Concept Study.

We are organizing the study into several main topics. Please see the attached file, Structure.pdf, showing the structure of the workshop. We are inviting a few senior leaders in the CMB instrumentation community to act as Editors of these main topics (in dark green in the document). Thank you for agreeing to serve as the Editor for the Band Definition topic.

Each of these broad areas (in dark green in the document) will consist of several paper studies of particular technology options (in light blue in the document). Your role will be to coordinate members of the community both at your and other institutions that are involved in developing these technology options in writing a paper study, and to provide a first level of editing. You will have some discretion in organizing the substudies, but here we list a possible structure, and candidates to write the substudies. We will touch base with you on your plans for the paper studies.

Substudy 1: Optical filters – metal mesh + any other options (in-waveguide feedhorn filters?)
Candidate lead author:

Substudy 2: Microstrip components
* Microstrip lambda/4 stub filters -
* Microstrip lumped element filters
* Microstrip absorbing elements, including lossy microstrip structures and resonant lumped element structures.

Candidate lead author:

We would like the paper studies to consist first of 2-3 pages describing the technology, including a technical description, a description of its state of maturity, and a discussion of its benefits and disadvantages, from a statistical viewpoint and a systematic viewpoint. This should be followed by a 1-2 page analysis of the technological readiness level of this option (see attached description of NASA's TRL definitions), and of the cost and timescale that would be required for the community to bring the technology to TRL 5, which would be a level appropriate to respond to an Announcement of Opportunity for a satellite mission.

We would like to collect a full draft of the paper studies by June 15, 2008. We would ask you to coordinate and provide initial editing of the studies in your topic before this date.

We will then conduct a (fast-turnaround) peer review of the resulting paper studies, and also possibly circulate the drafts more broadly for comment. Feedback will be provided by July 15, making it possible for final drafts incorporating reviewer comments to be ready for the Workshop. The final drafts of the paper studies will be distributed on USB flash drives at the workshop. Paper studies, presentations and discussions at the workshop will provide a basis for the development in the Fall of documentation to provide to the Decadal Survey Panel.

At the workshop, the lead authors of the paper studies will present the results. We would also like you to present an overview of the topic area, putting the substudies in context, and providing some analysis of tradeoffs. Furthermore, we would like you to serve as the chair of an open discussion of the topic area. Travel support will be provided for you and the lead authors to the workshop through Chicago. Travel support is limited, so if you would like to increase the number of substudies in your topic area beyond the two listed, please talk to us first.

Best Regards,

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